

DOCUMENT RESUME

ED 044 996

FL 002 032

AUTHOR Brown, George H.; And Others  
TITLE Development and Evaluation of a Self-Instructional Spanish Course.  
INSTITUTION Human Resources Research Organization, Alexandria, Va.  
SPONS AGENCY Defense Language Inst., Washington, D.C.; Department of the Army, Washington, D.C.  
REPORT NO TR-70-14  
PUB DATE Sep 70  
NOTE 81p.

EDRS PRICE MF-\$0.50 HC-\$4.15  
DESCRIPTORS Academic Performance, Adult Education, \*Autoinstructional Aids, Behavioral Objectives, Cognitive Objectives, Conversational Language Courses, Course Content, \*Course Descriptions, Course Objectives, Course Organization, Evaluation Methods, Intensive Language Courses, \*Language Instruction, Language Tests, \*Military Personnel, Modern Languages, \*Spanish

ABSTRACT

This introductory course, designed to satisfy routine travel needs of U.S. military personnel, serves as a model for preparation of self-instructional foreign language courses. Description of the research and program design focuses on: (1) educational objectives, (2) course description, (3) student schedules and performance data, (4) testing and scoring procedures, (5) student achievement, (6) student attitudes, and (7) discussion of course effectiveness. Course guidelines, auditory discrimination lessons, simulation, dialogues, and tests are examined in the appendixes. Tables cover student data, final examinations, scoring, and attitudinal factors. (RL)

ED0 44996

# Development and Evaluation of a Self-Instructional Spanish Course

by

George H. Brown, Richard Beym,  
Thelma R. Smackey, and Angelo A. Cozzetto

This document has been approved for public release  
and sale; its distribution is unlimited.

September 1970

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE  
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE  
PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS  
STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION  
POSITION OR POLICY.

Prepared for:  
Office, Chief of Research and Development  
Department of the Army  
Contract DAHC 19-70-C-0012 (DA Proj 2Q062107A744)

HumRRO Division No. 7  
(Social Science)  
Alexandria, Virginia

HUMAN RESOURCES RESEARCH ORGANIZATION

Technical Report 70-14  
Work Unit AUTOSPAN

7L 002 032

The Human Resources Research Organization (HumRRO) is a nonprofit corporation established in 1969 to conduct research in the field of training and education. It is a continuation of The George Washington University Human Resources Research Office. HumRRO's general purpose is to improve human performance, particularly in organizational settings, through behavioral and social science research, development, and consultation. HumRRO's mission in work performed under contract with the Department of the Army is to conduct research in the fields of training, motivation, and leadership.

The findings in this report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

Published  
September 1970  
by

**HUMAN RESOURCES RESEARCH ORGANIZATION**  
300 North Washington Street  
Alexandria, Virginia 22314

Distributed under the authority of the  
Chief of Research and Development  
Department of the Army  
Washington, D.C. 20310

ED0 44996

## FOREWORD

Work Unit AUTOSPAN was performed by the Human Resources Research Organization under sponsorship of the Defense Language Institute and, later, the Office of the Deputy Chief of Staff for Personnel, Department of the Army. Its overall objective was to develop a generalized method for preparing self-instructional, introductory level, foreign language courses. The effort was organized around the development and evaluation of a prototype course in Spanish. This report describes the development and evaluation of the first half (Phase I) of the course. Work on Phase II was suspended in October 1969, as a result of a reduction in funding.

The research was conducted in Alexandria, Virginia, by HumRRO Division No. 7 (Social Science), Dr. Arthur J. Hoehn, Director. The Work Unit Leader during the preliminary stages of the project was Dr. Eugene H. Rocklyn. During the course development and evaluation stages, the Work Unit Leader was Dr. George H. Brown.

Members of the research team at various times included Dr. Richard Beym, Miss Thelma R. Smackey, Mr. Angelo A. Cozzetto, and Mrs. Esperanza M. Spyropoulos, each of whom served as staff linguist and Spanish language expert. Other members of the research team at various times were: Dr. Jerry M. Fleming, Mr. William E. Montague, SP/4 William A. Bower, SP/4 James P. Whalen, and SP/4 Douglas H. Ryal. The native speakers who voiced most of the taped lesson materials were: Mrs. Esperanza M. Spyropoulos, Mr. Anibal Mejía, and Mr. Guillermo Ospina.

As the course was being developed, major portions were reviewed by the following consultants in Spanish linguistics: Drs. Edward Anthony, D. Lincoln Canfield, and Daniel W. Cardenas. Dr. William S. Deterline, an authority in the field of programmed instruction, also reviewed portions of the course material.

The research was performed and report preparation begun while HumRRO was part of The George Washington University.

HumRRO research for the Department of the Army is conducted under Contract DAHC 19-70-C-0012. Work Unit AUTOSPAN research was conducted under Army Project 2Q062107A744, Language and Area Training.

Meredith P. Crawford  
President  
Human Resources Research Organization

## SUMMARY AND CONCLUSIONS

### MILITARY PROBLEM

Each year the Defense Language Institute (DLI) provides costly, full-time language training to approximately 10,000 U.S. military personnel. If the introductory portions of language training courses could be carried out on a self-instructional basis, substantial economies might be expected. Self-instructional courses would also have the advantage of making variable-duration, flexibly scheduled instruction available to individuals who cannot be fitted into regularly scheduled school courses.

For these reasons, the Defense Language Institute requested that HumRRO undertake the development of a self-instructional course in Spanish.

### RESEARCH APPROACH

The requesting document from DLI specified that the course should produce graduates with a language skill corresponding to the "two" level on the DLI rating scale. This report is concerned only with the development and evaluation of Phase I of the course, which is designed to produce the "one" level of skill. This level is briefly defined as "Ability to satisfy routine travel needs and minimum courtesy requirements."

A set of guidelines for the course construction effort were established, based partly on DLI requirements and partly on the judgment of the AUTOSPAN research staff. The DLI specifications for the course included the following:

(1) The course should be modular, that is, packaged in such a way that a single set of materials can be used by a number of subjects, each of whom is at a different point of progression in the course.

(2) The course should teach a general vocabulary of about 1300 words, half of which would be learned in Phase I.

(3) "Culturally authentic material should be used insofar as it lends itself to the achievement of the language objectives."

(4) The course should provide students with a satisfactory foundation for more advanced study of the language.

(5) The course should be completely self-instructional.

(6) The course should require that students make extensive use of tape.

(7) The course should be suitable for adults in the 18-60 age range with educational backgrounds ranging from non-high school graduates to graduate student level.

(8) The course should be of such quality that it would be judged suitable by the American Council on Education for the awarding of academic credits.

Guidelines for the course based on the judgment of the AUTOSPAN staff were:

(1) The course will place greater importance upon the inculcation of automatic control of high-frequency sentence patterns than upon vocabulary building.

(2) The course will teach Latin American Spanish rather than the Spanish of Spain since it seems that U.S. citizens, both military and civilian, are more likely to have interaction with Latin Americans than with Spaniards.

(3) Course content will be of such a general nature that it will be of practical assistance to any person, either military or civilian, at the time of his arrival in a Latin American country.

(4) The course materials will consist of a printed text and a set of tapes which are playable on an ordinary tape recorder.

(5) In the design of the course, an attempt will be made to utilize the most effective pedagogic features from the fields of (a) programmed instruction, (b) modern classroom teaching, and (c) tutorial instruction.

(6) A salient feature of the course will be the nature of the cueing methods used for eliciting student responses. The student will be making meaningful use of the language in response to cues which are fairly similar to those which would be encountered in real life communication situations.

## RESEARCH RESULTS

A course was constructed that included the following key features:

- (1) It consists of 106 lessons (text and tapes).
- (2) Tapes are playable on any ordinary tape machine.
- (3) Course content is selected so as to be maximally useful to anyone who is a recent arrival in a Latin American country.
- (4) Course places greater emphasis upon teaching the student to manipulate the most important grammatical features of the language rather than upon vocabulary acquisition.
- (5) Course teaches a general (nonmilitary) vocabulary of about 600 words.

The course consists of the following types of lessons: (a) Auditory Discrimination Lessons, (b) Simulated Tutoring Lessons, (c) Dialogue Memorization Lessons, (d) Simulated Conversation Lessons, (e) Teaching Point Lessons, and (f) End-of-Chapter Tests.

The course was tried out at Fort Bragg, North Carolina, on a group of nine Special Forces personnel, none of whom had previously studied Spanish. They ranged in age from 21 to 30, and in language aptitude (ALAT scores) from 17 to 40 (50th to 97th percentile). Three were second lieutenants and six were noncommissioned officers.

Three hours a day for a 10-week period were allocated for language study although actual study time per day averaged appreciably less than that.

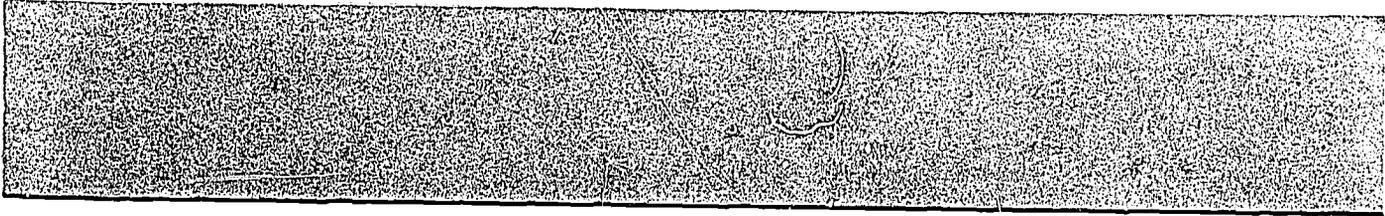
## PRINCIPAL FINDINGS

All nine students completed the course within the allotted 10-week period. Total study time to complete the course ranged from 59 to 81 hours, with a mean of 73.7 hours.

Student achievement was evaluated by means of a final examination based solely on course content. Scoring procedures stressed adequacy of communication rather than elegance of grammar or pronunciation. All student responses were oral and were recorded. Average scores on the three parts of the examination were as follows:

Part I:	Translating from Spanish to English	73%
Part II:	Translating from English to Spanish	85%
Part III:	Simulated Conversation	78%

Seven of the nine students reported that they liked the course, either "somewhat" or "very much." Five would prefer using the AUTOSPAN method if they were to study another foreign language. All students but one reported that their confidence in their ability to learn a foreign language increased as a result of taking AUTOSPAN.



The feature of the course which was liked best was the self-pacing feature. The least-liked feature was the excessive length of certain lessons. (These have since been broken into two lessons.)

## CONCLUSIONS

(1) The Spanish course developed in AUTOSPAN was successful in teaching, entirely by self-instructional means, a useful—though elementary—communication skill.

(2) The successful development of the AUTOSPAN course suggests that the methods and techniques used in it might serve as models in building similar courses in related languages.

# CONTENTS

Chapter		Page
1	<b>Introduction</b> .....	3
	The Military Problem .....	3
	Broad Objectives of the Course .....	3
	Guidelines for Course Construction .....	4
2	<b>Description of the Course</b> .....	7
	Physical Characteristics .....	7
	Outline of the Course .....	7
	Types of Lessons .....	8
	End-of-Lesson Tests .....	10
	End-of-Chapter Tests .....	10
	Types of Frames .....	10
3	<b>The Course Tryout</b> .....	12
	Student Characteristics .....	12
	Physical Facilities for Student Study .....	13
	Study Schedules .....	13
	Student Performance Data .....	14
4	<b>The Problem of Assessing Student Achievement</b> .....	16
	Unreliability of Existing Tests .....	16
	The AUTOSPAN Final Examination .....	16
	Description of Part I: Translating from Spanish to English .....	17
	Scoring of Part I .....	18
	Description of Part II: Translating from English to Spanish .....	19
	Scoring of Part II for Communication Effectiveness .....	21
	Scoring Part II for Grammatical Correctness .....	21
	Description of Part III: Simulated Conversation .....	21
	Scoring of Part III .....	22
5	<b>Language Proficiency Achieved by the AUTOSPAN Students</b> .....	23
	Results on Part I: Translating from Spanish to English .....	23
	Results on Part II: Translating from English to Spanish .....	24
	Results on Part III: Simulated Conversation .....	25
6	<b>Student Attitudes Toward the Course</b> .....	27
	General Reactions .....	27
	Students' Reactions to Different Types of Lessons .....	27
	Students' Reactions to Administrative Arrangements for Taking the Course .....	29
	Least-Liked Features of the Course .....	29
	Most-Liked Features of the Course .....	30
	Students' Suggestions for Improving the Course .....	30

Chapter		Page
7	<b>Discussion</b> .....	32
	Is AUTOSPAN a Programed Course? .....	32
	Should AUTOSPAN Be Described as Audio-Lingual or Cognitive-Code Learning? .....	32
	How Effective Is The Simulated Tutoring Technique? .....	34
	How Effective Is The Simulated Conversation Technique? .....	34
	How Successful Was the Course as a Whole? .....	35
	Possible Applications of the AUTOSPAN Course .....	36
	<b>Literature Cited</b> .....	39
<b>Appendices</b>		
A	Memorandum from DLI Concerning Course Guidelines .....	41
B	Auditory Discrimination Lessons .....	44
C	Simulated Tutoring Lessons .....	46
D	Dialogue Memorization Lessons .....	49
E	Simulated Conversation Lessons .....	51
F	Sentences Used in Part I of the Final Examination .....	55
G	Sentences Used in Part II of the Final Examination .....	59
H	The Scoring Plan that Failed .....	63
I	AUTOSPAN Final Examination: Part III .....	64
J	AUTOSPAN Questionnaire .....	68
<b>Tables</b>		
1	Outline of the Course .....	8
2	Student Characteristics .....	13
3	Student Performance Data .....	14
4	Coverage of Teaching Points in Part I of Final Examination: Spanish to English .....	17
5	Coverage of Teaching Points in Part II of Final Examination: English to Spanish .....	19
6	Scores in Part I: Translating from Spanish to English .....	24
7	Scores in Part II: Translating from English to Spanish .....	25
8	Scores in Part III: Simulated Conversation .....	26
9	Mean Rating and Range of Ratings for Five Types of Lessons .....	28
10	Students' Ratings of Different Types of Lessons for "Interest Value" and "Ease of Learning" .....	28

## Chapter 1

### INTRODUCTION

#### THE MILITARY PROBLEM

Each year the defense establishment provides language training to more than 100,000 people. Part of this number consists of foreign personnel who receive English language training as part of the Military Assistance Program.

At the two major training schools of the Defense Language Institute (DLI), (West Coast Branch, and East Coast Branch), close to 10,000 men per year receive full-time language training. Other military students, amounting perhaps to several thousand a year, receive full-time language training at various contract facilities such as commercial schools and civilian universities.

All full-time language training is carried out in formal school settings, with live instructors and with language laboratories, and is an expensive operation. If a portion of this instruction, particularly at the introductory level, could be carried out on a self-instructional basis, substantial economies would result.

In addition to economic considerations, certain other advantages would accrue to DLI from the possession of on-the-shelf self-instructional language courses:

(1) Variable length language training could be provided to individuals who need such training to prepare for their next assignment but who cannot be fitted into a regularly scheduled, long-term school program (e.g., military attaché personnel, mobile training team personnel).

(2) Military personnel, and/or their dependents, who are assigned to a foreign country could be provided with a set of self-instructional language materials which would enable them to develop a greater competency in the host country language than would be possible by mere exposure to the local culture.

(3) Appropriately designed self-instructional materials could be useful in refresher training for individuals whose language skills have deteriorated with disuse.

In the light of these considerations, the Defense Language Institute requested that HumRRO undertake the development of a programed (self-study) Spanish course to meet Department of Defense objectives. (A copy of this document appears as Appendix A.)

#### BROAD OBJECTIVES OF THE COURSE

In the requesting document from DLI, it was specified that the course should produce graduates having a speaking, comprehension, and reading skill comparable to the "two" level on the Defense Language Institute<sup>1</sup> rating scale. The "two" level is briefly defined as "able to satisfy routine social demands and limited military requirements."

It was decided at the outset that the course development should proceed in two steps. First, a course should be built, aimed only at the "one" level. After this course had

<sup>1</sup>The DLI scale is virtually identical with the better known Foreign Service Institute (FSI) scale and differs from it only in having a few military terms used in the descriptions of the scale points. Basically, the scale is a five-point subjective rating scale with provisions for assigning a plus or minus to each of the major scale points.

been evaluated and revised, a firm foundation would exist for going on to produce the second half of the course aimed at producing the "two" level of skill. However, shortly after the first half had been completed and evaluated, and early in the work on the second half, a severe reduction in research funds available necessitated a suspension of the AUTOSPAN effort. Consequently, this report deals only with the development and evaluation of the first half of the course which, henceforth, will be referred to simply as "the course."

The overall objective of the course, then, was to produce graduates with proficiency comparable to the "one" level on the DLI scale. Complete descriptions of the "one" level for Speaking (S), and Comprehension (C) are as follows:

S-1—Able to satisfy routine travel needs and minimum courtesy requirements. Can ask and answer questions on topics very familiar to him; within the scope of his very limited language experience, can understand simple questions and statements—allowing for slowed speech, repetition or paraphrase; speaking vocabulary inadequate to express anything but the most elementary needs; errors in pronunciation and grammar are frequent, but can be understood by a native speaker used to dealing with foreigners attempting to speak his language; while topics which are "very familiar" and elementary needs vary considerably from individual to individual, any person at the S-1 level should be able to order a simple meal, ask for shelter or lodging, ask and give simple directions, make purchases, and tell time.

C-1—Sufficient comprehension to meet survival needs and travel requirements. Able to understand the essentials of face-to-face speech in a standard dialect, often delivered at a rate slower than normal, with frequent repetitions, about basic needs: meals, lodging, transportation, time, and simple directions (including both route instructions and orders from customs officials, policemen, etc.).

Since precise, quantitative descriptions of these scale points do not exist, it was obviously not possible to specify with precision what terminal behavior the graduates of the AUTOSPAN course should exhibit. Consequently, reliance was placed on the judgment of the staff linguist as to what grammatical points should be taught in order to enable the graduate to function, at least marginally, in the kinds of practical, everyday situations which a newcomer in a Spanish-speaking country would be likely to meet.<sup>2</sup>

## GUIDELINES FOR COURSE CONSTRUCTION

It was decided that the AUTOSPAN course should have certain general characteristics, some stemming directly from the specifications of the Work Unit Sponsor (DLI), and others based on the judgment of the AUTOSPAN staff. Following is a paraphrase of the more important DLI specifications:

(1) The course should be modular. This means the course should be packaged in such a way that a single set of materials can be used by a number of subjects, each of whom is at a different point of progression in the course.

(2) The course should teach a general vocabulary (i.e., one that is not specifically technical or military) of about 1300 words. Phase I of the course will strive to produce a vocabulary of about half that size.

(3) "Culturally authentic material should be used insofar as it lends itself to the achievement of the language objectives." Insofar as possible, teaching materials, practice sentences, and so forth, should be chosen so that they reflect actual colloquial usage among native Spanish speakers. In other words, highly formal textbook-type material should be avoided.

<sup>2</sup> See Table 1 for grammatical content decided upon.

(4) The course should provide students with a satisfactory foundation for more advanced study of the language, either in formal courses or through in-country experiences.

(5) The course should be completely self-instructional. It should be suitable for use by individuals in a variety of environments, such as quarters, remote duty sites, and work situations.

(6) The course should require that students make oral responses to aural stimuli. It should make extensive use of tape.

(7) The course should be suitable for adults in the 18-60 age range with educational backgrounds ranging from non-high school graduates to graduate student level. This implies that the content of the course should be reasonably mature.

(8) The course should be of such quality that it would be judged suitable by the American Council on Education for the awarding of academic credits.<sup>3</sup>

Certain other guidelines for course construction were based on the judgment of the AUTOSPAN staff. These were:

(1) The course will place greater importance upon the inculcation of automatic control of high-frequency sentence patterns than upon vocabulary building. This characteristic is based upon the linguistic doctrine (1, p. 106) that control of the principal syntactic patterns of a language is an indispensable prerequisite for achieving proficiency in the language, that is, for getting beyond the level of the phrase book memorizer. The sheer possession of a large vocabulary would be of limited usefulness to a person desiring to communicate in a foreign language unless he already had the ability to generate and comprehend high frequency sentence patterns into which the lexical items might fit.<sup>4</sup> According to linguistic doctrine, vocabulary acquisition is a relatively straightforward process when it takes place on a foundation of syntactical control.

(2) The course will teach Latin American Spanish rather than the Spanish of Spain. The number of people who speak some variety of Latin American Spanish is roughly 170 million; the corresponding number for Iberian Spanish is in the neighborhood of 30 million. It seems that U.S. citizens, both military and civilian, are more likely to have interaction with Latin Americans than with Spaniards. The major difference between Iberian Spanish (that of Spain) and Latin American Spanish is that the former contains two more phonemes than the latter. While a variety of dialects exist within Latin America, all are mutually intelligible to Latin Americans. AUTOSPAN will attempt to teach a relatively dialect-free version of Latin American Spanish such as is typical of Colombia.

(3) Course content will be of such a general nature that it will be of practical assistance to any person, either military or civilian, at the time of his arrival in a Latin American country. In other words, the content will be selected so as to be of maximum practical value in the kinds of situations which a new arrival might be expected to encounter.

(4) The course materials will consist of a printed text and a set of tapes which are playable on an ordinary tape recorder. It is believed that the course will have a much greater range of usefulness and a greater likelihood of widespread implementation if it requires only a conventional tape recorder than would be the case were it to require some highly specialized piece of expensive equipment, such as a device which would present slides, filmstrips, and so forth.

(5) In the design of the course, an attempt will be made to utilize, in an integrated manner, what are judged to be the best pedagogical techniques from the fields

<sup>3</sup> It was decided that accreditation would be sought only for the complete course, i.e., including the S-2 level, the second half of the course, which has not yet been created.

<sup>4</sup> For an opposing point of view, however, see 2, pp. 531-537.

of (a) programmed instruction, (b) modern classroom teaching, and (c) tutorial instruction. A suitable mixture of these techniques should produce a more effective course than would reliance upon any of them alone.

(6) A salient feature of the course and one which differentiates it from most traditional language courses will be the nature of the cueing methods used for eliciting student responses. Obviously, it will not be possible to dispense altogether with imitation-type exercises nor with straight translation activities. However, both such activities will merely be mediating steps toward the goal of having the student participate in simulated miniature communication situations.

The culminating activity in many lessons will be one in which the student speaks Spanish answers to Spanish questions on the basis of information he extracts from a pictorial stimulus. In other words, the student will be making meaningful use of the language in response to cues which are fairly similar to those which would be encountered in real life communication situations. There will be few exercises of the traditional textbook sort in which the student is directed to "change each of the following statements from positive to negative," or "change each of the following nouns from singular to plural." Typical transformation-type exercises, such as changing a statement from the active voice to the passive voice, will be avoided on the grounds that such verbal behavior is almost never required in real life communication situations.

## Chapter 2

### DESCRIPTION OF THE COURSE

#### PHYSICAL CHARACTERISTICS

The course consists of 106 lessons, organized into seven major sections called "Chapters." The text or printed material is bound into seven separate books, one chapter in each book.

Associated with each lesson is a five-inch reel of audio tape, recorded at 3 3/4 ips. Actual running time of the various tapes ranges from six minutes to 39 minutes. In going through most lessons, the student must stop and start his tape frequently, consequently actual performance time per lesson ranges from about 10 minutes to one hour.

Most of the lessons include a self-scoring criterion test and students are directed to repeat each lesson as many times as necessary until they achieve a specified score on the test (generally 80-90% correct). Furthermore, the last lesson in each chapter is actually a diagnostic review test, consisting of sample items from each of the end-of-lesson tests in that chapter. After taking each end-of-chapter test, students are directed to re-take any lessons in that chapter on which their performance has not met the criterion. Consequently, students may eventually take certain lessons as many as three or four times.

Concerning the amount of time required to complete the entire course, no empirical data are available at this time. However, a slightly shorter version of the course (10 fewer lessons) was taken by nine military students who required a mean of 73.7 hours of actual study time. The range was from 59.5 hours to 81.6. The present version of the course is 10 lessons longer because certain lessons in the early version were considered too difficult and were, accordingly, broken into two simpler lessons. It seems safe to assume that the present version would require no more than 80 hours for an "average" student to complete. (A complete description of the course tryout, and the results thereof, appears in Chapter 3.)

#### OUTLINE OF THE COURSE

Table 1 presents a condensed outline of the course. The first chapter (Introduction) is comprised of Lessons 1-5, and is concerned solely with phonology training. The remaining six chapters are organized around the following content topics: Social Amenities, Restaurant Talk, Shopping, Transportation and Directions, Reservations and Appointments, and Communicating in Spanish.

The chapter titles indicate, in a general way, the theme around which the dialogues included in each chapter revolve. These themes also served as guides in selecting the vocabulary items introduced in each chapter. Table 1 also indicates the teaching points (principally grammatical) covered in each chapter. The points represent a more or less conventional selection and sequencing for an introductory course.

A vocabulary of approximately 560 lexical terms is taught. They are distributed as follows: nouns, 220; adjectives, 102; verbs (which the students are taught to manipulate in various tenses), 53; other specific verb expressions, 29; pronouns, 20; adverbs, 37; interjections, 2; prepositions, 8; conjunctions, 8; special (idiomatic) expressions, 80.

Table 1  
Outline of the Course

Chapter	Title	Lessons	Teaching Points
I	Introduction	1-5	Stress Discrimination Pitch Discrimination Vowels Consonants
II	Social Amenities	6-17	Definite Article Indefinite Article
III	Restaurant Talk	18-33	Demonstrative Adjectives Enumerators Question and Answer Patterns
IV	Shopping	34-50	Possessive Adjectives Descriptive Adjectives Comparative Adjectives More Spanish Numerals
V	Transportation and Directions	51-69	Paraphrastic Future Present Tense of -ar Verbs Subject Pronouns Uses of <u>Estar</u> More Spanish Numerals
VI	Reservations and Appointments	70-90	Uses of <u>Ser</u> Present Tense of -er, and -ir Verbs Direct Object Pronouns Preterite Tense of -ar, -er, and -ir Verbs
VII	Communicating in Spanish	91-106	Telling Time Special Expressions with <u>Tener</u> Indirect Object Pronouns Certain Irregular Verbs Imperfect Tense of -ar, -er, and -ir Verbs Simulated Conversations

### TYPES OF LESSONS

The course is made up of six different types of lessons. Brief descriptions of each type are presented below.

**Auditory Discrimination Lessons.** In the first two lessons in Chapter I, the student is presented with pairs of Spanish utterances. He must judge whether they are the same or different with regard to their stress (and, later, pitch) characteristics. The principal objective is to force the student to listen attentively to about 30 minutes of oral Spanish in an attempt to facilitate his subsequent production and comprehension training. Almost all the material used in these discrimination exercises was extracted from material which the student later encounters in more systematic form. The first two lessons are the only

ones in the entire course devoted exclusively to discrimination training. (See Appendix B for a fuller description of the discrimination lessons.)

**Simulated Tutoring Lessons.** Simulated tutoring attempts to give the student the illusion that he is interacting with a live tutor. Actually, the student responds to previously recorded utterances of an experienced language teacher who was tutoring a live student when the tape was made. (The responses of the original student were not recorded—only the tutor's utterances.)

The purpose of simulated tutoring lessons was to alleviate the boredom and feelings of isolation which often plague students in self-instructional courses. Lessons of this type are used extensively throughout the course. (For a more detailed description of the technique, see Appendix C.)

**Dialogue Memorization Lessons.** Through a seven-step programmed procedure, the student memorizes a four to six line dialogue—the same dialogue he has already encountered in the preceding tutoring session. A tutoring session employs a dialogue as a vehicle for teaching pronunciation, whereas the following lesson requires him to actually memorize the dialogue.

The dialogues within each chapter revolve around the topic indicated by the chapter title, such as, Social Amenities and Restaurant Talk. The lines of each dialogue, with few exceptions, are lines which it would be useful for a student to know in coping with everyday situations which a visitor to a Spanish-speaking country might encounter. The dialogue lines were also created in such a way as to illustrate the teaching points covered in the chapter. (A more complete description of this type of lesson is presented in Appendix D.)

**Simulated Conversation Lessons.** Through simulated conversation the student has the experience of interacting, in Spanish, with another person. It was desired that the student should feel he was using the language for communication instead of performing exercises. There are five lessons of this type, all in the last chapter of the course.

In each simulated conversation, the student first reads in English some orienting material which acquaints him with the setting for, and the general content of, the conversation to follow. Once he starts the tape, he is to reply to each utterance with what he considers an appropriate response. His responses need not be factually true, as long as they seem reasonable things to say in the situation.

Each lesson of this type requires the student to go through the same simulated conversation three times. In the second round, the instructor's voice interrupts frequently to make sure the student understands each Spanish line on the tape, and knows what would constitute an acceptable response by him. In the third round, all such prompts are removed and the student must again try to participate without assistance. (A more detailed description of this technique appears in Appendix E.)

**Teaching Point Lessons.** Teaching point lessons are the primary vehicle used in the course for developing automatic control of grammatical points and sentence patterns. All such lessons make extensive use of sentence-completion frames (such as are commonly employed in linear programing), and various types of pattern practice drills.

Starting with Lesson 53, each teaching point lesson begins with a printed summary of the principal contents of the lesson. In other words, condensed statements of grammatical points are presented along with a list of all new lexical items and their English equivalents. These summaries are available for the student to use both in previewing and reviewing the lesson.

A variety of frame types are utilized in teaching point lessons. In this context the word "frame" is used in a rather broad sense. A frame may require only a single response from the student (followed by confirmation), or it may require as many as 24 responses. Frames which require multiple responses could have been labeled "drills" or "exercises", but the word "frame" is used since that is the standard programing term.

Because of the great variation in frame length, the total number of frames in a lesson is not a meaningful indicator of the length of the lesson.

The word "decoding" is used in a somewhat specialized sense to mean "translating from Spanish to English." "Encoding" is used to mean "translating from English to Spanish."

Virtually all student responses in the course are *oral*, and are made in response to aural cues. Therefore, it appears unnecessary to repeat the adjective "oral" throughout this report.

In most frames of the multiple response or "drill" type, the first two responses required of the student, are fully cued in print so as to ensure that the student will understand the procedure and get off to a good start. After the first two items, the student sees the printed injunction:

**KEEP GOING**

This informs him that he is to continue responding in a similar way to additional tape cues of the same type, but without visual prompting.

### **End-of-Lesson Tests**

All teaching point lessons (as well as all dialogue memorization lessons) conclude with an end-of-lesson test, which consists of a representative sample (in some instances, an exhaustive sample) of the material introduced in that lesson.

The items comprising such a test consist of some sort of auditory cues to which the student must respond. Following each response, the tape "confirms," that is, presents the correct response. The student compares his own response with the tape confirmation and records an "X" for any of his responses which he judges to be incorrect. It was not possible (nor desirable) to provide a student with detailed rigorous criteria for evaluating his responses, and so students probably vary considerably in the fashion in which they scored themselves.

At the end of each test, the student is directed to record the total number of errors he has made and to repeat the entire lesson and test if his error-score exceeds a particular number (generally between 10-20% of the items comprising the test). Scoring blanks are provided for three different "tries" on the test.

### **End-of-Chapter Tests**

At the end of each chapter (except Chapter I), an end-of-chapter test is included. It is the last lesson in the chapter.

Each test is comprised of portions of all of the end-of-lessons tests in the chapter. Each portion is identified as to its origin, that is, on which lesson it is based. The student scores himself on each item in the test and records his total errors for each portion on a summary score sheet at the end of the test. He is directed to re-do each lesson on which his error-score exceeds the indicated maximum number of errors permitted for that portion of the test (generally 10-20% of the maximum possible). Thus, the end-of-chapter test serves a diagnostic and review function and tends to ensure that the student has a reasonably secure mastery of each chapter before he goes on to new material.

## **TYPES OF FRAMES**

**Imitation (Type I).** The student hears a Spanish expression and imitates it; hears it again, and imitates it again.

**Decoding (Type I).** The student sees and hears a new Spanish item, then hears its English equivalent. He then hears the Spanish term again and is to utter the English equivalent himself. No confirmation is given since the response has been fully prompted. We sometimes refer to this type of frame as a "prompted decoding frame." It is used extensively in the first half of the course as a vehicle for introducing new vocabulary.

**Decoding (Type II).** The student hears Spanish and must say the English equivalent. Tape confirmation follows. This type of frame, which is sometimes called an "unprompted decoding frame," generally follows a prompted decoding frame, and illustrates the "fading of prompts."

**Encoding (Type I).** The student hears an English expression and must say its Spanish equivalent. Tape confirmation follows. This type of frame typically follows an unprompted decoding frame.

**Encoding (Type II).** The student is aurally instructed, in everyday English, to obtain or impart certain information. He must then generate a Spanish sentence consistent with his instructions. This type of frame is also referred to as a "directed encoding frame." Most items in such a frame require the student to make certain transformations of the English instructions before translating into Spanish. For example, the cue might be "Ask Juan what he was doing in Mexico." The student must then generate the Spanish equivalent of "Juan, what were you doing in Mexico?" Tape confirmation follows.

**Spanish Answers to Spanish Questions.** The student hears a Spanish question which he must answer in Spanish. Most often, he is directed either to answer all questions affirmatively, or all negatively. Occasionally, he must examine a pictorial cue in order to ascertain the content of his Spanish answer. As usual, all responses are followed by tape confirmation.

**Tape Interrogation.** The student is directed to generate a Spanish question to obtain certain information. After he has had a chance to ask the question, he hears an answer from the tape which he must then decode. Tape confirmation follows. This is a five-step type of drill. It is a miniature "conversation" with the tape. Since, in a frame of this type there is no confirmation of the *question* generated by the student (only of his translation of the answer), this type of frame is always preceded by a regular encoding frame in which the student generates the same questions and does receive tape confirmation. In other words, the student theoretically knows how to ask the correct question before being asked to do so in a tape interrogation frame.

**Note:** The following frames are slight modifications of certain types already described. These modified types were used only in the latter half of the course, where the content became more complex, and a need was felt for more effective programing techniques.

**Informed Imitation (Type I).** The student hears English, then hears its Spanish equivalent twice, then imitates the Spanish and says the English. This type of frame is used for introducing new verb forms, vocabulary items, and other short expressions.

**Informed Imitation (Type II).** Same as Type I, except that final step is omitted. This type is used for introducing moderately long sentence patterns.

**Decoding (Type III).** The student hears Spanish, says English, hears tape confirmation, hears the same Spanish again, and says the English. This type is used only in the latter half of the course, and only for short utterances.

**Decoding (Type IV).** The student hears Spanish utterance twice, says English, and hears tape confirmation. This type of frame is used for moderately long Spanish sentences.

**Encoding (Type III).** The student hears English, generates Spanish, hears tape confirmation, imitates tape confirmation. This type is probably superior to Type I, since it forces the student to practice saying the correct Spanish.

## Chapter 3

### THE COURSE TRYOUT

Through the assistance of the Defense Language Institute, arrangements were made to conduct a tryout of the course at the U.S. Army John F. Kennedy Center for Military Assistance, located at Fort Bragg, North Carolina. The Center provided both the students and the physical facilities for the tryout, which took place in the summer of 1969. This chapter describes the characteristics of the tryout students, the administrative and physical arrangements for the tryout, and the student performance data (hours required for course completion).

#### STUDENT CHARACTERISTICS

In planning the tryout, HumRRO requested the Center to provide 10 students who met the following specifications:

- (1) Age range 18 to 30.
- (2) No previous training in Spanish.
- (3) Desirous of learning Spanish.
- (4) Free of speech or hearing handicaps.
- (5) Language aptitude score between the 40th and 75th percentiles.

Concerning the aptitude specifications, the intent was to avoid having students who were either very low or very high in aptitude on the grounds that their performance would not be indicative of how the course would work with typical military students.

Some of the student characteristics are presented in Table 2. The number of students was only nine instead of the requested 10 as it proved difficult to obtain students who met all the specifications.

Three of the students were second lieutenants; the rest were noncommissioned officers. They ranged in age from 21 to 30 with a median age of 22. All but two had had at least some college education, but none had a degree. One of the two non-college men had a General Educational Development equivalency rather than a conventional high school diploma. His GT score, which is roughly analogous to an intelligence test score, was 92, which was below average and the lowest one in the group. (This man turned out to be the poorest student.)

Six of the men had had some previous foreign language study, although none had studied Spanish. Student E had had a total of five years of French, four years in high school and one year in college.

The ALAT scores in Table 2 are scores on the Army Language Aptitude Test. Scores which would correspond to the 40th and 75th percentile would be 16 and 24. It can be seen that one man, Student E, had an ALAT of 40 which corresponds to about the 97th percentile; he was the student who had had five years of French.

It was anticipated that maintaining student motivation for a lengthy self-instructional course such as this would be a problem. It was hoped that students could be recruited from among some groups who were slated for subsequent assignment to a Spanish-speaking country. However, this could not be accomplished.

Table 2  
Student Characteristics

Student	Rank	Age	GT <sup>a</sup>	ALAT <sup>b</sup>	Previous Language Training	Education
A	LT	21	116	19	None	1 yr college
B	SFC	26	121	18	None	H.S. grad.
C	LT	23		19	2 yrs French	3 yrs college
D	SFC	30	92	17	None	H.S. grad. (G.E.D. <sup>c</sup> )
E	LT	22	116	40	6 yrs French	3 yrs college
F	SP/4	23	126	23	4 yrs French	2 yrs college
G	SSG	23	128	18	None	2 yrs college
H	SGT	21	125	23	Latin-French	1 yr college
I	SSG	28		22	Lingala - Vietnamese	H.S. grad.

<sup>a</sup>General Technical Test

<sup>b</sup>Army Language Aptitude Test

<sup>c</sup>General Educational Development equivalency.

## PHYSICAL FACILITIES FOR STUDENT STUDY

Each student was assigned a booth in one of the rear rows of the language laboratory at Fort Bragg. The booths near the front were frequently in use by other (non-AUTOSPAN) students as part of their language training. Since all students worked with taped materials and used padded earphones, no serious difficulties arose from the fact that AUTOSPAN students were surrounded by students of other courses. On rare occasions, confusion arose when someone inadvertently turned an incorrect switch at the master console and caused taped material from other courses to be piped into the AUTOSPAN booths.

Each booth was equipped with a tape deck, earphones, and microphones. All of the AUTOSPAN tapes were recorded at 3 3/4 ips. Instructional material was on one track of the tape; the students recorded their responses on a separate track so that a permanent record was obtained of each student's performance.<sup>1</sup>

An enlisted man with the rank of SP/4, a member of the AUTOSPAN staff, remained at Fort Bragg throughout the tryout. He issued lesson tapes and appropriate record sheets to each student, and kept a running record of the students' progress. Needless to say, he did not function as an instructor—AUTOSPAN students received instruction only from the tapes.

## STUDY SCHEDULES

It was arranged that the students would be available for a 10-week period starting in June 1969. They were to be in the lab, working on AUTOSPAN, from 0800 to 1100.

<sup>1</sup> Although the course is designed in such a way that it can be used with any ordinary tape recorder, the tryout students used the somewhat specialized machine with which Fort Bragg happened to be equipped. Actually, for research purposes, this was desirable.

It was deemed unfeasible to require students to adhere to a rigid schedule of work and breaks. Students were advised that they were entitled to one 10-minute break each hour, and, in accordance with the custom at Fort Bragg, a 20-minute coffee break in mid-morning. Students were urged to take breaks only at the end of a lesson and to avoid interrupting a lesson in the middle. It appeared that this admonition was not honored. Students frequently arrived late, left early, and took frequent breaks. Consequently, instead of three hours of study each day, the average student spent about 1.9 hours.

Arrangements were made to provide optional study periods two evenings a week, but these were never utilized by the students. Occasionally some students did come in during the afternoon to put in extra time. This was particularly common when they had missed some of their morning's work because of other duties.

### STUDENT PERFORMANCE DATA

Table 3 presents information concerning the student performance in going through the course. Although a 10-week period was allocated for the course, the actual number of days students were present in the lab was far less than the theoretical 50. Absences were common, either because of official holidays or because of illness or military duties. Students were present in the lab an average of 38.6 days. Students often came late and often spent considerable time in breaks.<sup>2</sup> The total number of hours of actual study time required by each student to complete the course ranges from 59 to 81 hours, with a mean of 73.7 hours.

Table 3

Student Performance Data

Student	Days Present	Average Hours of Study per Day	Total Hours to Complete Course
A	39	2.1	80.9
B	42	1.7	72.3
C	38	2.1	81.6
D	37	2.1	77.5
E	38	2.1	81.5
F	40	1.8	72.6
G	38	2.0	75.2
H	40	1.5	59.5
I	35	1.8	62.6
Means	36.8	1.9	73.7

<sup>2</sup>For each lesson in the course, the student filled out a record sheet on which he entered, among other things, the time when he (a) began to study, (b) stopped for a break, (c) resumed study, etc. From this information it was possible to compute "total study time," "total break time", etc.

Other computations not presented here revealed that the average student spent about 36% of his time on breaks. This appears to be a rather high figure, but it is more understandable when viewed in light of the following considerations:

(1) Self-instructional programs are known to be arduous, and to require a high level of student motivation for successful completion.

(2) None of the students could anticipate a subsequent assignment where Spanish would be useful. In fact, many anticipated assignments to Vietnam.

## Chapter 4

### THE PROBLEM OF ASSESSING STUDENT ACHIEVEMENT

#### UNSUITABILITY OF EXISTING TESTS

The overall objective of the course, it will be recalled, was to develop language competence roughly equivalent to the S-1, C-1 level on the DLI rating scale. The most straightforward way of determining whether this objective had been obtained would have been to have AUTOSPAN graduates evaluated by experienced raters from the Foreign Service Institute.<sup>1</sup> This plan was not adopted, however, for the following reasons:

(1) Since the AUTOSPAN course is only about one half of what the planned original course would have been, many grammatical points are not taught at all, and the AUTOSPAN students would, therefore, be at a disadvantage when compared with conventionally trained students commonly assessed by FSI.

(2) The distance between Fort Bragg and the Foreign Service Institute in Arlington, Virginia, would make it expensive to bring students and raters together.

(3) It was expected that the AUTOSPAN students would complete the course at different times, and it would be difficult to know when to have a rater there.

Some consideration was given to the possibility of employing the Army Language Proficiency Test (ALPT) to assess the language skill attained by AUTOSPAN students. However, the test was deemed inappropriate for this purpose since it was designed to evaluate proficiency at much higher levels than that anticipated for the AUTOSPAN students. An examination of the specific content of the ALPT confirmed this impression.

Consideration was also given to the possibility of utilizing the MLA Cooperative Spanish Test—Lower Level. This is a nationally standardized test widely used in the public school system. However, examination of the test revealed that much of its content, particularly the vocabulary, is of a juvenile nature, and would not be appropriate for AUTOSPAN students.

#### THE AUTOSPAN FINAL EXAMINATION

In the light of the above considerations, the decision was made to construct a final examination based solely on the content of the AUTOSPAN course. Since the overall objective of the course was to develop in the student an ability to communicate in dealing with routine problems of living, it was decided that the final examination would also be designed, both in content and in scoring procedures, to place emphasis upon adequacy of communication rather than upon elegance of pronunciation or grammar. The examination consists of three parts: (a) translating from Spanish to English, (b) translating from English to Spanish, and (c) participating in a simulated conversation. In each part of the exam, students respond orally.

<sup>1</sup> DLI assigns ratings on the basis of a table of equivalents between objective test scores on the ALPT, and interview-based ratings. DLI does not ordinarily use trained interviewers to establish an S rating, as is done by FSI.

### Description of Part I: Translating from Spanish to English

This part of the exam consists of 64 Spanish sentences, each of which is presented on the tape twice, and then followed by a pause during which the student is expected to orally make an English translation. In order to avoid excessive discontinuity and to provide a modicum of meaningfulness in item sequences, the items were selected and organized into question and answer pairs. In other words, the first item is a Spanish question which the student must translate and the second item is a Spanish answer to that question which the student must also translate. Questions and answers alternate thereafter. The Spanish sentences which comprised Part I are presented in Appendix F.

The items comprising this part of the exam were selected in such a way that they would adequately represent the content of the course. First, a list was made of all the major teaching points, that is, grammar points, sentence patterns, and so forth, which were taught in the course. Specific sentences were then extracted from the original lessons in which each teaching point had been covered. Occasionally, sentences were altered somewhat in order to relieve monotony or to enhance the meaningfulness of the question-answer pairs. In addition, a few items were selected from Dialogue Memorization Lessons, regardless of what teaching points they embodied, simply to ensure adequate coverage of the semantic themes of the course (e.g., shopping, restaurant talk, etc.).

Table 4 depicts the extent of representation in Part I of the various teaching points covered in the course. The extent of representation varies considerably across the different teaching points primarily because the incidence of the various grammatical points in real-life speech is not uniform.

Table 4 lists only those grammatical points which were actual instructional foci in the course. Certain other possible teaching points such as command forms, and reflexive verb constructions, do appear in the exam but are not listed in the table because they occurred in the course only as specific memorized expressions.

Table 4

#### Coverage of Teaching Points in Part I of Final Examination: Spanish to English

Teaching Point	Number of Uses	Specific Items in Which Used
Definite Article	24	3, 7, 8, 11, 15, 16, 18, 21, 22, 23, 24, 29, 43, 44, 46, 49, 56, 57, 62, 64.
Indefinite Article	10	4, 14, 25, 27, 31, 30, 33, 41, 51, 61.
Demonstrative Adjectives	4	13, 37, 53, 64.
Much, Many	2	58, 59.
All	3	46, 57, 58.
Numbers: 1-10	10	22, 30, 32, 42, 46, 56, 62, 64.
Numbers: 11-49	3	28, 36, 42.
Numbers: 50 or above	2	28, 41.
Possessive Adjectives	14	1, 17, 19, 20, 24, 26, 34, 39, 40, 47, 54, 55, 61, 63.

(Continued)

Table 4 (Continued)  
**Coverage of Teaching Points in Part I  
of Final Examination: Spanish to English**

Teaching Point	Number of Uses	Specific Items in Which Used
Descriptive Adjectives	8	9, 10, 13, 14, 15, 16, 31, 49.
Comparative Adjectives	2	33, 34.
Demonstrative Pronouns	1	34.
Paraphrastic Future	5	7, 8, 12, 17, 18.
Regular -ar Verbs: Present Tense	4	2, 47, 48, 55.
Subject Pronouns	24	3, 5, 7, 10, 11, 17, 19, 24, 30, 31, 33, 35, 37, 39, 41, 43, 45, 47, 57, 59, 60, 61, 62.
Estar: Location	1	29.
Estar: Condition	3	15, 16, 49.
Ser	5	13, 14, 34, 56.
Regular -er -ir Verbs: Present Tense	2	45, 46.
Direct Object Pronouns	7	8, 12, 18, 38, 40, 48, 54.
Regular -ar Verbs: Preterite Tense	3	23, 43, 44.
Regular -er -ir Verbs: Preterite Tense	4	35, 36, 61, 62.
Telling Time	2	22, 64.
Idiomatic Expressions	11	2, 4, 5, 6, 27, 43, 46, 49, 50, 52, 62.
Indirect Object Pronouns	8	1, 4, 26, 37, 38, 51, 61, 62.
Irregular Verbs: Present Tense	27	1, 3, 5, 6, 9, 10, 11, 21, 22, 25, 27, 28, 31, 32, 33, 39, 40, 41, 42, 49, 50, 52, 59, 60, 63, 64.
Irregular Verbs: Preterite Tense	8	19, 20, 37, 38, 53, 54, 57, 58.
Imperfect Tense	2	23, 24

### Scoring of Part I

Each student's tape of Part I was transcribed by a typist. This transcription was then reviewed by one of the researchers to verify its correctness. Students had been advised to

correct themselves whenever they realized that they had made a mistake. The tape transcriptions therefore contained false starts and subsequent corrections. When the researcher reviewed each transcription, he enclosed in parentheses any material which was rendered irrelevant because of the student's self-correction. Scoring was then based on what remained outside of the parentheses. Next, the three members of the research staff serving as scorers were given the taped transcriptions along with a scoring key which gave the ideal translation of each item. The scorers then independently assigned a score to each response of each student using the following system:

- 3 = Perfect answer, or any other answer which is equivalent in terms of likely practical consequences. For example, if a student omits the word "please" in the sentence "Bring me a bottle of beer, please," he would nevertheless get full credit since this version communicates satisfactorily in terms of likely practical consequences.
- 2 = Some meaningful portion of the sentence is grasped, but additional conversation would be necessary to clarify the situation. For example: "Do you want something to go with your drink?" when the correct answer was, "Do you want something to drink before the meal?"
- 1 = One or more disconnected words are correctly translated.
- 0 = No response, or an all English response, or a completely wrong response.

Next, the three researchers, who had independently scored all of the test records, discussed and resolved scoring disagreements.<sup>2</sup>

The maximum possible score on this part of the exam is 192.

### Description of Part II: Translating from English to Spanish

In this part of the exam, the student studies a list of printed English sentences. With respect to each sentence, he must think how to say in Spanish: (a) the number of the sentence, and (b) the sentence itself. When he has composed his thoughts, he signals the test monitor to start the recorder, and then proceeds to make his response. There are no time pressures since the student is allowed to take as much time as he needs, within reason, to plan what he will say.

The 64 sentences in this part of the exam<sup>3</sup> were selected in approximately the same fashion as was described previously in connection with Part I. Table 5 describes the coverage of the various teaching points in this part of the exam.

Table 5

#### Coverage of Teaching Points in Part II of Final Examination: English to Spanish

Teaching Point	Number of Uses	Specific Items in Which Used
Definite Article	21	3, 13, 14, 17, 18, 25, 27, 28, 31, 35, 37, 38, 41, 42, 44, 45, 46, 49, 55, 62, 63
Indefinite Article	8	9, 10, 20, 24, 41, 45, 48, 50

(Continued)

<sup>2</sup> A few words should be said concerning the qualifications of the scorers. Two are professional linguists (one of whom is a native Spaniard). The other scorer, while not a linguist, does possess a sound knowledge of elementary Spanish.

<sup>3</sup> See Appendix G for a listing of the sentences used.

Table 5 (Continued)

**Coverage of Teaching Points in Part II  
of Final Examination: English to Spanish**

Teaching Point	Number of Uses	Specific Items in Which Used
Demonstrative Adjective	9	5, 6, 7, 8, 19, 43, 44, 63, 64
Much, Many	3	11, 12, 52
All	1	14
Numbers 1-10	2	28, 62
Numbers 11-49	3	33, 34, 42
Numbers 50+	0	
Possessive Adjective	11	4, 21, 22, 29, 32, 40, 53, 54, 57, 59, 64
Descriptive Adjective	11	1, 3, 15, 16, 17, 19, 20, 24, 39, 49(2)
Comparative Adjective	3	20, 43, 44
Demonstrative Pronouns	1	43
Paraphrastic Future	5	9, 29, 30, 31, 32
Regular -ar Verbs, Present	10	13, 14, 20, 21, 22, 25, 26, 39, 48, 56
Subjunctive Pronouns	14	1, 2, 15, 21, 29, 34, 35, 39, 47, 51, 53, 55, 57, 61
Estar: Location	3	17, 18, 46
Estar: Conditions	6	1, 2, 15, 16, 49, 50
Ser	7	3, 19, 23, 24, 43, 44, 55
Present Tense Regular -er, -ir Verbs	3	47, 53, 56
Direct Object Pronouns	6	30, 31, 32, 36, 58, 60
Preterite Tense, Regular -ar Verbs	2	35, 36
Preterite Tense, -er, -ir Verbs	3	59, 60, 63
Telling Time	3	28, 42, 62
Idiomatic Expressions	7	9, 20, 28, 51, 52, 56, 62
Indirect Object Pronouns	2	63, 64
Present Tense, Irregular Verbs	24	5, 6, 7, 8, 9, 10, 11, 12, 27, 28, 29, 30, 31, 32, 33, 34, 41, 51, 52, 53, 54, 56, 57, 58
Preterite Tense, Irregular Verbs	3	61, 62, 64
Imperfect Tense	2	37, 38

### Scoring of Part II for Communication Effectiveness

Originally it was planned that this part of the exam would be scored by native speakers of Spanish. The general idea was that scoring would be based on the extent to which the student's Spanish utterances communicated the intended message to native speakers who were unacquainted with the stimuli to which the students were responding. Unfortunately, this plan ran into serious difficulties and had to be abandoned.<sup>4</sup> The final scoring was done by the research staff.

Each of the three researchers listened to the exam tapes and assigned a rating of each student utterance with respect to its communication effectiveness. The following criteria were used:

- 2 = Any utterance which is a precise rendering of the intended thought, or, any utterance which, though not perfect, would have equivalent practical consequences.
- 1 = Any utterance which is at least partly correct. (No credit is given, however, if the only correct element is *Sí*, or *No*, or a proper name.)
- 0 = No answer, a completely wrong answer, or a simple *Sí*, or *No*, or proper name.

The maximum possible score for communication effectiveness is 192. Another meaningful score is the percentage of the student's responses which were scored a "2" (indicating successful communication).

### Scoring Part II for Grammatical Correctness

A preliminary scoring for grammatical correctness was done by one member of the research staff. His scorings were then reviewed, and occasionally corrected, by the native-speaking member of the research staff.

When scoring for grammatical correctness, no attention was paid to whether or not the message conveyed was the correct one. The intent was simply to measure the student's ability to generate grammatically correct Spanish sentences. For example, if a student inadvertently used an incorrect noun, but did so in a grammatically correct sentence, he would get full credit. The following criteria were used:

- 2 = Any well-formed sentence, free of grammatical errors. Poor pronunciation, so long as it did not introduce a grammatical error, did not disqualify a response from being scored "2."
- 1 = One or more grammatical errors were present, or, an incomplete sentence. (In other words, if there was *anything* correct in the sentence, a score of "1" was given.)
- 0 = No response, or an unintelligible response.

The maximum possible score for Grammatical Correctness is 128.

### Description of Part III: Simulated Conversation

This part of the examination is a simulated conversation similar to a type of lesson which the student encountered in the final chapter of the course.

First, the student studies some printed English instructions to orient him to the task ahead. He is told that two different native speakers of Spanish will engage him in conversation and that he is to try to give reasonable, appropriate answers to all questions or comments which are addressed to him. He is urged to give longer answers than a simple *Sí*, or *No*. (See Appendix I for a more complete description of Part III.)

<sup>4</sup>See Appendix H for a more complete description of this abortive scoring plan and why it failed.

### Scoring of Part III

Scoring was based on appropriateness, complexity and correctness of each response. Each of the three researchers listened to the tapes and assigned a score to each response, using the following criteria:

- 3 = A fully appropriate response, that goes beyond the bare minimum and contains no grammatical errors. Note: Certain one-word responses such as *Gracias* and *Adiós* are fully appropriate in certain contexts, and should be scored a "3."
- 2 = An answer which goes beyond the bare minimum, but which contains one or more grammatical errors. Example: *Si, están delicioso*, (failure to use plural form of adjective).
- 1 = A simple, one-word response which barely meets the minimum requirements of polite conversation. Example: *Si*, or *No*.
- 0 = No response, a clearly inappropriate response, an all-English response, or an unintelligible response.

Scoring disagreements, which were rare, were resolved by group discussion. Since the simulated conversation contains a total of 17 different response pauses, and since an ideal response was scored a "3," the maximum possible score on Part III is 51.

## Chapter 5

### LANGUAGE PROFICIENCY ACHIEVED BY THE AUTOSPAN STUDENTS

Each of the nine students began the course with no knowledge of Spanish. Approximately 10 weeks later, after having spent 70-80 hours in self study, with no help from live instructors, all had achieved appreciable ability to speak and understand elementary Spanish, and to participate, after a fashion, in a simulated conversation with native speakers.

The AUTOSPAN Final Examination, described in the previous chapter was the instrument used to assess the students' language achievement. In this chapter, the results of the administration of the exam will be presented and discussed.

#### RESULTS ON PART I: TRANSLATING FROM SPANISH TO ENGLISH

Table 6 presents detailed information about the performance of each student on Part I. A score of "3," assigned to an individual response means that the translation was either perfect, or was the equivalent of perfect in terms of likely practical consequences. Student A turned in a stellar performance with 98.4% of his responses having been scored a "3."<sup>1</sup> The poorest student (F) had only 31.2% of his responses so scored.

The average student had 55.7% of his translations scored a "3." This figure is disappointingly low, but is perhaps understandable in light of the fact that this part of the test was machine-paced. That is, the student was required to speak his English translation during a pause on the tape. Each pause was long enough so that a highly competent person would be able to say the correct response two times. The pause was of the same duration as that used almost without exception in the body of the course. Nevertheless, such a pause length does put pressure on most students. The absence of an orienting context (in the real world) increases the difficulty of quickly comprehending a Spanish sentence coming "out of the blue."

The belief that time pressures depressed student scores on Part I is lent support by the fact that scores were higher on Part II, which was relatively free of time pressure. This was true in spite of the fact that Part II tested what is generally regarded as a more difficult skill: translation from native language into a foreign language.

Thus far in our discussion of the Part I results we have considered only the fairly stringent criterion of the percentage of items in which the intended communication was adequately comprehended by the student. However, it was very common for students to understand *portions* of a sentence without grasping the entire message. It will be recalled that responses were scored a "2" whenever a meaningful component of the message was grasped, and a "1" if a single word was grasped (other than *Sí*, or *No*, or a proper name).

<sup>1</sup>This student performed so well throughout the course that it was hard to believe he had no previous knowledge of Spanish. When queried again on this point, he insisted that he had never before studied Spanish and that at the start of the course he knew no Spanish. Persistent probing finally yielded the following information: From the age of 5 to 9, he had heard Spanish spoken in his home by his grandmother. So far as he was aware, he remembered nothing from this early exposure. His performance in AUTOSPAN suggests that he had indeed benefitted from the childhood exposure to Spanish.

Table 6  
**Scores in Part I:  
 Translating from Spanish to English<sup>a</sup>**

Student	No. of Responses Scored:				Percent of Responses Scored "3"	Total Score	Percentage of Maximum
	3	2	1	0			
A	63	1	0	0	98.4	191	99.5%
B	38	13	6	7	59.4	146	76.0
C	26	12	11	15	40.6	113	58.8
D	22	11	20	11	34.4	108	56.2
E	38	17	8	1	59.4	156	81.2
F	20	22	12	10	31.2	116	60.4
G	29	22	5	8	45.3	136	70.8
H	55	5	3	1	85.9	178	92.7
I	30	17	7	10	46.9	131	68.2
Means	35.7	13.3	8.0	7.0	55.7	141.7	73.8
Ranges	22-63	1-22	0-20	0-15	31.2-98.4	108-191	56.2-99.5

<sup>a</sup>Maximum possible score=192.

If we summate the total points each student accumulates, that is, including credit for partially correct translations, percentage scores are somewhat higher. The last column in Table 6 depicts the percentage scores obtained by the scoring procedure.

Again, Student A has a near perfect score (99.5%). The lowest score by this criterion was 56.2% and was made by Student D. The average score was 73.8% which is appreciably higher than the average score (55.7%) yielded by the more stringent criterion.

The question may be raised whether the AUTOSPAN students' performance on Part I is good, so-so, or poor. Should the course be regarded as "successful" in teaching aural comprehension? The reader will have to answer these questions for himself. There is no meaningful control group against which the AUTOSPAN students can be compared. And, as previously explained, the specialized content of this course precluded the use of any standardized achievement test. Consequently, to answer the question of how successful the course was in teaching auditory comprehension, the reader should examine the actual content of Part I of the exam (see Appendix F), and decide for himself whether our students' performance was a significant achievement to be accomplished in about 74 hours of self-study, with no help from a live instructor. The authors of this report feel that it is a significant achievement.

#### RESULTS ON PART II: TRANSLATING FROM ENGLISH TO SPANISH

Table 7 presents information concerning the students' performance on Part II. A score of "2" assigned to an individual response means that that response was either an ideal response or one which was judged to be equally effective in terms of communicating. The fifth column of Table 7 gives, for each student, the percentage of responses scored "2." These range from 34.5% to 96.9% with a mean of 74.6%.<sup>2</sup>

<sup>2</sup>It is of some interest to note that if the score of the poorest student (D) were excluded from the calculations, the remaining scores would range from 64.1% to 96.9%, and the mean would rise to 79.7%—appreciably higher.

Table 7  
**Scores in Part II:  
 Translating from English to Spanish<sup>a</sup>**

Student	No. of Responses Scored:			Percent of Responses Scored "2"	Total Score	Percentage of Maximum
	2	1	0			
A	61	3	0	95.3	125	97.7
B	45	12	7	70.3	102	79.7
C	47	17	0	73.4	111	86.7
D	22	27	15	34.4	71	55.5
E	48	16	0	75.0	112	87.5
F	50	14	0	78.1	114	89.1
G	54	10	0	84.4	118	92.2
H	62	1	1	96.9	125	97.7
I	41	15	8	64.1	97	75.8
Means	47.8	12.8	3.4	74.6	108.3	84.6
Ranges	22-62	1-27	0-15	34.5-96.9	71-125	55.5-97.7

<sup>a</sup>Maximum possible score = 128.

So, using the fairly stringent criterion of communication effectiveness, the average student scored 74.6%. In other words, about three fourths of the thoughts which he attempted to communicate, would have been successfully communicated (in the judgment of the scorers).

A mean score of 75% would appear to be quite satisfactory for a self-instructional course of this length. However, it is worth noting that when students failed to communicate the entire message, they were often able to communicate a *portion* of the intended message. When a score of "1" is given for each partial communication, and these partial scores are added to the "2" scores, the mean percentage score rises to 84.3%.

Perhaps it should be pointed out that the part of the examination which we are now discussing is a true "power test" in that it is virtually free of time pressures. Each student was allowed to study the printed English sentence as long as he needed in order to compose his Spanish translations (or, to decide that he was unable to do so).

Again, the reader will have to judge for himself whether an average "communication effectiveness score" of 75% speaks well for the AUTOSPAN course. The authors believe that it does.

### RESULTS ON PART III: SIMULATED CONVERSATION

Table 8 presents information concerning the performance of each student on Part III: Simulated Conversation. It will be recalled that this part of the examination contains 17 response pauses, that is, 17 different occasions in the simulated conversation at which the student is supposed to say something "appropriate." A score of "3" indicates an appropriate, correct response. A score of "2" indicates an appropriate response, but one which contains some grammatical error. A score of "1" indicates a short response, such as *Si*, or *No*, which would barely meet the minimum requirements of polite conversation.

Actually, all responses not scored zero can be considered acceptable in a loose sense, that is, they would enable a social conversation to continue without disruption. The

Table 8  
**Scores in Part III:  
 Simulated Conversation<sup>a</sup>**

Student	No. of Responses Scored:				Total Acceptable Responses	Total Score as % of Maximum
	3	2	1	0		
A	13	3	0	1	94.1	88.2
B	5	2	3	7	58.8	43.1
C	11	1	4	1	94.1	76.5
D	9	2	2	4	76.5	64.7
E	8	4	1	4	76.5	64.7
F	9	2	1	5	70.6	62.7
G	5	4	1	7	58.8	47.0
H	12	3	1	1	94.1	84.3
I	9	3	2	3	82.3	68.6
Means	8.0	2.7	1.6	3.7	78.4	66.5
Ranges	5-13	1-4	0-4	1-7	58.8-94.1	43.1-88.2

<sup>a</sup>Maximum possible score = 51.

column in Table 8 which is labeled "Total Acceptable Responses" indicates the percentage of each student's responses which received a score other than zero. As usual, student A received the top score (94.1%), although two other students equaled this performance. The mean score, by this criterion, was 78.4%.

The other criterion for scoring Part III involved summing the total points accumulated by each student, that is, giving part scores for responses which, while barely acceptable, were less than appropriate to the situation or which contained grammatical errors. The last column in Table 8 shows the percentage scores of each student according to this criterion. Again student A is highest with 88.2%. The low score is 43.1% and the mean, 66.6%.

This simulated conversation of the final examination probably comes closer than the other parts to assessing the overall objective of the course, namely to develop a rudimentary communication skill. Here the student must cope with the relative unpredictability of real-life conversation; he must draw on his accumulated knowledge of the target language and quickly make some sort of communication which "fits" the utterances he hears from the tape. It is true that many of our students' responses (those scored 2 or 1) were deficient in some respect. Yet, even these met the minimum practical requirements of polite conversation. A mean score of 78%, on this criterion, would appear to be a significant achievement.

## Chapter 6

### STUDENT ATTITUDES TOWARD THE COURSE

#### GENERAL REACTIONS

As each student finished the course, and prior to taking the final examination, he was asked to fill out a short questionnaire soliciting various items of information about his language background, age, rank, and so forth, and his opinions with regard to various aspects of the course. The questionnaire is reproduced in Appendix J along with summary figures showing the number of students who marked each response alternative. In this chapter some of the information obtained concerning students' attitudes toward the course will be summarized.

Apparently there was some tendency for the students to expect more from the course than they obtained. Five of the nine students indicated that they had learned somewhat less than they had expected. However, three students reported that they had learned *more* than they expected. In actuality, probably none of the students had any realistic basis for anticipating how much he would learn.

Concerning the students' reactions to the course as a whole, all but two reported that they liked it, either "somewhat" or "very much." Two expressed mild dislike. Slightly more than half of the students (5 out of 9) would prefer to use the AUTOSPAN method if they were to study another foreign language.

When asked if they would recommend the AUTOSPAN course to a friend, again five indicated that they would, and four were not sure. No one was sure that he would *not* recommend it.

As expected, the self-pacing feature of the course was in general favorably regarded, although two students expressed a dislike for it.

The course was fairly successful in holding the students' interest. Slightly more than half of the group reported that they generally found the course "very interesting." Two students reported that they were frequently bored.

The course appears to have had a salutary effect upon the students' self-confidence in their ability to learn a foreign language. All but one reported an increase in self-confidence as a result of his AUTOSPAN experience. One student (the one who had had five years of French training) considered his confidence level unchanged.

Another beneficial effect which the course seems to have had on most students was that it stimulated an interest in the Spanish language. Five expressed a strong desire to take additional Spanish courses, two said they were "somewhat interested" in doing so, and one was "not sure." Only one student was "pretty sure" that he did not want any more Spanish.

#### Students' Reactions to Different Types of Lessons

In the post-course questionnaire, students were asked to indicate how valuable or useful they considered each type of lesson to be. The rating categories used were as follows: 3 = extremely valuable; 2 = moderately valuable; 1 = slightly valuable, and 0 = no value.

The mean rating and range of ratings assigned to each of the five types of lessons are shown in Table 9. It is not surprising that teaching point lessons received the highest

Table 9  
**Mean Rating and Range of Ratings  
 for Five Types of Lessons**

Lesson	Mean	Range
Teaching Point Lessons	2.5	1-3
Tutoring Sessions	2.1	1-3
End-of-Chapter Tests	2.1	1-3
Simulated Conversations	1.7	0-3
Dialogue Memorizations	1.5	0-3

rating for usefulness since these are the lessons in which the most significant amount of information is imparted. No type of lesson received a mean rating approximating 3.0, which would have indicated extremely valuable, although each type of lesson was so rated by at least two or three of the nine subjects.

It is somewhat surprising that the Simulated Conversations did not receive a higher mean rating. This could be due to the fact that there were so few in the course—only five, all in the last chapter. Actually two students (H and I) did rate the simulated conversation as extremely valuable. It is perhaps noteworthy that none of the lessons achieved a mean rating which would have indicated “no value.”

Information also exists concerning the students’ reactions to each of the types of lessons in terms of their interest value and their ease of learning. This information comes from the individual record sheets which students filled out after completing each lesson in the course. On the record sheet, the student was to rate the lesson for “interest” and for “ease of learning.” With respect to interest, he was to check one of the following five descriptive phrases: (a) very interesting, (b) somewhat interesting, (c) so-so, (d) somewhat boring, and (e) very boring. These were scored respectively as 5, 4, 3, 2, and 1.

With respect to ease of learning, he again checked one of five descriptive phrases: (a) very easy, (b) somewhat easy, (c) so-so, (d) somewhat hard, and (e) very hard. These were also scored respectively as 5, 4, 3, 2, and 1. Therefore, with respect to each of these dimensions, a rating of 3.0 would indicate a sort of neutral position. Any number smaller than 3.0 would indicate a less desirable evaluation of this particular aspect of the lesson.

Table 10 summarizes the students’ ratings of the various types of lessons. To compute these data, all lessons of a given type were grouped, and all ratings of these

Table 10  
**Students’ Ratings of Different Types of Lessons  
 for “Interest Value” and “Ease of Learning”**

Type of Lesson	Interest		Ease of Learning	
	Mean	Range	Mean	Range
Teaching Point Lessons	3.7	2-5	2.6	1-5
End-of-Chapter Tests	3.6	2-5	2.7	1-4
Dialogue Memorization	3.6	1-5	3.3	1-5
Tutoring Sessions	3.6	1-5	3.3	1-5
Simulated Conversations	3.5	2-5	3.0	2-5

lessons by all nine students were averaged to produce the mean ratings shown in Table 10.

Examining the column of mean ratings for "interest," it is apparent that there is little variation from one lesson type to another. All mean ratings are on the favorable side. That is, all are in excess of 3.0 and lie roughly between the "so-so" rating and the "moderately interesting" rating. It is gratifying to note that not one type of lesson received a mean rating on the "boring" side of the scale.

With respect to "ease of learning" the teaching point lessons and the end-of-chapter tests both received mean ratings on the "difficult" side of the scale. Actually, they were judged as only slightly more difficult than the "so-so" rating would have signified. It is not surprising that the dialogue memorization lessons, tutoring sessions, and simulated conversation lessons all received ratings of either "so-so" or "moderately easy." The tutoring sessions and the simulated conversations do not actually involve a criterion test. The student simply has to judge for himself when he thinks he has satisfactorily mastered the content. Consequently, these types of lessons could hardly have been judged as difficult.

#### **Students' Reactions to Administrative Arrangements for Taking the Course**

When asked to describe their attitude while scoring their own responses on the tests, all but one of the students acknowledged that they were at least "somewhat lenient." Only one said that he was "somewhat strict."

Students were asked how often they rewound the tape to repeat a frame simply because they wanted to, even though they had not been instructed to do so. Only one student reported that he frequently did so. Six reported that they did so "occasionally"; and two said that they never did. Evidently most students were content to proceed through the material in the manner conceived by the developers.

The general directions to the student for going through the course at no time direct him to put his machine in "playback" and listen to his own performance. This kind of activity was deliberately discouraged since one of the general guidelines for the course construction effort specified that it should not require the use of any specialized equipment. In other words, it was intended that the course should be compatible with ordinary tape players which do not have the capability of recording student responses on a separate track from that containing the instructional material.

When asked, in the questionnaire, about their use of "playback", all but one of the students reported that they did so infrequently. One student said that he did so "after every lesson." It appears then that "playback" was probably not used enough to have significantly influenced student achievement in the course.

Evidently there was a tendency for students to see some merit in using playback. When asked if they thought the instructions for taking the course should be changed so as to require the use of playback, five answered affirmatively.

Concerning the preferred number of hours a day which should be devoted to a self-instructional language course such as AUTOSPAN, the most popular response category was "3-4 hours." It appears that the work schedule actually employed in the tryout (3 hours per day) was a happy choice.

Opinion was about evenly divided on the question of whether it would be desirable to issue tape recorders to students and let them take the course on their own, without a scheduled study time in the lab. Four students liked the idea, four disliked the idea, and one was indifferent.

#### **Least-Liked Features of the Course**

In the post-course questionnaire, students were asked what features of the AUTOSPAN course they liked least. Following are the various comments elicited by this

question and the number of students who mentioned each. (Since some students commented on more than one feature, the total adds up to more than nine.)

Excessive length of some lessons	4
Lack of live teacher	3
Tests	1
"Number of hours per day"	1
Teaching of more than one Spanish equivalent for a given English expression	1

The excessive length of some lessons, which was mentioned by four students, has already been corrected, at least to a great extent. Many of the longer lessons were broken into two lessons subsequent to the completion of the course tryout. Three of the nine students expressed dissatisfaction with the lack of a live teacher with whom they could communicate from time to time. It seems likely that many, if not all, of the other students would have voiced the same point of view had they been specifically asked what they thought of this feature. However, this was not done.

#### Most-Liked Features of the Course

Below are listed the most-liked features of the course and the number of students who mentioned each.

Self-pacing feature	4
The female English voice (which was rarely used)	2
The "method of instruction"	1
"Vast vocabulary in such a small amount of time"	1
"Opportunity to learn a little of a foreign language"	1
Vocabulary building exercises	1
Dialogue Memorization lessons	1

Obviously the self-pacing feature was popular. It is one of the hallmarks of programmed instruction, and one which is generally highly regarded by students. The female English voice which was used in only two lessons apparently was a welcome diversion for at least two of the students. With the exception of these two lessons in which the female English voice occurred, practically all other English in the course was spoken by the principal investigator in the project. It appears that it would have been preferable to use a greater variety of English voices.

#### STUDENTS' SUGGESTIONS FOR IMPROVING THE COURSE

Following are the students' suggestions for improving the course, and opposite each the number of students who made the suggestion:

Provide opportunity to talk with live instructor	3
Include visit to Spanish-speaking country	1
Make the course more military oriented	1
* "Cut down the long tapes"	1
* "A more thorough breakdown of direct and indirect objects"	1
* Increase emphasis on pronunciation of verb forms	1
"Select interested personnel"	1

The three suggestions which are marked with an asterisk have already been acted upon in revisions made subsequent to the completion of the course tryout. The lesson on direct object pronouns and that on indirect object pronouns were each broken into two lessons with more extensive practice provided. Also, each lesson concerned with verb

forms was broken into two lessons, each of which provided intensive practice on all of the various forms of each verb under consideration.

Apparently the one student who mentioned "select interested personnel" was referring to the fact that none of the students in this tryout group could anticipate making any use of Spanish in his subsequent military career. In fact, several of the students knew that they would be going to Vietnam upon completing the course. It is undoubtedly true that with a more highly motivated group of students, the overall performance would have been better.

## Chapter 7

### DISCUSSION

In this chapter, various general features of the course are discussed and appraised. Some consideration will also be given to the question of how the course might be profitably utilized by DLI.

#### IS AUTOSPAN A PROGRAMED COURSE?

Clearly, AUTOSPAN is a self-instructional course, since it makes no provision for live-teacher assistance, but it cannot simply be characterized as "programed," since certain lessons and portions of lessons are clearly *not* programed. Although definitions of "programing" vary, probably most authorities would agree that any instructional material must embody the following features in order to qualify as "programed:"

- (1) Clear specifications of training objectives in terms of observable performance.
- (2) Presentation of material by a graded series of "digestible" bites.
- (3) Requirement for frequent student responses.
- (4) Provision of confirmation following each student response (i.e., informing student of the adequacy of his response).
- (5) Use of criterion tests to ensure that student has mastered each block of material before going on to new material.

Certain of the AUTOSPAN lessons fail to meet some of these five criteria. The "simulated tutoring" lessons do not meet criteria (1) and (5) and hence cannot be regarded as programed. They do meet the other criteria and hence might be termed "quasi-programed."

In addition, there are a number of points in the course at which the student is directed to examine a chart, or set of model sentences, and attempt—on his own—to gain an understanding of certain principles. Since, at such points, the student's studying activities are not structured or controlled by the material, such material cannot be regarded as programed.

As previously indicated, all teaching point lessons, starting with Lesson 53, begin with a condensed description of the principal contents of the lesson. The student is advised to study these synopses to gain a preview of what he is to study in the lesson. Again, this constitutes a deviation from the principles of programing.

So, while the vast bulk of AUTOSPAN is programed, substantial portions are not. Hence, it is probably more appropriate to characterize the course as a quasi-programed, self-instructional course.

#### SHOULD AUTOSPAN BE DESCRIBED AS AUDIO-LINGUAL OR COGNITIVE-CODE LEARNING?

Actually, the course has features of both approaches, but is clearly weighted in the direction of Cognitive-Code Learning. According to Chastain and Woerdehoff (5, pp. 268-279), the essential characteristics of the Audio-Lingual method are:

- (1) Study and manipulation of structural patterns.
- (2) Inductive presentation of new material.

- (3) Maintenance of the "natural" order of learning: that is, listening comprehension, speaking, reading, and writing.

According to the same authors, the Cognitive-Code Learning Method involves the following critical features:

- (1) Use of exercises designed to teach understanding of grammatical concepts being introduced.
- (2) Deductive explanation of all grammar prior to any practice with the structures.
- (3) Practice of all language skills from the beginning of the course.

Although the Audio-Lingual method has enjoyed great fame and popularity during the last decade or so, it appears that the pendulum is now swinging in the direction of the Cognitive-Code Learning approach (cf. Smith, 2; Grittner, 3, pp. 467-477; Sawyer, 4; Chastain and Woerdhoff, 5).

AUTOSPAN does have certain features akin to the Audio-Lingual approach. It does involve extensive manipulation of structural patterns (i.e., pattern practice drills) although most of these are organized in such a way that they probably are more meaningful to students than would be the case with typical drills. Specifically, in AUTOSPAN, the student frequently must (a) generate Spanish answers to Spanish questions, (b) interrogate the tape and translate the answer he receives, and (c) decode and encode a series of alternating questions and answers.

Another feature that is commonly encountered in so-called Audio-Lingual courses is dialogue memorization. AUTOSPAN does contain many dialogues, although quite short, which the student memorizes. Many new grammatical structures are first encountered by the student in these dialogues although this arrangement would not qualify as illustrating the "inductive" teaching of grammar.

Actually, practically all grammar instruction in AUTOSPAN is clearly deductive. Principles, generalizations, and so forth, are described, explained, and illustrated in a step-by-step fashion and then followed by drills which require the student to practice, rather extensively, the principles previously explained. It is probably safe to say that a student taking the AUTOSPAN course gets far more practice (in speaking and translating the target language) than would a student who spent a comparable amount of time in a classroom course.

Another feature which would probably be regarded as integral to the Audio-Lingual method, but which was not mentioned by Chastain (5), is the very sparing use of translation. According to Brooks (1), a major spokesman for the A-L method, the student's mother tongue should be used as sparingly as possible while the new language is being learned, and translation should be practiced only at advanced levels of language training. On this count, AUTOSPAN clearly is *not* Audio-Lingual since the course is permeated with explanations in English and with translation exercises, both from Spanish to English and the reverse. In other words, AUTOSPAN unabashedly strives to develop what Brooks (1) would call a "compound" rather than a "coordinate" language skill. With the exception of the simulated conversation lessons (in the last chapter of AUTOSPAN), and occasional exercises elsewhere in the course, the student's mother tongue plays a prominent role in practically all of the instructional activities.

Another feature generally considered to be integral to the A-L method is the teaching of vocabulary only "in context"—that is, in sentences or other utterances which theoretically avoid distorting the meaning. Although AUTOSPAN does introduce many new words in dialogues (which are memorized along with their English translations) the preponderance of vocabulary training is accomplished by means of translation drills of the new words in isolation. After a set of drills, teaching the target language words and their English equivalents, the student then encounters a series of pattern practice drills, whose primary purpose is to teach grammatical points, but which also utilize the new

vocabulary items. In other words, after being introduced to new lexical items in isolation, the student immediately afterward deals with the new items in meaningful contexts.

### HOW EFFECTIVE IS THE SIMULATED TUTORING TECHNIQUE?

From the available data it is not possible to evaluate the independent contribution of the tutoring technique to the overall effectiveness of the course. The impression one gets from reading a detailed description of the technique (see Appendix C), or from listening to a recording of a student taking such a lesson is that the technique is probably very effective.

As mentioned in the previous chapter, the nine tryout students gave simulated tutoring a mean rating of 2.1 which means "moderately valuable." Concerning its "interest value", they gave it a mean rating of 3.6, which lies between a "so-so" rating and a "somewhat interesting" rating.

Scattered comments by the tryout students lead one to conclude that the technique, when executed optimally, is both effective and interesting, but when executed with less skill or "artistry" can become either boring or irritating.

Three tutors were used in creating the various tutoring lessons in the course. Although the three were professional linguists thoroughly competent in Spanish, they varied from one to the other, and with themselves from lesson to lesson, in the effectiveness with which they performed. Some students complained that the voice quality of certain tutors was "irritating." A few complaints were made to the effect that the tutor did too much talking and did not give the student sufficient opportunity to speak.

Occasionally, tutors would launch into rather elaborate detailed explanations of some points, which explanations may have sounded quite reasonable and appropriate on first hearing, but which became quite tedious when heard for a second or third time. It would probably be best, in using this technique in the future, to admonish the tutor to keep his explanations as brief as possible and to maintain a lively pace by requiring frequent responses from the student.

### HOW EFFECTIVE IS THE SIMULATED CONVERSATION TECHNIQUE?

Again, it is not possible, with the available data, to assess the contribution of this particular technique to the overall effectiveness of the course.

The tryout students gave simulated conversation a mean value rating of 1.7, which is somewhat less than a "2" rating ("moderately valuable"). Actually two students rated it as "extremely valuable," three rated it as "moderately valuable," two rated it "slightly valuable," and surprisingly, one student rated it "of no value."

With respect to "interest value," the mean rating was 3.5—halfway between "so-so" and "somewhat interesting."

The simulated conversation technique was used in only five lessons in the course—all in the final chapter. None of the students made any written comments on their record sheets with respect to these lessons—possibly because they were rushing to finish the course. So, we really have little information on which to base an evaluation of the technique.

In an attempt to obtain a modicum of empirical data on this technique, a quick scoring was carried out of the performance of eight of the tryout students on Lesson 93, Simulated Conversation with a Hotel Clerk. (One student's record could not be included since he had taken this lesson twice and only his second try was preserved on the tape.)

This simulated conversation contains 12 different instances where the student is supposed to respond to a tape utterance. His performance on each of these occasions was scored on a pass-fail basis—that is, whether it was minimally acceptable or not. Improvement scores from Round I to Round III ranged from -1 to +9, with the mean student improving by 4.2 responses. (Incidentally, the student with the negative improvement had had a perfect score on Round I. It seems likely that his one unacceptable response in Round II was due to some momentary distraction.)

So, this mini-analysis shows that most students did improve (at least in this one lesson) in their ability to participate in this particular simulated conversation. This fact alone, however, does not constitute evidence that the students improved in the generalized skill of coping with real-life conversation. It should be noted, however, that the average student obtained a score of 78.4% in Part III of the final exam, which was also a simulated conversation. This fact suggests that the students did profit from the five simulated conversation lessons.

#### HOW SUCCESSFUL WAS THE COURSE AS A WHOLE?

As previously indicated, the AUTOSPAN course, because of its specific objectives and content, is not directly comparable with other courses. There is no meaningful control group with which the achievement of the AUTOSPAN students might be compared. For the same reasons, not one standardized Spanish achievement test was judged appropriate for assessing the AUTOSPAN graduates. Consequently, any overall evaluation of the course must be somewhat subjective and must involve: (a) an examination of the contents of the AUTOSPAN final examination, (b) a judgment as to its appropriateness, in terms of scope and difficulty, (c) a consideration of the examination scores made by the tryout students, and (d) a consideration of the characteristics, particularly the motivational level, of the tryout students.

The contents of the final examination are presented in Appendices F, G, and I. More analytical descriptions of Parts I and II are presented in Tables 4 and 5. It is the opinion of the authors that this material fairly represents the contents of the course as a whole, and that it also represents a reasonable level of language capability to be expected from a self-instructional course the length of this first half of the AUTOSPAN course.

The mean scores of the tryout students on the final exam are recapitulated below:

	Communication Effectiveness	Total Point Score
Part I (Spanish to English)	55.7%	73.8%
Part II (English to Spanish)	74.6%	84.6%
Part III (Simulated Conversation)	78.4%	66.6%

Although the mean "communication effectiveness score" on Part I is disappointingly low, it should be remembered that this was a "time-pressured" test situation. The fact that the mean "total point score" was much higher indicates that the students generally understood at least portions of each utterance and, had they been in a real-life situation, could probably have understood much more by asking to have the Spanish sentence repeated. The mean scores on the other two parts of the examination are quite respectable.

The reader should also keep in mind that the motivational level of the tryout students was probably less than ideal. All were Special Forces personnel, who are generally regarded as more action-oriented than study-oriented. Although all nine were supposed to have volunteered for Spanish study, several acknowledged, near the end of the course, that they were actually "reluctant volunteers." It seems reasonable to suppose that with more highly motivated students achievement in the course would have been still higher.

On the whole, it is the opinion of the authors that the course was successful in teaching, entirely through self-instructional means, a useful, though elementary, ability to communicate in Spanish, and in an average study time of 73.7 hours.

### **POSSIBLE APPLICATIONS OF THE AUTOSPAN COURSE**

It is believed that the AUTOSPAN course can be profitably utilized in at least the following applications:

- (1) Variable length language training for individuals who need such training to prepare themselves for their next assignment but who cannot be fitted into a regularly scheduled long-term school program (e.g., future military attaché personnel, mobile training team personnel).
- (2) Military personnel (or their dependents) who are assigned to Spanish-speaking countries could be provided with a set of AUTOSPAN materials and any conventional tape machine, and be able to develop a much greater competency in the language than would be possible by mere exposure to the foreign culture.
- (3) For refresher training. The end-of-chapter diagnostic tests would enable one to fairly quickly identify those portions of the course in which refresher training was needed.
- (4) Many of the AUTOSPAN lessons could be profitably utilized as sophisticated language laboratory exercises, associated with conventional classroom courses.
- (5) Some of the AUTOSPAN Lessons (the simulated tutoring sessions, and the simulated conversation lessons) could be studied (without taking the entire course) if one desired solely to master certain useful sentences in order to cope with practical situations.

It is possible that the AUTOSPAN materials could also serve as a substitute for some initial portion of a classroom course. The only problem likely to arise in this event would be non-overlap in vocabulary taught. If the originally projected Phase II of the AUTOSPAN course comes into existence, it seems fairly certain that the full-length AUTOSPAN course could substitute for a sizable portion of a classroom course, and might also be suitable for accreditation as college work.<sup>1</sup>

<sup>1</sup>Information concerning AUTOSPAN course materials and tapes can be obtained from HumRRO Division No. 7 (Social Science).

**LITERATURE CITED  
AND  
APPENDICES**

<b>Appendices</b>	<b>Page</b>
A Memorandum from DLI Concerning Course Guidelines . . . . .	41
B Auditory Discrimination Lessons . . . . .	44
C Simulated Tutoring Lessons . . . . .	46
D Dialogue Memorization Lessons . . . . .	49
E Simulated Conversation Lessons . . . . .	51
F Sentences Used in Part I of the Final Examination . . . . .	55
G Sentences Used in Part II of the Final Examination . . . . .	59
H The Scoring Plan that Failed . . . . .	63
I AUTOSPAN Final Examination: Part III . . . . .	64
J AUTOSPAN Questionnaire . . . . .	68

### Literature Cited

1. Brooks, Nelson. *Language and Language Learning—Theory and Practice*, Harcourt, Brace, and World, New York, 1960.
2. Smith, Paul. "Teaching Vocabulary," *Modern Language Journal*, vol. 53, no. 8, 1969.
3. Grittner, Frank M. "A Critical Re-examination of Methods and Materials," *Modern Language Journal*, vol. VIII, no. 7, 1969, pp. 467-477.
4. Sawyer, Jesse, et. al. *The Utility of Translation and Written Symbols During the First Thirty Hours of Language Study*, The Department of Spanish, University of California, Berkeley, 1962.
5. Chastain, K.D. and Woerdhoff, F.J. "A Methodological Study Comparing the Audio-Lingual Habit Theory and the Cognitive-Code Learning Theory," *Modern Language Journal*, vol. 52, no. 5, 1968.

## Appendix A

### MEMORANDUM FROM DLI CONCERNING COURSE GUIDELINES

#### Specifications for a Programmed (Self-Study) Spanish Course to Meet Department of Defense Objectives<sup>1</sup>

##### I. Objectives

###### A. Speaking (Proficiency level 2 on a 1 to 5 scale).

Ability to satisfy routine social demands. The speaker can handle with confidence, but not with facility, most social situations including introductions and casual conversations about current events, his work, family, time, travel, autobiographical information, etc. Ability to understand most conversation on non-technical subjects and has a speaking vocabulary sufficient to express himself simply with some indirectness; accent, though quite American, is intelligible; can usually handle elementary construction quite accurately, but does not have thorough or confident control of the grammar.

###### B. Listening Comprehension (Proficiency level 2 on a 1 to 5 scale).

Able to comprehend from a native speaker anything he (the student) is able to speak and comprehend.

###### C. Reading (Proficiency level 2 on a 1 to 5 scale).

Ability to read narrative descriptions of everyday topics (topics of a non-technical nature). Can read non-technical materials about current events, travel, eating, shopping, etc. Can read anything he can speak.

##### II. Format

A. The course will comprise units of 5 segments (1 to 1-1/2 hours each) of approximately 5 to 10 hours duration, dependent on the length of the entire course. In this manner, one course will serve a number of individual students simultaneously. The above figures are not irrevocable if better proposals are forthcoming in line with flexibility herein required.

B. Military techno-scientific vocabulary is not required. A vocabulary of approximately 1300 words of general social nature is indicated. The objective is to achieve active (speaking/reading) use of about 80-90%. Culturally authentic material should be used insofar as it lends itself to the achievement of the language objectives.

###### C. This course is modular.

1. Self-sufficient at the levels for which designed in Part I objectives or,
2. The first module on which others may be added. The course would provide the basis for:
  - a. More advanced study of the language.
  - b. Acquiring advanced conversational proficiency through other available means.

<sup>1</sup> This document presents the guidelines for course development which were prepared by the Defense Language Institute and transmitted to HumRRO in a memorandum dated 20 March 1964.

- c. Entrance in a mission-oriented course at an advanced level.
- d. Specialized language training with military techno-scientific orientation.

**Summary:** The intent would be to provide a reservoir of language-trained personnel capable of qualifying for a variety of courses at advanced levels bypassing the usual introductory courses.

- D. A variety of student responses to audio stimuli should be utilized to include:
  1. Verbal response into activated microphone.
  2. Verbal recorded response on tape followed by confirmation of learning.
  3. Selection of written alternates from audio stimuli.
  4. Other appropriate techniques.

E. A study guide will be developed to explain the course objectives, methodology, and procedures.

F. The course must be capable of self-study by individuals in a variety of environments; quarters, remote duty site, work, alert facility, education office, etc. Also, it will be used in formally organized classes where it is desirable that students be scheduled in groups, but where it is also desirable that students progress at their own capacity and rate of speed.

G. Tests and Measurement.

1. Phase by phase tests to record progress in units of instruction, self-scoring, designed to identify strengths and/or weaknesses and to provide the basis for proceeding to the next phase, or repeating.
2. End of course test. There must be a test to measure the end of course achievement. It is desired that the student have an active speaking, comprehending, and reading command of 800 to 852 of the 1300 vocabulary items earlier referenced. These tests will be scored at a central point.

H. Grades.

Tests will be designed so as to yield separate grades for each skill.

### III. Audience

A. The course will be used by adult (18-60 years) members of the military service. The persons will be non-high school graduates, high school graduates, students with some college level training, college graduates, and graduate level. It is essential, therefore, that course content and cultural context content be mature.

B. Some will take the course in pursuit of:

1. Language refresher and maintenance.
2. Career development.
3. Academic credits at both the secondary and college level.

### IV. Accreditation

It is intended that this course be professionally accomplished, utilizing sound linguistic principles and procedures. The course, and its results, will be utilized for accreditation purposes to provide high school and college credits through the services of the American Council of Education.

## **V. Proficiency Testing**

A. Mention has already been made of tests to be built into the course (segmental and a final). The Army Language Proficiency Test (ALPT) in Spanish will be used to determine the achievement of the objectives in I, A B C above. The ALPT is in two parts: Part I is listening comprehension which will be equated to speaking ability. Part II is reading comprehension. This test is used on a standardized basis within Department of Defense.

## Appendix B

### AUDITORY DISCRIMINATION LESSONS

The first two lessons in the course are concerned with stress discrimination and pitch discrimination.

#### Objectives of the Discrimination Lessons

(1) To give the student, as his introduction to the course, some easy and thus non-formidable tasks.

(2) To give the student some "listening" experience, that is, to force him to listen attentively to about 30 minutes of Spanish on the assumption that such experience may mitigate the strangeness of the sounds and thus facilitate later study.

(3) To give the student some familiarity with the fact that language utterances vary in both stress and pitch and that these variations often have significance for communication, that is, are phonemic.

#### Programing Strategy: Lesson 1, Stress Discrimination

(1) The student reads along in his text while he hears, on the tape, a two-page lecture on the role in communication of the "musical qualities" of speech.

(2) Stress is explained and demonstrated, and the student is given a practice exercise in which he must identify which syllable, of some two-syllable words, has the greater stress. Each student response is followed by confirmation.

(3) The student listens to 12 pairs of two-syllable utterances and makes judgments of "same" or "different." The members of each pair are identical except in those instances where the correct response is "different." Here the two members differ in stress but otherwise are identical, such as, *hablo* or *hablé*. By covarying feedback (same-different) with—and only with—stress, an attempt is made to lead the student to isolate and pay attention to this variable.

(4) Having presumably gotten the student's attention focused on the relevant variable, he is next required to respond to this variable in contexts of other irrelevant variables. That is, we have him make "same"—"different" judgments when the members of each pair differ not only in stress but also in their segmental phonemes; for example, the student must judge whether *hablé* and *compró* have the same or different stress. In the example, both words have the same stress pattern but are obviously different in other respects. All the stimulus words used in this step are "familiar" to the student in the sense that he has encountered them in previous steps.

(5) This step is identical with the preceding one except that unfamiliar or new stimulus words are employed.

(6) In successive steps, the length of the stimulus utterance is gradually increased until the subject is responding to four-syllable utterances and judging whether they have the same or different stress patterns. Care is taken to ensure that for utterances of a given length, all possible comparisons of stress patterns are used.

#### Programing Strategy: Lesson 2, Pitch Discrimination

The programing strategy here parallels closely that employed in the Stress Discrimination Lesson.

### **Criterion Tests**

Because of the nature of the objectives for these two lessons, criterion tests are considered unnecessary. It should be noted, however, that all student responses throughout each lesson are followed by knowledge-of-results.

## Appendix C

### SIMULATED TUTORING LESSONS

#### General Objectives

- (1) To improve articulatory or pronunciation skills with respect to sounds, words, phrases, and sentences.
- (2) To stimulate and/or sustain the student's motivation by providing experiences of simulated human interaction.

#### Overview

To create a simulated tutoring session, an experienced, linguistically trained language teacher is asked to tutor a live subject in the pronunciation of a short (four- or five-line) dialogue. The recording equipment is arranged in such a way that the student and tutor both see and hear each other, but a recording is made of only the tutor's voice.

The resulting tape contains all of the tutor's instructions, explanations, and so forth, with response pauses which are automatically located and timed to conform to the needs of the situation. When a subsequent student takes the lesson for instructional purposes, he has the experience that he is interacting with a live tutor. Students who have had this experience report that the illusion is quite powerful and that the whole experience is interesting.

#### Preparation of the Tutor Prior to Recording

Before sitting down to record a simulated tutoring session, the tutor must study the dialogue to be used and identify all pronunciation points likely to give trouble to the native American student. From his knowledge of the phonological contrasts between native language and target language, the linguist-tutor should be able to identify these likely trouble spots.

The linguist-tutor makes appropriate markings on his copy of the dialogue so that he can be sure to drill and explain each of these trouble spots regardless of whether the student who serves as his foil makes these particular errors.

#### Selection of the Foil

The word "foil" is used here to designate the individual who plays the role of a responding student during the recording of a tutoring session. He is called a "foil" because of the fact that his own behavior is secondary to that of the tutor. By his presence and by his responses, he enables the tutor to automatically control the duration of response pauses and to perform in a more effective fashion.

In recording the tutoring sessions near the beginning of the course, the foil should be a person who has little or no knowledge of the target language but who is not totally inept. If the foil is too skilled, he tends to respond too quickly to the tutor's directions so that the resultant tape pauses tend to be too short. In contrast, a foil with extremely low language aptitude takes far too long to respond and, in addition, makes so many unpredictable errors that the tutor finds it impossible to pace himself properly.

When recording tutoring sessions at more advanced stages of the course, it is desirable that a foil be used who has gone through all preceding lessons of the course and thus may be presumed to have the degree of skill appropriate for undertaking the next lesson.

### **Actual Conduct of the Recording Session**

The tutor and the foil sit in separate, but adjacent, soundproof studios. They see each other through a glass window separating the rooms and they communicate with each other through microphones and earphones. The tutor's voice, and only the tutor's voice, is recorded on a tape recorder located in the foil's room.

The student has in front of him a one-page printed lesson. The first paragraph describes the general setting in which the dialogue takes place, identifies the speakers and their social relationship, and gives a brief synopsis of the content of their conversation.

Immediately following the introductory paragraph, there appears the printed Spanish dialogue on the left side of the page and the English equivalent of each line, on the right. After the student has read the introductory paragraph, the actual tutoring session begins.

The tutor works from an outline rather than a script in an effort to enhance his spontaneity or life-like manner. No two tutoring sessions are exactly alike, but the following outline will give the reader an idea of the steps which comprise a typical tutoring session.

- (1) Student listens to two complete enactments of the dialogue by native speakers of Spanish.
- (2) Each of the dialogue lines is taken up in turn and treated as follows: (a) The complete line is modeled for the student to imitate, (b) a "reverse build-up" exercise is carried out in which the tutor has the student imitate the last segment in the line, then the last two segments, then the last three segments, and so forth until the entire line has been dealt with in this way. Throughout this exercise the tutor pays particular attention to syllable transitions and to troublesome sounds. Correct intonation is preserved by the tutor and emphasized by him.
- (3) Each line is modeled for imitation followed by confirmation.
- (4) "Hard parts" are reviewed and emphasized—that is, words, phrases, and so forth, that typically give trouble to English speakers.
- (5) English phrases and complete lines of English are given by the tutor for the student to encode, that is, to say in Spanish. Confirmation follows.
- (6) A role-playing activity is carried out with the tutor taking one part and the student the other. This is done twice. Confirmations are not given since they might detract from the realism which otherwise prevails.
- (7) Another role-playing activity takes place with the roles reversed. This is done twice, and no confirmation is involved in either performance.
- (8) The subject listens again as the entire dialogue is enacted by the native speakers without interruption.
- (9) The session generally ends with the tutor suggesting that the student repeat the lesson one or more times until he feels that the task is easy for him to carry out.

### **Supplementary Description of Tutor's Behavior**

It is considered desirable that the tutor speak with a friendly, encouraging manner. He should in fact ad lib, assuming adequate prior preparation. Occasional lapses from good English grammar, as are typical in spontaneous conversational English, are considered acceptable when recording a tutoring session.

On rare occasions the tutor may demonstrate an *incorrect* pronunciation of a small segment of Spanish in order to draw attention to a critical feature which distinguishes the correct from the incorrect pronunciation. Whenever he does this, he is very careful not to leave the student uncertain as to which is correct.

The tutor endeavors to always speak Spanish that is correct in all its nuances. He calls attention to all (or practically all) of the phonological features which are likely to be difficult for native English speakers. But he avoids devoting excessive attention to those subtle features of Spanish phonology which generally are mastered only by advanced, high aptitude students. In other words, the tutor tries to keep in mind the general goal of making the student's speech *intelligible* but not native-like.

In striving to get the student to produce difficult sounds, the tutor can draw on almost any techniques that occur to him. A technique often used with success by the AUTOSPAN linguist is as follows: The student is asked to imitate a series of short utterances beginning with an English word or phrase, and proceeding through an ordered series of distortions of these which approximate more and more closely the target utterance. For example, many Americans find it difficult to pronounce the Spanish word "gracias." The student may come closer to an acceptable pronunciation of this word by responding to the following instructions. "You say what I say: Good day \_\_\_\_\_; Good day \_\_\_\_\_; good dah \_\_\_\_\_; good dah \_\_\_\_\_; Now say it in one syllable: Good dah \_\_\_\_\_; good dah \_\_\_\_\_; Now say ahss \_\_\_\_\_; ahss \_\_\_\_\_; see ahss \_\_\_\_\_; see ahss \_\_\_\_\_; good dah see ahss \_\_\_\_\_; good dah see ahss \_\_\_\_\_."

If the student imitates the last model rapidly, he is likely to produce an utterance that sounds reasonably close to the correct pronunciation of "gracias." It should be noted that the student does not *see* the printed instructions just described. This technique is employed only orally on tape.

Although the tutor tries to sound encouraging, he avoids being effusive in complimenting the student. It would obviously be undesirable for some future student to fumble hopelessly and then hear a cheery voice say "Splendid."

### Criterion Tests

No criterion tests are employed with tutoring sessions because of the uniqueness both of the technique and of the objectives.

## Appendix D

### DIALOGUE MEMORIZATION LESSONS

#### Terminal Behavior Objectives

(1) After successfully completing a dialogue memorization lesson, the student should be able to say the Spanish equivalent of each dialogue line when cued by the oral presentation of its English version.

(2) Student's pronunciation should be good enough to be understandable to native Spanish speakers.

#### Programing Strategy: General Considerations

(1) All the dialogues are quite short: either four or five lines in length. Verbatim memorization is required for two reasons: (a) each line (with perhaps a few exceptions) is a useful thing to be able to say and (b) most lines exemplify grammatical principles or syntactical patterns which will form the basis of syntactical expansion exercises in later lessons.

(2) Each dialogue is memorized in a seven-step procedure, to be described later. The final step is a self-scoring encoding test. The student is directed to keep repeating the entire seven-step procedure until he meets a designated criterion.

(3) On his first dialogue memorization lesson, the student is carefully guided through the seven steps to insure that he understands the procedure. On all subsequent dialogue memorization lessons he works from a one-page text which consists of (a) the printed Spanish dialogue, (b) a few notes explaining idiomatic constructions, and (c) a set of scoring columns. To guide himself through the seven-step procedure on these subsequent dialogue memorization lessons, the student consults a separate "procedures chart" which describes in condensed form the activities comprising each step.

#### Programing Strategy: The Seven-Step Procedure

The procedures chart used by the subject provides a condensed description of the activities comprising each step of the programmed memorization procedure. It should be noted that the student is allowed to view the printed Spanish text during all steps except the final (test) step.

**Step One (Imitation).** Student listens twice as the tape models the correct pronunciation of a line, then he imitates, and listens to the model again, and then imitates again.

**Step Two (Reading Aloud).** Student utters the Spanish as prompted by the printed Spanish alone, then hears the model, then says the Spanish again.

**Step Three (Prompted Decoding).** Student hears the Spanish, then hears its English equivalent, then hears the Spanish again, then says the English himself, and finally hears the correct English on the tape.

**Step Four (Unprompted Decoding).** Student hears the Spanish, then says the English, then hears the correct English.

**Step Five (Unprompted Decoding).** This step is identical with the previous step except that the order of the lines is scrambled.

**Step Six (Unprompted Encoding).** Student hears the English, says the Spanish, then hears the correct Spanish.

**Step Seven (Test on Encoding).** This step is actually the end-of-lesson criterion test described in the next section.

### **Criterion Test**

The procedure for memorizing dialogues has been described as a seven-step procedure. The last step is actually the end-of-lesson criterion test. The student is directed to listen to each English line on the tape and to utter the correct Spanish version of that line. He then hears the correct Spanish from the tape and must evaluate the adequacy of his own response. The scoring columns provided the student contain the capital letters P, G, E, which stand for Poor, Good, and Excellent.

The student is told to listen carefully to the tape confirmation of each line and to compare his own pronunciation with that of the model. He is then to circle either P, G, or E according to the following criteria: He is to circle the E (for Excellent) if he has said the correct Spanish sentence and with pronunciation very close to that on the tape. He is to circle the G (for Good) if he has said the correct Spanish sentence but with less than excellent pronunciation. He is told to circle the P (for Poor) if he has said the Spanish sentence incorrectly or was not able to say anything during the pause.

The student is directed to keep repeating the entire seven-step procedure—including test—until he can honestly score himself “Good” or “Excellent” on all lines of the dialogue. He is also cautioned that if he is too lenient with himself he is likely to have more trouble later on.

## Appendix E

### SIMULATED CONVERSATION LESSONS

Simulated Conversation (SC) lessons appear only in the first chapter of the course. As might be inferred from their title, they are intended to give the student the illusion that he is actually carrying on a conversation with a real person. The broad objective is to give the student some experience in coping with the unpredictability of real-life conversation and hopefully to develop in him some confidence in his ability to use the language for communication purposes.

At the beginning of each SC lesson, the student reads an introduction, in English, which describes the hypothetical situation to be simulated on the tape. He is told what sort of role he is to play and he is urged to respond as appropriately and as completely as he can.

In broad terms, there are two different kinds of roles which the student is called upon to play in the various SC lessons. In some lessons, he plays the role of an American interacting directly with a Latin American native. All utterances are in Spanish. In a lesson of this type it is necessary for the student to be provided in advance with some fictitious "facts", which he must draw on in order to participate in the conversation. For example, in a shoe purchase simulation (Lesson 96) the student is informed beforehand in English, that (a) he wants *black* shoes, (b) he wears size X, and so forth. The student must, of course, memorize such information before the simulation begins.

In certain other SC lessons, the student plays the role of an interpreter who is assisting an English-speaking friend to converse with a Latin American native. In this type of simulation, it is not necessary to provide the student with much advance information since the English-speaking friend, for whom he is interpreting, can provide realistic cues both for encoding and decoding the Spanish utterances on the tape.

Each SC lesson consists of three sections or "rounds." In Round I, the student attempts to participate in the conversation as best he can and receives no assistance from the tape. Round II might be described as a "coaching session." Here, the instructors' voices interrupt frequently to (a) explain the meaning of each Spanish utterance on the tape and (b) to inform the student as to what should be an acceptable response for him to make. In other words, in Round II, the student is given training in making appropriate responses to the tape stimuli. Following each bit of instruction the original cues from Round I are reinstated so the student can practice, in context, the just-taught responses. Round III is, in effect, a replication of Round I in the sense that all assistance has been withdrawn. Theoretically, the student should now be able to respond fairly promptly and correctly.

At the conclusion of each SC lesson, the student is advised to keep repeating the entire lesson until he can participate in Round III correctly and without hesitation.

There are a total of five SC lessons in the course, all in the last chapter. They are lessons 93, 94, 96, 99, and 103. The student's instructions, and the voicing script for Round I (in both Spanish and English) of Lesson 93 follow.

## Lesson 93

### A SIMULATED CONVERSATION AT A COCKTAIL PARTY

#### Instructions to Student

In a moment you will participate in a simulated "cocktail party" type conversation with some native speakers of Spanish. You are to play the role of Mr. Anderson, an American who is visiting a Latin American country. You are already acquainted with Mr. Lopez who greets you at the beginning of the conversation. Whenever you hear a question or comment addressed to "Señor Anderson," they mean *you* and you are supposed to respond in Spanish, in whatever way seems appropriate. (There will be a pause on the tape to give you time to respond.)

Most of what you hear on the tape should be understandable to you. However, occasionally, you will hear a word or phrase that you have never heard before. When this happens, you should say *Lo siento, no comprendo. ¿Cómo se dice . . . en inglés?* (I'm sorry, I don't understand. How do you say \_\_\_\_\_ in English?) One of the speakers on the tape will then tell you the English equivalent of the new word or phrase.

By the time you get to the end of this lesson, you will have gone through the same simulated conversation three times. Each time you go through it, is called a Round. In Round I, you will interact directly with the native speakers on the tape, and with no help from your teachers. You will probably find Round I a bit difficult. You may have trouble understanding some of the things that are said to you and you may not be sure what you should say. Don't let this worry you. This feeling (of having to strain to understand or to express yourself) will probably be a common experience when in real life you first try to carry on a conversation in Spanish. So — in Round I, just keep calm and try to do the best you can. At the end of Round I, just leave your tape running and go on to Round II.

In Round II, your teachers will interrupt frequently to explain things to you and to make sure you understand what is going on and what you should say.

Finally, in Round III, you will go through the conversation without interruptions. By then, however, you should be fairly familiar with the dialogue and should be able to participate without great difficulty.

Before turning on your tape to start this lesson, read this introduction over two or three times until you feel sure you understand what you are supposed to do. When you feel you are ready, start your tape and try to participate in the conversation. Remember: you are Señor Anderson.

Voicing Script for Round I  
(with English translations added)

Buenas noches, Señor Anderson. ¿Cómo está Ud.?  
(Good evening, Mr. Anderson. How are you?)

(pause)

Estoy bien, gracias. Quiero presentarle a mi amigo, el Doctor Salas.  
Dr. Salas, quiero presentarle al Señor Anderson. Mucho gusto, Señor  
Anderson.  
(I'm fine, thanks. I want to present to you my friend, Dr. Salas.  
Dr. Salas, I want to present to you Mr. Anderson. Pleased to meet you,  
Mr. Anderson.)

(pause)

¿Es Ud. norteamericano, Señor Anderson?  
(Are you an American, Mr. Anderson?)

(pause)

¿De qué parte de los Estados Unidos es Ud.?  
(What part of the United States are you from?)

(pause)

¡Aquí viene el mozo con las bebidas! ¿Que desea Ud. beber, Señor  
Anderson. Hay vino, cerveza, y whisky.  
(Here comes the waiter with the drinks. What do you want to drink,  
Mr. Anderson? There is wine, beer, and whiskey.)

(pause)

A su salud, Señor Anderson.  
(To your health, Mr. Anderson.)

(pause)

Salud.  
(To your health.)

(pause)

¿En que trabaja Ud., Señor Anderson?  
(What kind of work do you do, Mr. Anderson?)

(pause)

Soy médico. ¿Es Ud. casado o soltero, Señor Anderson?  
(I'm a doctor. Are you married or a bachelor, Mr. Anderson?)

(pause)

"Casado" se dice "married"; y "soltero" se dice "a bachelor."  
(“Casado” means “married”; and “soltero” means “a bachelor.”)

Voy a repetir mi pregunta. ¿Es Ud. casado o soltero, Señor Anderson?  
(I'm going to repeat my question. Are you married or a bachelor,  
Mr. Anderson?)

(pause)

¿Le gusta nuestra ciudad, Señor Anderson?  
(Do you like our city, Mr. Anderson?)

(pause)

¿Le gustan a Ud. las películas Hispano-americanas?  
(Do you like Latin American movies?)

(pause)

Se dice "Latin American." Voy a repetir mi pregunta. ¿Le gustan a Ud.  
las películas Hispano-americanas?  
(It means "Latin American." I'm going to repeat my question. Do you  
like Latin American movies?)

(pause)

Perdón. Tengo una cita. Mucho gusto en conocerlo, Señor Anderson.  
(Pardon. I have an appointment. Pleased to meet you, Mr. Anderson.)

(pause)

Adios.  
(Goodbye.)

(pause)

This is the end of Round I. Just  
let your tape keep running and we'll  
go on to Round II.

## Appendix F

### SENTENCES USED IN PART I OF THE FINAL EXAMINATION

Following are the Spanish sentences which were orally presented for the student to orally translate, in Part I of the exam. For the benefit of readers unfamiliar with Spanish, each Spanish sentence is accompanied by an English translation.

1. Quiero presentarle a mi amigo, Juan Salas.  
I want to present to you my friend, Juan Salas.
2. Mucho gusto, Señor Salas. Me llamo Robert Anderson.  
Pleased to meet you, Mr. Salas. My name is Robert Anderson.
3. ¿Quiere Ud. algo de beber antes de la comida?  
Do you want something to drink before the meal?
4. Sí, tráigame una botella de cerveza, por favor.  
Yes, bring me a bottle of beer, please.
5. ¡Hola Roberto! ¿Por qué tiene Ud. prisa?  
Hello Robert! Why are you in a hurry?
6. Porque tengo que ir al banco.  
Because I have to go to the bank.
7. ¿Van Uds. a pagar la cuenta el lunes?  
Are you all going to pay the bill on Monday?
8. No, vamos a pagarla el martes.  
No, we are going to pay it on Tuesday.
9. ¿Dónde puedo comprar cigarrillos norteamericanos?  
Where can I buy American cigarettes?
10. Ud. puede comprar cigarrillos norteamericanos en cualquier kiosko.  
You can buy American cigarettes at any newsstand.
11. ¿Traen Uds. la comida ahora?  
Are you all bringing the meal (or dinner) now?
12. No, vamos a traerla más tarde.  
No, we're going to bring it later.
13. ¿De dónde son esas muchachas bonitas?  
Where are those pretty girls from?

14. Son de una ciudad pequeña en México.  
They are from a small city in Mexico.
15. ¿Están cerradas las puertas?  
Are the doors closed?
16. Sí, pero las ventanas están abiertas.  
Yes, but the windows are open.
17. ¿Va Ud. a visitar a su hermana mañana?  
Are you going to visit your sister tomorrow?
18. No, voy a visitarla el domingo.  
No, I'm going to visit her (on) Sunday.
19. ¿Dónde puso Ud. mi corbata?  
Where did you put my necktie (or tie)?
20. La puse con su camisa.  
I put it with your shirt.
21. ¿A qué hora empieza la película?  
(At) what time does the movie start (or begin)?
22. Empieza a las nueve en punto.  
It starts (or begins) at nine o'clock sharp.
23. Juan dormía cuando sonó el teléfono, ¿verdad?  
Juan was sleeping when the telephone rang, wasn't he?
24. No, él miraba la televisión con su novia.  
No, he was watching television with his girl friend.
25. ¿Se puede obtener una visa aquí?  
Can I obtain a visa here? or Can one obtain a visa here?
26. Sí, dígame su nombre y nacionalidad, por favor.  
Yes, tell me your name and nationality, please. or Give me your ...
27. ¿Cuánto cuesta un boleto de ida y vuelta a Santa Rosa?  
How much does a round-trip ticket to Santa Rosa cost?
28. Cuesta noventa y cinco pesos y cuarenta centavos.  
It costs 95 pesos and 40 centavos.
29. ¿Está el centro cerca de aquí?  
Is the downtown (section) (or center of town) near here?
30. Sí, señor, siga Ud. derecho tres cuadras.  
Yes, sir, continue straight ahead three blocks.

31. ¿Tiene Ud. un cuarto disponible para hoy y mañana?  
Do you have a room available for today and tomorrow?
32. Sí, tengo un cuarto con baño para dos.  
Yes, I have a room with bath for two.
33. Yo quiero un vino mejor, por favor.  
I want a better wine, please.
34. Éste es nuestro mejor vino.  
This is our best wine.
35. ¿Cuándo vivieron Uds. aquí?  
When did you all live here?
36. Vivimos aquí hace once años.  
We lived here eleven years ago.
37. ¿Le dio María este regalo a Ud.?  
Did Maria give this gift (or present) to you?
38. Sí, María me lo dió.  
Yes, Maria gave it to me.
39. ¿Dónde pone Ud. sus maletas generalmente?  
Where do you put your suitcases generally?
40. Generalmente las pongo en mi cuarto.  
Generally I put them in my room.
41. ¿Puede Ud. cambiar un billete de cincuenta pesos?  
Can you change a 50 peso bill?
42. Sí señor, aquí tiene cinco billetes de diez pesos.  
Yes sir, here are five 10-peso bills.
43. ¿Trabajaron Uds. ayer por la tarde?  
Did you all work yesterday afternoon?
44. No, trabajamos ayer por la mañana.  
No, we worked yesterday morning.
45. ¿Cuántos vasos de leche bebe Ud. a la semana?  
How many glasses of milk do you drink per (or "a") week?
46. Bebo aproximadamente diez vasos de leche a la semana.  
I drink approximately ten glasses of milk per (or "a") week.
47. ¿Llaman Uds. a su madre a menudo?  
Do you all call your mother often?

48. No, la llamamos sólo ocasionalmente.  
No, we call her only occasionally.
49. La señorita está enferma. ¿Tiene dolor de cabeza?  
The young lady is sick. Does she have a head ache?
50. No, tiene dolor de muelas.  
No, she has a tooth ache.
51. Tráigame unas chuletas de cerdo.  
Bring me some pork chops.
52. Lo siento. Hoy tenemos solamente pescado.  
I'm sorry. Today we have only fish.
53. ¿Quién trajo este vino?  
Who brought this wine?
54. Mis hermanos lo trajeron.  
My brothers brought it.
55. Señor Lema, ¿en qué trabajan sus hermanos?  
Mr. Lema, what kind of work do your brothers do?
56. Uno es peluquero y el otro es mecánico.  
One is a barber, and the other (one) is a mechanic.
57. ¿Hicieron Uds. todo el trabajo?  
Did you all do all the work?
58. No todo, pero hicimos mucho.  
Not all, but we did much (a lot).
59. ¿Dice Ud. muchos chistes?  
Do you tell many jokes?
60. ¿Quién, yo? Yo nunca digo chistes.  
Who, me? I never tell jokes.
61. ¿Les escribió su hija a Uds.?  
Did your daughter write to you all?
62. Sí, nos escribió dos cartas la semana pasada.  
Yes, she wrote us two letters last week.
63. ¿A qué hora sale Ud. de su oficina?  
At what time do you leave your office?
64. Generalmente salgo a las cinco y media, pero esta semana tengo  
que trabajar hasta las seis.  
Generally I leave at 5:30, but this week I have to work until six  
(o'clock).

## Appendix G

### SENTENCES USED IN PART II OF THE FINAL EXAMINATION

Following are the English sentences used in Part II. The student examined each sentence in print, then voiced (recorded) his attempt at a Spanish equivalent. For the interested reader, the expected correct Spanish version of each sentence is also presented.

1. Good morning, Mr. Anderson. How are you?  
Buenos días, Señor Anderson. ¿Cómo está Ud.?
2. I'm fine, thanks. And you?  
Estoy bien, gracias. ¿Y Ud.?
3. Mr. Anderson is an American.  
El señor Anderson es norteamericano.
4. Welcome to our city, Mr. Anderson.  
Bienvenido a nuestra ciudad, Señor Anderson.
5. I want these shoes.  
Quiero estos zapatos.
6. I don't want those shoes.  
No quiero esos zapatos.
7. I want this table.  
Quiero esta mesa.
8. I don't want that table.  
No quiero esta mesa.
9. I'm going to buy a round-trip ticket.  
Voy a comprar un boleto de ida y vuelta.
10. How much does a ticket to Buenos Aires cost?  
¿Cuánto cuesta un boleto a Buenos Aires?
11. I don't have much money.  
No tengo mucho dinero.
12. I have many books.  
Tengo muchos libros.
13. Is Maria buying the plates?  
¿Compra María los platos?

14. Yes, she is buying all the plates.  
Sí, compra todos los platos.
15. Mr. Lema, are you sick?  
Señor Lema, ¿está Ud. enfermo?
16. No, I'm tired.  
No, estoy cansado.
17. Where are the large department stores?  
¿Dónde están los almacenes grandes?
18. They are in the downtown (section).  
Están en el centro.
19. These shoes are small.  
Estos zapatos son pequeños.
20. I need a larger size.  
Me falta una medida más grande.
21. Do you listen to your wife?  
¿Escucha Ud. a su esposa?
22. Yes, I always listen to my wife.  
Sí, siempre escucho a mi esposa.
23. Is Pepe a mechanic?  
¿Es Pepe mecánico?
24. Yes, he's a good mechanic.  
Sí, es un mecánico bueno.
25. When do the buses from Buenos Aires arrive?  
¿Cuándo llegan los buses de Buenos Aires?
26. They arrive soon.  
Llegan pronto.
27. At what time does the movie begin?  
¿A qué hora empieza la película?
28. It begins at 10 o'clock sharp.  
Empieza a las diez en punto.
29. Are you going to repair your car today?  
¿Va Ud. a reparar su auto hoy?
30. No, I'm going to repair it tomorrow.  
No, voy a repararlo mañana.

31. The tickets? Juan is going to buy them.  
¿Los boletos? Juan va a comprarlos?
32. My mother? I'm going to visit her tomorrow.  
¿Mi madre? Voy a visitarla mañana.
33. Juan is twenty seven years old.  
Juan tiene veinte y siete años.
34. I am twenty five years old.  
Yo tengo veinte y cinco años.
35. Did you use the car today?  
¿Usó Ud. el auto hoy?
36. No, I used it yesterday.  
No, lo usé ayer.
37. What were the girls doing in Washington?  
¿Qué hacían las muchachas en Washington?
38. They were working at the embassy.  
Trabajaban en la embajada.
39. Do you all accept traveler's checks?  
¿Aceptan Uds. cheques viajeros?
40. Yes, with only your signature.  
Sí, con solo su firma.
41. When can I have an appointment with the dentist?  
¿Cuándo puedo tener una cita con el dentista?
42. Tomorrow, at eleven.  
Mañana, a las once.
43. This house is better than that (one).  
Esta casa es mejor que ésa.
44. This house is the most expensive.  
Esta casa es la más cara.
45. Is there a bar in the hotel?  
¿Hay un bar en el hotel?
46. Yes, it's on the right.  
Sí, está a la derecha.
47. Do you understand English?  
¿Comprende Ud. inglés?

48. Yes, I understand a little.  
Sí, comprendo un poco.
49. Good afternoon. Is the doctor busy?  
Buenas tardes. ¿Está el médico ocupado?
50. Yes, he's with a patient.  
Sí, está con un paciente.
51. Are you all hungry now?  
¿Tienen Uds. hambre ahora?
52. No, but we're very thirsty.  
No, pero tenemos mucha sed.
53. Do you have your raincoat?  
¿Tiene Ud. su impermeable?
54. Yes, I have my raincoat.  
Sí, tengo mi impermeable.
55. What part of the United States are you from?  
¿De qué parte de los Estados Unidos es Ud.?
56. I'm sorry, I don't understand.  
Lo siento, no comprendo.
57. Where are you putting my suitcases?  
¿Dónde pone Ud. mis maletas?
58. I'm putting them here.  
Las pongo aquí.
59. Did Pepe receive his package yesterday?  
¿Recibió Pepé su paquete ayer?
60. Yes, he received it yesterday.  
Sí, lo recibió ayer.
61. Did you leave early today?  
¿Salió Ud. temprano hoy?
62. No, I left at five o'clock sharp.  
No, salí a las cinco en punto.
63. Mr. Lema sold us this car.  
El señor Lema nos vendió este auto.
64. My wife gave me this present.  
Mi esposa me dió este regalo.

## Appendix H

### THE SCORING PLAN THAT FAILED

Part II of the exam required the student to generate Spanish sentences to communicate thoughts he read in English. All his Spanish utterances were recorded. It was originally planned that this part of the exam would be scored by native speakers of Spanish. It was thought that communication effectiveness could be assessed most validly by having native speakers listen to these recorded student productions and attempt to grasp the intended meanings.

The following criteria were used in selecting native speakers to be used as graders: (a) At least two years of experience in teaching Spanish to Americans. (b) Considered themselves to be "bilingual" in English and Spanish.

Nine such individuals were identified and hired to accomplish the scoring of Part II. A different grader was used for each of the nine subjects so that each grader would be truly naive with respect to what his particular subject was trying to say. (If the same individual were allowed to grade several different exams, he would become progressively more familiar with the exam contents and would have a tendency to become more lenient.)

The graders received their instructions by mail. Each grader was asked to listen to the tape and to write down in *good* English what he thought the student was trying to say in Spanish. Unfortunately, very few of the graders really followed these instructions; many wrote down verbatim or literal translations so that it was impossible for the researchers to be certain whether the grader really grasped the message or not. It also appeared that while the graders were all bilingual in a loose sense of the term, most did not possess the high level of English skill which would have been necessary to enable them to consistently write good English sentences.

In short, the entire plan to utilize native speakers for obtaining communication effectiveness scores proved unworkable. In retrospect it appears that a superior procedure would have been to have the native speakers write down *in Spanish* what they believed the student was trying to say. Such a procedure would not have required the use of bilingual graders and probably also would have been much simpler for the graders to understand. If that procedure were used, the Spanish sentences written by the graders would be evaluated by the research staff for adequacy of communication.

The original scoring plan also called for having the native speakers score Part II for grammatical correctness. Here, too, the scoring instructions were not adequately followed. Many of the native speaker graders seemed to be assigning scores primarily on the basis of pronunciation quality rather than grammatical correctness. Consequently, this scoring function was also taken over by the research staff.

## Appendix I

### AUTOSPAN FINAL EXAMINATION: PART III

#### Orientation to the Student

This part of the test will be much like the simulated conversation lessons which you had in the last chapter of the course. Since this is a test, however, you will not be given any explanations by the tape as to what something meant or what you should have said. Instead, you will be completely on your own.

Everytime you hear a question or comment on the tape, you must try to answer in Spanish. Your answers don't have to be true. You can make up any kind of answer that occurs to you so long as it sounds like a reasonable thing to say in the situation.

The setting for this simulated conversation is as follows. You are Mr. Anderson, an American who is visiting in a Latin American country. You are at a party and have just been introduced to a man named Gonzalez. As the simulation begins, Señor Gonzalez is acknowledging the introduction. He then proceeds to ask you a number of questions designed to get better acquainted with you. Later on, he introduces you to a friend of his, named Carmen. Carmen will then ask you a few questions also.

Listen very carefully and try to understand each question or comment that is addressed to you. After each Spanish utterance on the tape, there will be a pause in which you are to say something in Spanish. Sometimes, you will hear questions that could be answered with a simple *Sí*; or *No*. You should try, however, to give longer answers than that. Try to give the most intelligent, and most complete answers that you can. For example, if you were asked if you like the wine, it would be better to answer: *Sí, es muy delicioso*, instead of just saying *Sí*.

To be sure you understand these instructions, turn back to the beginning now and re-read them.

#### Remember:

- (1) Try to say something appropriate, every time there is a pause on the tape.
- (2) What you say does *not* have to be true, so long as it sounds reasonable.
- (3) Try to give longer answers than just *Sí*, or *No*.

When the tape starts, the first thing you will hear is Señor Gonzalez acknowledging the introduction. You try to respond as appropriately as you can.

Go ahead.

Transcription of Taped Material in Part III

(For the benefit of the reader who does not know Spanish, English translations are also provided.)

Gonzalez: Mucho gusto en conocerlo, Señor Anderson.  
(Pleased to meet you, Mr. Anderson.)

(pause)

Gonzalez: ¿De dónde es Ud., Señor Anderson?  
(Where are you from, Mr. Anderson?)

(pause)

Gonzalez: ¿De qué parte de los Estados Unidos es Ud.?  
(What part of the United States are you from?)

(pause)

Gonzalez: Muy bien. ¿Cuándo llegó Ud. a nuestro país?  
(Very good. When did you arrive in our country?)

(pause)

Gonzalez: ¿Viajó Ud. en avión o en auto?  
(Did you travel by plane or by car?)

(pause)

Gonzalez: ¿Es Ud. turista o va Ud. a trabajar aquí?  
(Are you a tourist or are you going to work here?)

(pause)

Gonzalez: ¿Cuánto tiempo piensa Ud. quedarse?  
(How long do you plan to stay?)

(pause)

Gonzalez: Muy bien. Ah, aquí hay unos sandwiches. Hay sandwiches de queso y sandwiches de pescado. ¿Cuál desea Ud.?  
(Very good. Ah, here are some sandwiches. There are cheese sandwiches and fish sandwiches. Which do you want?)

(pause)

Gonzalez: Aquí lo tiene.  
(Here you are.)

(pause)

Gonzalez: Estos sandwiches son muy deliciosos, ¿verdad?  
(These sandwiches are very delicious, aren't they?)

(pause)

Gonzalez: Ah! Aquí están las bebidas. Hay cerveza, vino y coca cola.  
¿Qué quiere Ud.?  
(Ah! Here are the drinks. There is beer, wine, and coca  
cola. What do you want?)

(pause)

Gonzalez: Aquí viene mi amiga, Carmen. ¿Le gustaría conocerla?  
(Here comes my friend, Carmen. Would you like to meet her?)

(pause)

Gonzalez: Carmen, quiero presentarle a un amigo norteamericano, el  
Señor Anderson.  
(Carmen, I want to present to you an American friend,  
Mr. Anderson.)

(pause)

Carmen: Mucho gusto, Señor Anderson.  
(Pleased to meet you, Mr. Anderson.)

(pause)

Carmen: Señor Anderson. Yo estudié en su país y me gustó mucho.  
¿Le gusta a Ud. nuestro país?  
(Mr. Anderson. I studied in your country and I liked it very  
much. Do you like our country?)

(pause)

Carmen: Las películas norteamericanas son muy buenas. ¿Va Ud. al  
cine frecuentemente?  
(American movies are very good. Do you go to the movies  
frequently?)

(pause)

Carmen: Perdón, Señor Anderson. Tengo que irme ahora. Mucho gusto  
en conocerlo.  
(Pardon, Mr. Anderson. I have to leave now. Pleased to have  
met you.)

(pause)

Carmen: Adios.  
(Good bye.)

(pause)

Now, let's go through this exact same conversation once more and see how much better you do on your second try. Here we go:

Note: The students' second tries were actually not scored.

## Appendix J

### AUTOSPAN QUESTIONNAIRE

*(With indications of the number of students marking each response option.)*

The purpose of this questionnaire is to obtain some information about your background, particularly your language background, and to obtain your opinions concerning the AUTOSPAN course.

The information you provide will be of assistance to us in our evaluation of the course and will help us to decide what kinds of revisions the course may need.

Please answer each question as honestly as you can. Your answers will be seen only by civilian research personnel and will not affect your military career in any way.

1. Name and Rank \_\_\_\_\_
2. Age \_\_\_\_\_
3. Years in Service \_\_\_\_\_
4. Amount of civilian education. (Please circle the highest grade completed.)
  - A. 1 year of high school
  - B. 2 years of high school
  - C. 3 years of high school
  - 2 D. 4 years of high school
  - 3 E. 1 year of college
  - 2 F. 2 years of college
  - 2 G. 3 years of college
  - H. 4 years of college
5. Did you get a regular high school diploma or a GED equivalent?
  - 8 A. Regular high school diploma
  - 1 B. GED equivalent
6. What are your plans with respect to taking college courses in the future?
  - A. I do not plan to take any college courses.
  - 1 B. I expect I'll take a few college courses, but do not expect to get a degree.
  - 7 C. I expect to get a college degree.
  - D. I already have a college degree.
  - 1 E. Undecided.
7. Had you ever studied any foreign language before starting the AUTOSPAN course?
  - 5 A. Yes
  - 4 B. No

8. If Yes, please give the information requested below:

	Language Studied	When did you take the course: High School, College, or Army?	Length of Course (in months or years)
(1)	_____	_____	_____
(2)	_____	_____	_____
(3)	_____	_____	_____

9. When you were a child, was any foreign language spoken in your home?

- 2 A. Yes
- 7 B. No

10. If Yes, what language was it? \_\_\_\_\_

11. For how many years were you exposed to it? (explain) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

12. As an adult, have you had any other kind of exposure to a foreign language, e.g., self study, or a Berlitz course, or tour of duty in a foreign country? If so, indicate what language and what kind of exposure:

Language	Kind of Exposure
_____	_____
_____	_____
_____	_____

13. Before you actually began the AUTOSPAN course, what was your expectation about how much Spanish you would learn from it?

- 1 A. I expected to learn a great deal.
- 8 B. I expected to learn a fair amount.
- C. I expected to learn very little.

14. Now that you have finished the course, what do you think about the amount that you learned?

- A. I learned far more than I thought I would.
- 3 B. I learned somewhat more than I thought I would.
- 1 C. I learned about as much as I thought I would.
- 5 D. I learned somewhat less than I thought I would.
- E. I learned far less than I thought I would.

15. (Answer this question only if you have previously studied some other language in a regular classroom course.)

In general, how do you like the method of instruction used in the AUTOSPAN course as compared with the method used in regular classroom courses?

- A. I strongly prefer the AUTOSPAN method.
  - 1 B. I somewhat prefer the AUTOSPAN method.
  - 1 C. I like both methods equally well.
  - 2 D. I somewhat prefer the classroom method.
  - 2 E. I strongly prefer the classroom method.
16. In the future, if you take a beginning course in some other languages, would you like to use the AUTOSPAN method?
- 2 A. Would strongly object to using the AUTOSPAN method.
  - 2 B. Would mildly object to using the AUTOSPAN method.
  - C. Wouldn't care which method is used.
  - 4 D. Would mildly prefer using the AUTOSPAN method.
  - 1 E. Would strongly prefer using the AUTOSPAN method.
17. Specifically, how do you feel about studying and finishing the AUTOSPAN course at your own rate of speed, rather than at uniform class speed?
- 1 A. I dislike it very much.
  - 1 B. I dislike it somewhat.
  - 1 C. It doesn't matter.
  - 2 D. I like it somewhat.
  - 4 E. I like it very much.
18. Was the AUTOSPAN course able to hold your interest?
- 1 A. No, I was always bored.
  - 1 B. No, I was quite frequently bored.
  - 2 C. I was sometimes bored and other times not.
  - 5 D. I generally found it fairly interesting.
  - E. I almost always found it very interesting.
19. If the AUTOSPAN course were offered again, and a friend of yours was thinking of volunteering for it, would you recommend that he do so?
- 4 A. Yes, definitely.
  - 1 B. I think so.
  - 4 C. I don't know whether I would or not.
  - D. I think not.
  - E. Definitely not.
20. Think back to *the day you started* this Spanish course. Has your confidence in your own ability to learn and speak a foreign language *since* then:
- 1 A. Increased considerably?
  - 7 B. Increased somewhat?
  - 1 C. Remained unchanged?
  - D. Decreased somewhat?
  - E. Decreased considerably?

21. Do you have any desire to take additional Spanish courses (of any kind) in the future?

- 5 A. I would like to do so very much.
- 2 B. I'm somewhat interested in doing so.
- 1 C. I'm not sure whether I'd like to or not.
- 1 D. I'm pretty sure that I don't want any more Spanish training.
- E. I know I don't want any more Spanish training.

22. In summing up your experience with the AUTOSPAN course, how did you like it?

- A. I disliked it very much.
- 2 B. I disliked it somewhat.
- C. Neutral.
- 5 D. I liked it somewhat.
- 2 E. I liked it very much.

23. In connection with many of the dialogues you studied, there were explanatory notes in your text. For example, one note explained that *me gustan* literally means "are pleasing to me," but is translated as "I like." What is your feeling about these explanatory notes?

- 6 A. They were extremely helpful.
- 2 B. They were somewhat helpful.
- C. They were a complete waste of time.
- D. I paid no attention to them.
- 1 E. Other. (Explain below)

---

24. How would you describe your attitude while you were scoring your own responses on the tests?

- 2 A. Very lenient.
- 6 B. Somewhat lenient.
- 1 C. Somewhat strict.
- D. Very strict.

25. Below are listed the principal kinds of lessons which you had in the AUTOSPAN course.

A	B	C	D
4	2	3	
3		5	1
6	2	1	
2	3	3	1
3	4	2	

\_\_\_\_\_ Tutoring Sessions

\_\_\_\_\_ Dialogue Memorizations

\_\_\_\_\_ Teaching Point Lessons (These were the longer lessons which taught such things as verb forms, use of pronouns, telling time, etc.)

\_\_\_\_\_ Simulated Conversations (in Chapter VII only)

\_\_\_\_\_ End-of-Chapter Tests

In the blank spaces in front of each item in the list above, write an A, B, C, or D to indicate how valuable or useful you considered that kind of lesson to be. Use the following code:

- A = Extremely valuable
- B = Moderately valuable
- C = Slightly valuable
- D = Of no value

26. In going through the Teaching Point lessons (i.e., the long lessons, full of drills, etc.), how often would you rewind the tape and repeat a frame just because you wanted to, even though the instructions did not tell you to?

- 1 A. I did so many times in almost all such lessons.
- 6 B. I did so occasionally.
- 2 C. I almost never did.
- D. I never did it at all.

27. In going through the Teaching Point lessons, how often did you put your machine in Playback and listen to yourself on the tape?

- A. Many times per lesson.
  - 6 B. A few times per lesson.
  - C. Never.
  - 3 D. Other. (Please explain)
- 
- 
- 

28. Do you think it would be a good idea to change the instructions for taking the course so as to require students to regularly listen to themselves on Playback?

- 1 A. Yes, definitely.
- 5 B. Probably a good idea.
- 2 C. Not sure.
- 1 D. Probably a poor idea.
- E. Definitely a poor idea.

29. Assuming you could work out any kind of schedule you liked, how many hours per day do you think students should spend going through the AUTOSPAN course?

- A. 0 - 1 hour
- 2 B. 1 1/2 - 2 1/2 hours.
- 5 C. 3 - 4 hours.
- 1 D. 4 1/2 - 5 1/2 hours.
- E. 6 - 7 hours.
- F. 7 1/2 hours or more.

(one student did not answer)

30. How would you feel about it if there were no assigned hours for this course, and, instead, we let you do all the work on your own, issuing the tapes, portable tape recorder, etc., to be used in your quarters?

- A. I would much prefer such an arrangement.
- 4 B. I think I would like such an arrangement.
- 1 C. No feelings one way or the other.
- 4 D. I don't think I would like such an arrangement.
- E. I would not like such an arrangement at all.

31. What did you like least of all about the AUTOSPAN course?

---

---

---

32. What did you like most of all about the AUTOSPAN course?

---

---

---

33. What suggestions for improvements in the course can you make? Think for a moment.

---

---

---

Unclassified

Security Classification

DOCUMENT CONTROL DATA - R & D		
<i>(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)</i>		
1. ORIGINATING ACTIVITY (Corporate author) Human Resources Research Organization (HumRRO) 300 North Washington Street Alexandria, Virginia 22314		2a. REPORT SECURITY CLASSIFICATION
		2b. GROUP
3. REPORT TITLE DEVELOPMENT AND EVALUATION OF A SELF-INSTRUCTIONAL SPANISH COURSE		
4. DESCRIPTIVE NOTES (Type of report and inclusive dates) Technical Report 70-14		
5. AUTHOR(S) (First name, middle initial, last name) George H. Brown, Richard Beym, Thelma R. Smackey, and Angelo A. Cozzetto		
6. REPORT DATE September 1970	7a. TOTAL NO. OF PAGES 78	7b. NO. OF REFS 5
8a. CONTRACT OR GRANT NO. DAHC 19-70-C-0012	9a. ORIGINATOR'S REPORT NUMBER(S) Technical Report 70-14	
b. PROJECT NO. 2Q062107A744		
c.		
d.	9b. OTHER REPORT NO.(S) (Any other numbers that may be assigned this report)	
10. DISTRIBUTION STATEMENT This document is approved for public release and sale; its distribution is unlimited.		
11. SUPPLEMENTARY NOTES Work Unit AUTOSPAN, Development of a Generalized Method for Preparing Self-Instructional Foreign Language Courses	12. SPONSORING MILITARY ACTIVITY Office, Chief of Research and Development Department of the Army Washington, D.C. 20310	
13. ABSTRACT This report describes the development and evaluation of a self-instructional Spanish course that was designed to produce an elementary communication skill, sufficient to enable a visitor in a Spanish-speaking country to cope with routine situations he is likely to encounter. The course consists of 106 lessons (text and tapes). The tapes are playable on any conventional tape device. The course involves what are believed to be the best features from the fields of modern classroom teaching, tutorial instruction, and programmed instruction. A group of nine military personnel with no prior Spanish training completed the course in an average of 73.7 hours. Average scores on the three parts of the final examination were: 73%, 85%, and 78%. Results were interpreted as establishing the feasibility of building self-instructional foreign language courses which teach a useful, although elementary, communication skill.		

DD FORM 1 NOV 58 1473

Unclassified

Security Classification

Unclassified

Security Classification

14.	KEY WORDS	LINK A		LINK B		LINK C	
		ROLE	WT	ROLE	WT	ROLE	WT
	Foreign Language Training Instructional Media & Techniques Programed Instruction Self-Instruction Spanish						

Unclassified

Security Classification

## DISTRIBUTION LIST

- 2 DIR OASD MANPOWER (PPGGR)  
 1 CHF OASA ATTN DDC LIB BR  
 1 DIR OASD MANPOWER & RESERVE AFFAIRS  
 2 NASA SCI & TECH INFO FACILITY COLLEGE PARK MD  
 1 CINC US EUROPEAN COMD ATTN SUPPORT PLANS BR J3  
 1 CINC USA PACIFIC ATTN G3 COC APD SAN FRAN 9661D  
 2 CG SOUTHERN EUROPEAN TASK FORCE APO 0916B NY  
 1 CG US ARMY JAPAN APO 96343 SAN FRAN ATTN G3  
 10 CG USA FORCES SOUTHERN COMD ATTN SCARD FT AMADOR C2  
 2 CG US ARMY EUROPE APO 09403 NY ATTN DPNS DIV  
 1 CG US ARMY AD COMD ENT AFB ATTN ADGCB  
 1 CG 1ST ARMY ATTN DCSOT FT MEADE MD  
 1 CG 3RD ARMY ATTN DCSOT FT MCPHERSON  
 2 CG 4TH ARMY ATTN AKADC-BIUTY FT SAM HOUSTON  
 1 CG FIFTH ARMY FT SHERIDAN ATTN ALFGC TNG  
 1 D1K HEL APG MD  
 1 CG USA COC EXPERIMENTATION COMD FT ORD  
 2 ENGR PSYCHOL LAB PIONEERING RES DIV ARMY NATICK LABS NATICK MASS  
 1 TECH LIB ARMY NATICK LABS NATICK MASS  
 2 INST OF LAND CBT ATTN TECH LIB FT BELVOIR VA  
 1 REDSTONE SCIENTIFIC INFO CTR US ARMY MSL COMD ATTN CHF DDC SEC ALA  
 1 CG USAPA MBLTV DET TDBYHANNA ARMY DEPOT  
 1 CO FT HUACHUCA SPT COMD USA ATTN TECH REF LIB  
 1 SIXTH USA LIB DEPOT BLDG M 13 14 PRES OF SAN FRAN  
 1 PLANS OFFICER PSYCH HQDTRES USACDCEC FORT ORD  
 2 CG FT ORD ATTN G3 TNG DIV  
 1 DIR WALTER REED ARMY INST OF RES WALTER REED ARMY MED CTR  
 2 ENGR PSYCHOL LAB PIONEERING RES DIV ARMY NATICK LABS NATICK MASS  
 1 CO HQ ARMY ENLISTED EVAL CTR FT BENJ HARRISON  
 1 TECH LIB BDX 22 USACDCEC EXPERIMENTATION COMD FT ORD  
 1 CG FRANKFORD ARSNL ATTN SMUFA-N640D0202-4  
 1 4TH ARMY MSL COMD ATR TRANSPORTABLE SAN FRAN  
 2 CG PICATINNY ARSNL DOVER N J ATTN Sumpa VCI  
 2 CG USA CDC AG AGCY FT BENJ HARRISON IND  
 1 REF M MS IS NASA ALA  
 1 CBT DPRS RES GP USACDC SP DPRS ANALYST HUMAN FACTORS ALEX VA  
 1 CG ARMY CDC ARMOR AGY FT KNOX  
 1 CG US ARMY CDC AVN AGCY FT RUCKER  
 3 CG ARMY CBT DEVEL COMD CBT SUPPORT GP  
 1 CG USCONARC ATTN DCS INTEL FT MONROE  
 15 CG USA TNG CTR AD ATTN ACOFS G3 FT BLISS  
 1 CG USA TNG CTR ARMOR ATTN ACOFS G3 FT KNOX  
 12 CG USA TNG CTR (FA) ATTN ACOFS G3 FT SILL  
 1 CG USA TNG CTR & FT LEONARD WOOD ATTN ACOFS G3  
 1 CG USA TNG CTR INF ATTN ACOFS G3 FT BENNING  
 1 CG USA TNG CTR INF ATTN ACOFS G3 FT DIX  
 1 CG USA TNG CTR ATTN ACOFS G3 FT JACKSON  
 1 CG USA TNG CTR INF ATTN ACOFS G3 FT LEWIS  
 1 CG USA TNG CTR INF & FT DRD ATTN ACOFS G3  
 30 CG USA TNG CTR INF ATTN ACOFS G3 FT POLK  
 5 CG USA MED TNG CTR ATTN DIR OF TNG FT SAM HOUSTON  
 1 CG USA TNG CTR INF ATTN ACOFS G3 FT BRAGG  
 1 CG USA TNG CTR INF ATTN ACOFS G3 FT CAMPBELL  
 2 CIVLN PERS OFCR US ARMY SPT CTR ST LOUIS ATTN EMPLOYEE DEVEL OFCR  
 3 LIB ARMY WA COLL CARLISLE BKS  
 1 COMDT USA INTELL SCH ATTN ABH-S-AD FT HOLABIRD  
 1 COMDT COMD & GEN STAFF CO FT LEVENWORTH ATTN ARCHIVES  
 1 DIR OF MILIT PSYCHOL & LDRSHP US MILIT ACAD WEST POINT  
 1 US MILIT ACAD WEST POINT ATTN LIB  
 1 COMDT ARMY AVN SCH ATTN DIR OF INSTR FT RUCKER  
 2 COMDT ARMY SECUR AGY TNG CTR & SCH FT DEVENS ATTN LIB  
 1 COMDT INDSTR COLL OF THE ARMED FORCES FT MCNAIR  
 2 COMDT NATL WAR COLL FT LESLEY J MCNAIR ATTN CLASSF RECORDS BR LIB  
 1 MED FLD SERV SCH BRODCKE ARMY MED CTR FT SAM HOUSTON ATTN STIMSON LIB  
 5 DIR OF INSTR ARMOR SCH FT KNOX  
 1 COMDT USA CHAPLAIN SCH ATTN DDI FT HAMILTON  
 1 COMDT ARMY CHEM CORPS SCH FT MCCLELLAN ATTN EDUC ADV  
 1 COMDT USA FIN SCH ATTN CHF DDC DEV LIT PLN DIV IND  
 1 USA FINANCE SCH ATTN BENJ HARRISON ATTN EDUC ADV  
 1 EDUC ADV USAIS ATTN AJIIS-W FT BENNING  
 1 DIR OF INSTR USAIS ATTN AJIIS-O-EPRD FT BENNING  
 1 LIB ARMY QM SCH FT LEE  
 1 CG USA SEC AGY TNG CTR & SCH ATTN IATEV RSCH ADV FT DEVENS  
 2 COMDT US ARMY SOUTHEASTERN SIG SCH ATTN: EDUC ADVISOR FT GORDON  
 1 COMDT USA AD SCH FT BLISS  
 1 CG USA ORD CTR & SCH OFC OF OPS ATTN AHBN-O APG MD  
 5 ASST COMDT ARMY AIR DEF SCH FT BLISS ATTN CLASSF TECH LIB  
 4 CG USA FLD ARTY CTR ATTN AVN OFCR FT SILL  
 1 COMDT ARMY DEF INTEL SCH ATTN SI+AS DEPT  
 1 COMDT ARMED FORCES STAFF COLL NORFOLK  
 1 COMDT USA SIG CTR & SCH ATTN DDI FT MONMOUTH  
 1 COMDT JUDGE ADVOCATE GENERALS SCH U OF VA  
 1 DPTY COMDT USA AVN SCH ELEMENT GA  
 1 DPTY ASST COMDT USA AVN SCH ELEMENT GA  
 1 USA AVN SCH ELEMENT OFC OF DIR OF INSTR ATTN EDUC ADV GA  
 1 EDUC CONSLT ARMY MILIT POLICE SCH FT GORDON  
 6 COMDT USA ENGR SCH ATTN EDUC ADV FT BELVOIR  
 1 CHF POLICY & TNG LIT DIV ARMY ARMOR SCH FT KNOX  
 1 COMDT ARMY AVN SCH FT RUCKER ATTN EDUC ADV  
 1 DIR OF INSTR US MIL ACAD WEST POINT NY  
 1 DIR OF MILIT INSTR US MILIT ACAD WEST POINT  
 1 USA INST FOR MIL ASSIST ATTN LIB FT BRAGG  
 4 USA INST FOR MIL ASSIST ATTN COUNTERINSURGENCY DEPT FT BRAGG  
 2 COMDT USA MSL & MUN CTR & SCH ATTN CHF OFC OF OPS REDSTONE ARSNL  
 2 COMDT US WAC SCH US WAC CTR ATTN AJMCT FT MCCLELLAN  
 2 HQ ABERDEEN PG ATTN TECH LIB  
 1 COMDT USA INTELL SCH ATTN DIR OF ACADEMIC OPS FT HOLABIRD  
 1 COMDT USA INTELL SCH ATTN DIR OF DDC & LIT FT HOLABIRD  
 1 COMDT USA CGOSC OFC OF CHF OF RESIDENT INSTR FT LEAVENWORTH  
 1 COMDT USA CA SCH ATTN DEPT OF RSCH ANALYSIS & DDC FT GORDON  
 1 COMDT USA CA SCH ATTN DDI FT GORDON  
 1 COMDT USA CA SCH ATTN LIB FT GORDON  
 1 COMDT USA CA SCH ATTN EDUC ADV FT GORDON  
 1 COMDT USA CA SCH ATTN LIB FT GORDON  
 1 COMDT USA SCH & TNG CTR ATTN ACOFS G3 TNG DIV FT MCCLELLAN  
 1 COMDT USA SCH & TNG CTR ATTN ACOFS G3 PLNS & OPS DIV FT MCCLELLAN  
 10 COMDT USA INST FOR MIL ASSIST ATTN DDI FT BRAGG  
 1 COMDT USA CBR WPNS ORIENTATION COURSE ATTN DDI DUGHWAY UTAH  
 1 COMDT USA FLD ARTY SCH ATTN DDI FT SILL  
 1 COMDT USA ARTY & MSL SCH ATTN EDUC SERVICES DIV FT SILL  
 1 COMDT USA ARTY & MSL SCH ATTN EDUC ADV FT SILL  
 1 COMDT USA TRANS SCH ATTN LIB FT EUSTIS  
 1 USA INST FOR MIL ASST ATTN EDUC ADV FT BRAGG  
 1 COMDT USA ARTY & MSL SCH ATTN LIB FT SILL  
 1 CG USA SCH & TNG CTR ATTN ACOFS G3 FT GORDON  
 1 COMDT USA AD SCH ATTN ABKBA-S-DL-EA FT BLISS  
 2 DIR BRGD & BN OPNS DEPT USAIS FT BENNING  
 1 DIR COMM ELEC USAIS FT BENNING  
 1 DIR ARN-AIR MOBILITY DEPT USAIS FT BENNING  
 1 CG US ARMY SIGNAL CTR & SCH ATTN SIGDTL-3 (COBET III)  
 1 SECY OF ARMY, PENTAGON  
 1 DCS-PERS DA ATTN CHF C+S DIV  
 1 DIR OF PERS STUDIES & RSCH ODCSPER DA WASH DC  
 2 ACSFOR DA ATTN CHF TNG DIV WASH DC  
 1 CG USA MAT COMD ATTN AMCRD-TE  
 1 CHF OF INFL DA ATTN CHF T1 DIV  
 1 CLIN PSYCHOL CONSLT OFC OF CHF PSYCHIAT & NEURDL CONSLT  
 2 CG ARMY MED R&D COMD ATTN BEHAV SCI RES BR  
 1 US ARMY BEHAVIORAL SCI RES LAB WASH, D.C. ATTN: CRD-AR  
 1 ARMY PROVOST MARSHAL GEN  
 2 DIR CIVIL AFFAIRS ORCTE ODCSOPS  
 1 OFC RESERVE COMDN DA  
 50 ADMIN DDC ATTN: TCA (HEALY) CAMERON STA ALEX, VA. 22314  
 1 CG US ARMY MED RES LAB FT KNOX  
 1 CHF OF R+D DA ATTN CHF TECH + INDSTR LIAISON OFC  
 1 U S ARMY BEHAVIORAL SCI RES LAB WASH, D.C. ATTN CRD-AIC  
 1 CAREER MGT BR ATTN R DETIENNE CAMERON STA ALEX VA  
 1 PRES ARMY INF BD FT BENNING ATTN FE+SP DIV  
 1 PRES ARMY MAINT BD FT KNOX  
 12 CG USCONARC ATTN ATTN AD-RD FT MONROE  
 2 CG USCONARC ATTN LIB FT MONROE  
 1 CG ARMY CBT DEVEL COMD MILIT POLICE AGY FT GORDON  
 1 US ARMY ARCTIC TEST CTR R & D OFFICE SEATTLE  
 1 CHF USA AD HRU FT BLISS  
 1 CHF USA ARMOR HRU FT KNOX  
 1 CHF USA AVN HRU FT RUCKER  
 1 CHF USA INF HRU FT BENNING  
 1 CHF USA TNG CTR HRU PRES OF MONTEREY  
 2 CG 2ND BN 34TH ARMOR 25TH INF DIV ATTN S3 APO SAN FRAN 96266  
 2 CG 1ST INF DIV ATTN ACOFS G3 APO SAN FRAN 96345  
 1 CG 3RD INF DIV ATTN ACOFS G3 APO NY D9036  
 3 CG 4TH INF DIV ATTN ACOFS G3 APO SAN FRAN 96262  
 1 CG 7TH INF DIV ATTN ACOFS G2 APO SAN FRAN 96207  
 1 CG 6TH INF DIV ATTN ACOFS G2 APO NY D9111  
 1 CG 5TH INF DIV (MECH) & FT CARSON ATTN ACOFS G2 COLD  
 3 CG 82ND ABN INF DIV ATTN ACOFS G3 FT BRAGG  
 1 CG 197TH INF BRGD FT BENNING ATTN S3  
 1 CG 1ST BN (REIN) ATTN S3 FT MYER  
 1 CG 171ST INF BDE ATTN S3 APO SEATTLE 98731  
 3 CG 25TH INF DIV APO 96225 SAN FRAN  
 1 CG 2ND BN 15TH INF 3RD INF DIV ATTN S3 APO NY D9026  
 1 CG 4TH BN (MECH) 54TH INF ATTN S3 FT KNOX  
 2 CONSOL RES GP 7TH PSYDP GP APO 9624B SAN FRAN  
 2 DA OFC OF ASST CHF OF STAFF FOR COMM-ELCY ATTN CETS-6 WASH  
 1 CG MILIT DIST OF WASHINGTON  
 1 DIR ARMY LIB PENTAGON  
 1 STRATEGIC PLANNING OF CORPS OF ENGR ARMY MAP SERV  
 1 CHF OF MILIT HIST DA ATTN GEN REF BR  
 1 CG USA 10TH SPEC FORCES GP FT DEVENS  
 1 CG 31ST ARTY BDE AD ATTN S3 PA  
 1 CG 49TH ARTY GP AD ATTN S3 FT LAHTON  
 1 CG 101ST ABN DIV (AIRMOBILE) ATTN ACOFS G3 APO SAN FRAN 96383  
 1 CG 1ST CAV (AIRMOBILE) ATTN ACOFS G3 APO SAN FRAN 96383  
 1 US ARMY GEN EQUIP ATTN TECH LIB FT LEE  
 2 CG 357TH CA AREA HQ B ARMY BASE ATTN ACTG PUB LAW OFCR BOSTON  
 1 US ARMY TROPIC TEST CTR PO DRAWER 942 ATTN BEHAV SCIEN CZ  
 2 CG ARMY RES OFC DURHAM  
 1 CG 525TH MIL INTELL GP ATTN S3 APO SAN FRAN 96307  
 8 CG 111 CORPS & FT HODU ATTN G3 SEC FT HODD  
 1 CG 1ST ARMORED DIV ATTN G3 SEC FT HODD  
 30 CG 2D ARMORED DIV ATTN G3 SEC FT HODD  
 25 CG 13TH SUPT BGOE ATTN S3 SEC FT HODD  
 16 CG USAFAC ATTN G3 SEC FT SILL  
 20 CG III CORPS ARMY ATTN G3 SEC FT SILL  
 3 CG ATTN G3 SEC FT POLK LA  
 1 BESD ARD OFC CHF OF R&D WASH DC  
 1 CHF OF R&D DA ATTN SCI INFO BR RSCH SPT DIV WASH DC  
 1 LIFE SCI DIV ARO ARL VA

1 CINC US ATLANTIC FLY CODE 312A USN BASE NORFOLK  
1 CINC PACIFIC OPNS ANLS SECT FPD 96610 SAN FRAN  
1 COR TNG COMMAND US PACIFIC FLY SAN DIEGO  
1 OTR PERS RES DIV BUR OF NAV PERS  
1 TECH LIB BUR OF SHIPS CODE 210L NAVY DEPT  
1 HUMAN FACTORS BR PSYCHOL RES DIV UNR  
1 CO FLY ANTI-AIR WARFARE TNG SAN DIEGO  
1 CO NUCLEAR WEAPONS TNG CTR PACIFIC U S NAV AIR STA SAN DIEGO  
2 CO FLY TNG CTR NORFOLK  
1 CO FLEET TNG CTR U S NAV STA SAN DIEGO  
1 PRES NAV MAR COLL NEWPORT ATTN MAHAN LIB  
1 CO FLY ANTI-SUB WARFARE SCH SAN DIEGO  
1 CHF OF NAV RES ATTN SPEC ASST FOR R & D  
1 CHF OF NAV RES ATTN HEAD PERS + TNG BR CODE 438  
1 CHF OF NAV RES ATTN DIR PSYCHOL SCI DIV CODE 450  
1 CHF OF NAV RES ATTN HEAD GP PSYCHOL BR CODE 452  
1 OTR US NAV RES LAB ATTN CODE 5120  
1 DIR NAVAL RSCH ATTN LIB CODE 2029 (ONRL) WASH DC  
1 CHF OF NAV AIR TNG TNG RES DEPT NAV AIR STA PENSACOLA  
1 CO MED FLD RES LAB CAMP LEJEUNE  
1 DIR AEROSPACE CREW EQUIP LAB NAV AIR ENGR CTR PA  
1 COMDT MARINE CORPS HQ MARINE CORPS ATTN CODE AD-1B  
1 HQ MARINE CORPS ATTN AX  
1 DIR MARINE CORPS INST ATTN EVAL UNIT  
1 CG(CS) III MARINE AMPHIBIOUS FORCE MAC FPD SAN FRAN 96602  
1 CHF OF NAV AIR TECH TNG NAV AIR STA MEMPHIS  
1 DIR OPS EVAL GRP OFF OF CHF OF NAV OPS DPO3EG  
2 COMDT PTP COAST GUARD HQ  
1 JO US COAST GUARD TNG CTR GOVERNORS ISLAND NY  
1 CO US COAST GUARD TNG CTR CAPE MAY NJ  
1 CO US COAST GUARD TNG CTR & SUP CTR ALAMEDA CALIF  
1 CO US COAST GUARD INST UKLA CITY OKLA  
1 CO US COAST GUARD RES TNG CTR YORKTOWN VA  
1 SUPT US COAST GUARD ACAD NEW LONDON CONN  
1 DPNS ANLS OFC HQ STRATEGIC AIR COMD OFFUTT AFB  
1 TECH DIR TECH TNG DIV(HRD) AFHRL LOWRY AFB COLD  
1 CHF SCI DIV DRCTE SCI + TECH DCS R4D HQ AIR FORCE AFRSTA  
1 FAA DRCTE OF PLNS & OPS HQ USAF WASH DC  
2 HQ AFSC SC88 ANDREWS AFB  
2 COR ELEC SYS DIV L G HANSCOM FLD ATTN ESRHA BEDFORD MASS  
1 HQ SANSO (SMSIR) AF UNIT POST DFC LA AFS CALIF  
2 AFHRL (HRT) WRIGHT-PATTERSON AFB  
1 AMD AMRH BRDCK AFB TEXAS  
1 COR ELEC SYS DIV LG HANSCOM FLD ATTN ESTI  
1 DIR AIR U LIB MAXWELL AFB ATTN AUL3T-63-293  
1 DIR OF LIB US AIR FORCE ACAD  
1 COMDT DEF WPNS SVS MGT CTR AF INST OF TECH WRIGHT-PATTERSON AFB  
1 COMDT ATTN LIB DEF WPNS SVS MGT CTR AF INST OF TECH WRIGHT-PAT.  
1 650TH PERS RES LAB PRA-4 AEROSPACE MED DIV LACKLAND AFB  
2 AF HUMAN RESOURCES LAB WRHRT WRIGHT-PATTERSON AFB  
2 CO HUMAN RESOURCES LAB BROOKS AFB  
1 PSYCHOBIOLOGY PRDGM NATL SCI FOUND  
1 DIR NATL SCI FOUND WASHINGTON ATTN ASST DIR FOR SOC SCI  
1 DIR NATL SECUR AGY FT GEO G MEADE ATTN TOL  
5 CIA ATTN DCR/ADD STANDARD DIST  
1 SYS EVAL DIV RES DIRECTORATE DOD-DCD PENTAGON  
1 DEPT OF STATE BUR OF INTEL + RES EXTERNAL RES STAFF  
3 US INFO AGY TRI L PROCUREMENT LIB  
1 SCI INFO EXCH WASHINGTON  
2 CHF MGT & GEN TNG DIV TR 200 FAA WASH DC  
1 BUR OF RES & ENGR US POST OFC DEPT ATTN CHF HUMAN FACTORS BR  
1 SDUC MEDIA BR DE DEPT OF HEW ATTN T O CLEMENS  
1 OFC OF INTERNATL TNG PLANING & EVAL BR AID WASH DC  
1 DEPT OF TRANS FAA ACQ SEC HQ 610A WASH DC  
2 SYS DEVEL CORP SANTA MONICA ATTN LIB  
1 DYNLAP + ASSOC INC DARTEN ATTN LIB  
2 RAC ATTN LIB MCLEAN VA  
1 DIR RAND CORP SANTA MONICA ATTN LIB  
1 GP EFFECTIVENESS RSCH LAB U OF ILL DEPT OF PSYCHOL  
1 MITRE CORP BEDFORD MASS ATTN LIB  
2 U OF PGH LEARNING R4D CTR ATTN DIR  
1 HUMAN SCI RES INC MCLEAN VA  
2 TECH INFO CTR ENGR DATA SERV N AMER AVN INC COLUMBUS O  
1 CHRYSLER CORP MSL DIV DETROIT ATTN TECH INFO CTR  
3 CTR FOR RES IN SOCIAL SYS AMER U ATTN LIBN  
1 EDUC & TNG CONSULTANTS ATTN L C SILVERN LA  
1 GEN DYNAMICS PONDNA DIV ATTN LIB DIV CALIF  
2 MARQUARDT INOSTR PROD CO CUCAMONGA CALIF  
1 MGR BIOTECHNOLOGY AEROSPACE SYS DIV MS BH-25 BOEING CO SEATTLE  
2 CTR FOR RES IN SOCIAL SYS FLD OFC FT BRAGG  
1 IDA RSCH & ENG SUPT DIV ARL VA  
1 HUGHES AIRCRAFT COMPANY CULVER CITY CALIF  
2 BATTLE MEMORIAL INST COLUMBUS LABS ATTN RACIC O  
1 DIR CTR FOR RES ON LEARNING + TEACHING U OF MICH  
1 R M STOGDILL OHIO STATE UNIV  
1 EDITOR TNG RES ABSTR AMER SOC OF TNG OTRS U OF TENN  
  
1 U OF CHICAGO DEPT OF SOC  
1 CTR FOR RES IN SOCIAL SYS AMER U  
3 BRITISH EMBY BRITISH DEF RES STAFF WASHINGTON  
3 ACS FOR INTEL FOREIGN LIAISON OFCR TO NORWEG MILIT ATTACHE  
1 ARMY ATTACHE ROYAL SWEDISH EMBY WASHINGTON  
1 DEF RES MED LAB ONTARIO  
3 AUSTRALIAN NAV ATTACHE EMBY OF AUSTRALIA WASH DC  
1 FRENCH LIAISON OFCR ARMY AVN TEST BD FT RUCKER  
2 AUSTRALIAN EMBY OFC OF MILIT ATTACHE WASHINGTON  
1 MENNINGER FOUNDATION TOPEKA  
2 AMER INST FOR RES SILVER SPRING  
1 AMER INST FOR RES PCH ATTN LIBN  
1 DIR PRIMARY LAB UNIV OF WIS MADISON  
3 MATRIX CORP ALEXANDRIA ATTN TECH LIBN  
1 AMER TEL+TEL CO NY  
1 U OF GEORGIA DEPT OF PSYCHOL  
1 OBERLIN COLL DEPT OF PSYCHOL  
1 DR GEORGE T HAUTY CHMN DEPT OF PSYCHOL U OF DEL  
1 HEAD DEPT OF PSYCHOL UNIV OF SC COLUMBIA  
1 U OF GEORGIA DEPT OF PSYCHOL  
1 U OF UTAH DEPT OF PSYCHOL  
1 GE CO WASH DC  
1 AMER INST FOR RES PALO ALTO CALIF  
1 N HX STATE U ATTN PROF OF PSYCHOL  
1 ROWLAND + CO HADDONFIELD NJ ATTN PRES  
1 OHIO STATE U SCH OF AVN  
1 AIRCRAFT ARMAMENTS INC COCKEYSVILLE MD  
1 AMER PSYCHOL ASSOC WASHINGTON ATTN PSYCHOL ABSTR  
1 NO ILL U HEAD DEPT OF PSYCHOL  
1 GEORGIA INST OF TECH DIR SCH OF PSYCHOL  
1 AMER BEHAV SCI CALIF  
1 SAN DIEGO STATE COLL PUBLIC ADMIN CTR  
1 COLL OF WM + MARY SCH OF EDUC  
1 SD ILLINOIS U DEPT OF PSYCHOL  
2 COMMUNICABLE DISEASE CTR DEVEL + CONSULTATION SERV SECT ATLANTA  
2 WASH MILITARY SVS DIV BETHESDA MD  
1 NORTHWESTERN U DEPT OF INOSTR ENGR  
1 HONEYWELL ORD STA MAIL STA B06 MINN  
1 NY STATE EDUC DEPT ABSTRACT EDITOR AVCR  
1 AEROSPACE SAFETY DIV U OF SOUTHERN CALIF LA  
1 MR BRANON B SMITH RES ASSOC U OF MINN  
1 CTR FOR THE ADVANCED STUDY OF EDUC ADMIN U OF OREG  
1 DR V ZACHER RT 2 NORMAN PARK GA  
1 MR S AILES STEPTOE & JOHNSON WASH CC  
1 DR W BEVAN VP & PROVOST THE JOHNS HOPKINS UNIV MD  
1 DR W C RIEL U OF SOUTHERN CALIF LA  
1 DR C W BRAY BOX 424 QUODDUE LI NY  
1 MR J M CHRISTIE PRES RIGGS NATL BANK WASH DC  
1 DR C W CLARK VP FOR RSCH RSCH TRIANGLE INST NC  
1 GEN H P HARRIS (USA RET) PRES THE CITADEL SC  
1 DR L T RADER CHMN DEPT OF ELEC ENGR U OF VA  
1 CHF PROCESSING DIV OUKU U LIB  
1 U OF CALIF GEN LIB OCCU DEPT  
1 PSYCHOL LIB HARVARD UNIV CAMBRIDGE  
1 U OF ILL LIB SER DEPT  
2 U OF KANSAS LIB PERIODICAL DEPT  
1 U OF NEBRASKA LIBS ACO DEPT  
1 OHIO STATE U LIBS GIFT + EXCH DIV  
1 PENNA STATE U PATTEE LIB OCCU DESK  
1 PURDUE U LIBS PERIODICALS CHECKING FILES  
1 STANFORD U LIBS OCCU LIB  
1 LIBN U OF TEXAS  
1 SYRACUSE U LIB SER DIV  
1 SERIALS REC UNIV OF MINN MINNEAPOLIS  
1 STATE U OF IOWA LIBS SER ACO  
1 ND CAROLINA STATE COLL OH HILL LIB  
2 BOSTON U LIBS ACO DIV  
1 U OF MICH LIBS SER DIV  
1 BROWN U LIB  
2 COLUMBIA U LIBS OCCU ACO  
1 DIR JOINT U LIBS NASHVILLE  
1 U OF DENVER MARY REED LIB  
2 LIB GEO WASH UNIV ATTN SPEC COLL DEPT WASH DC  
2 LIB OF CONGRESS CHF OF EXCH + GIFT DIV  
1 U OF PGH OCCU LIBN  
1 CATHOLIC U LIB EDUC & PSYCHOL LIB WASH DC  
1 U OF KY MARGARET I KING LIB  
1 SO ILL U ATTN LIBN SER DEPT  
1 KANSAS STATE U FARRELL LIB  
1 BRIGHAM YOUNG U LIB SER SECT  
1 U OF LOUISVILLE LIB BELKNAP CAMPUS  
1 DR W A DETERLINE LOS ALTOS CALIF  
1 DR E W ANTHONY UNIV OF PITTSBURGH PA  
1 DR D N CARDENAS CHICAGO ILL  
1 DR D L CANFIELD UNIV OF ROCHESTER NY  
1 DR E M SPYROPOULOS WASHINGTON DC