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Listening Lessons in Connected Speech for Puerto Rican College Students for the Purpose of Improving Aural Comprehension in English

Margaret F. Tucker

LISTENING LESSONS FOR THE PURPOSE OF IMPROVING AURAL COMPREHENSION IN ENGLISH - TUCKER

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LISTENING LESSONS IN CONNECTED SPEECH FOR PUERTO RICAN COLLEGE STUDENTS FOR THE PURPOSE OF IMPROVING AURAL COMPREHENSION IN ENGLISH

By

Margaret F. Tucker

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Chapter I

THE PROBLEM AND RELATED LITERATURE

The Problem

Accurate aural comprehension of English is a difficult problem for Puerto Rican college students. Listening in a second language is quite different from listening in one's native language. Comprehension of what one hears can come quickly in the native tongue, but slowly in a new, or second, language. Breakdowns in the communication process involving aural comprehension can occur frequently in a second language when one fails to recognize a single phoneme or a series of phonemes. This point is made clear by Harold B. Dunkel in his book Second-Language Learning[1] when he analyzes the reasons for this failure. "... the student must get an accurate impression of the sounds he hears. He must be ... familiar with the phonemic system of the language; he must not hear feu as fou." According to Crawford and Leitzell "one unfamiliar word or phrase may completely block or prevent the understanding of the entire sentence or paragraph."[2]

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[1] Harold B. Dunkel, Second-Language Learning (Boston: Ginn & Co., 1948), pp. 36-39.

[2] Claude C. Crawford and Edna Mable Leitzell, Learning A New Language (Los Angeles: C. C. Crawford, University of So. Calif., 1930), p. 107.

Observation and experimentation have convinced experienced teachers of English as a second language that low level comprehension and failure to make progress are closely related to listening problems. These, in turn, are largely due to sound discrimination difficulties encountered in moving from one language to another. The student learns a special set of language habits in his native tongue which he must set aside whenever he shifts into the second language that is controlled by a different set of language habits. These differences concern not only a changing sound system and structured pattern, but also the important features of stress, rhythm and intonation which have an especially strong influence on meaning in English. It is obvious that most of these features can be learned best through the listening-learning process. Robert Lado stresses this point throughout his book Linguistics Across Cultures.[3]

Improvement in the listening process and consequent improvement in comprehension are vital to a student's advancement in learning English in Puerto Rico, where bilingualism in Spanish and English is highly important. As citizens of the United States, the Puerto Ricans are closely connected with the English-speaking world and therefore need a practical knowledge of English. However, the English speech course designed for trainees in elementary education at the University of Puerto Rico is deficient in providing listening training to improve sound discrimination in connected speech. A search for material for classroom auditory training suitable for use in the Puerto Rican situation has been nonproductive. There appears to be a lack of adequate contextual material to provide auditory

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[3]Robert Lado, Linguistics Across Cultures (Ann Arbor: University of Michigan Press, 1957).

training in sound discrimination areas needing emphasis in the English speech course for Puerto Rican university students.

The Purpose

The University of Puerto Rico English staff members who are preparing teachers for the Island school system are concerned about the lack of effective training techniques which will develop the student's listening ability and thereby sharpen his comprehension of spoken English. Appropriate listening lessons to improve their understanding of connected speech are needed. The purpose of this study is to investigate the following hypothesis:

> That additional materials for listening discrimination are needed for teaching English to Puerto Rican college students, and that paragraph listening lessons will provide varied auditory experience for sound discrimination training in learning English as a second language.

With the Puerto Rican problem in mind the following review of the literature was made.

Review of the Literature

The Importance of Listening

In 1954, Dr. Ralph C. Nichols of the University of Minnesota and Dr. Thomas R. Lewis of Florida State University published a significant book on the subject of communication, Listening and Speaking. The opening paragraph gives a definition of listening which is pertinent to this study.

> At the outset it seems desirable to determine just what is meant by the term listening. In a sense it is a combination of what we hear, what we understand, and what we remember.

training in sound discrimination [illegible] the [illegible] speech sounds for Puerto Rican [illegible] students.

The Problem

The University of Puerto Rico [illegible] parting teachers for the Island [illegible] of effective training [illegible] ability and thereby [illegible] priate listening lessons to improve [illegible] are needed. The purpose of this study is to [illegible] these:

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Review of Literature

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At the outset it seems [illegible] meant by the term listening [illegible] of what we hear. [illegible]

> Obviously hearing and listening are not identical. They are most clearly conceived as two distinguishable phases, the hearing of sound and the interpreting of sound, of a total process usually called aural assimilation. If the first phase, hearing, is identified as the perception of sound only, then it is the second phase of the process—the attachment of meaning to the aural symbols perceived—which has come to be widely accepted as the definition of listening.[4]

The authors divide listening into three types: appreciative, critical, and discriminative. This third type, listening to understand ideas, is the chief emphasis of the authors. The term discrimination as used in this thesis, however, refers to a different type of discrimination —that of sound discrimination, identifying and recognizing phonemic distinctions. This ability comes automatically in the native language. A basic feature of the listening process, sound discrimination (defined in Chapter II) must be mastered in the second language before the discriminative comprehension to which Nichols refers can be achieved. It is hoped that the Puerto Rican student will eventually realize this comprehension.

Although Nichols' book is not concerned with listening in English as a second language, some of its fundamental principles are applicable. In discussing the lack of scientific research in the field of listening, the authors state that until 1947 only fourteen scientific researches related to classroom listening comprehension had been published. In comparison, approximately 2500 scientific studies in reading had been completed. Since listening is basic to speaking and is also a most useful communicative art, it is indicated that more time should be devoted

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[4]Ralph G. Nichols and Thomas R. Lewis, Listening and Speaking (Dubuque: Wm. C. Brown Co., 1954), p. 1.

to training for effective listening. Dr. Nichols has supported his contention, that listening can be taught, with the results of research conducted at the University of Minnesota. Some of these studies are described in his book. This is an important treatise on listening in a field lacking such scholarly material. Nichols collaborating with Stevens also published Are You Listening?[5] in 1957, a book on the same subject written in the popular vein.

Experienced teachers who have written on the subject of teaching a foreign language, and the few who have written comprehensive works on the teaching of English as a second language, recommend the following sequence for teaching the four language divisions: listening, speaking, reading, writing. In discussing the objectives of language teaching, Nelson Brooks says, "The first is training in listening comprehension. ... it is the ear that dominates the learning and use of speech sounds. Ear training must come first."[6] Hubener in his recent book, How to Teach Foreign Languages Effectively, stresses the importance of recognition of the sounds of a language in the following passage:

> The basis of all language is sound. Words are merely combinations of sounds .... It is in these sound sequences that the ideas are contained. The hearing of a given word calls for the acoustic and the visual image of that word, from which meaning is obtained. ... it is only through accurate acoustic images that meanings can be derived and that language becomes a reliable means of communication.[7]

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[5] Ralph G. Nichols and Leonard A. Stevens, Are You Listening? (New York: McGraw-Hill Book Co., Inc., 1957).

[6] Nelson Brooks, Language and Language Learning (New York: Harcourt, Brace & World, Inc., 1960), p. 107.

[7] Theodore Hubener, How to Teach Foreign Languages Effectively (New York: New York University Press, 1959), p. 12.

In addition to the importance of recognizing sounds, listening must be an active process. Buehler and Linkugel argue that listening is an "active, holistic process." They point out that effective listening cannot be achieved without concentration of our senses, and that the foremost barrier to effective listening is lack of training.[8]

J. N. Hook explains that until the middle 1940's little attention was paid to problems of teaching listening. "It was generally taken for granted that everyone knows how to listen. During the forties, though, English teachers became increasingly aware of the fact that their students, and adults too, frequently fail to listen purposefully and critically." He says that English teachers have but recently recognized this challenge which is actually not new, but a variation of the old responsibility--the teaching of communication. Then he points to P. T. Rankin's pioneer study, rating the relative importance of the communicative arts. This study showed that people spend 9 per cent of their time in writing, 16 per cent in reading, 30 per cent in speaking, and 45 per cent in listening.[9]

Recognizing the importance of listening, Brooks thinks that time should be given to each of the four skills in approximately the following proportions:

Listening	50 per cent
Speaking	30 per cent
Reading	15 per cent
Writing	5 per cent

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[8] E. C. Buehler and Wil A. Linkugel, Speech, A First Course (New York: Harper & Brothers, Pub., 1962), pp. 93-4.

[9] J. N. Hook, The Teaching of High School English (New York: The Ronald Press Co., 1950), p. 33.

He makes this allotment for students at the early level, and suggests that the listening period may be gradually reduced as the student becomes more proficient.[10]

Listening in a Second Language

Articles and reports of experimental studies written by language teachers and linguists indicate problems encountered by the learner when he attempts to gain facility in a new language. Most of these writings are concerned with English-speaking people learning a second language, whether it be Russian, Italian, or Japanese. Also, most of them are concerned with production from the standpoint of structure or articulation and not with aural comprehension; the listening factor is not emphasized. A limited number of the studies are concerned with the person who is learning English as a second language and the majority of these deal with factors other than aural comprehension, though the importance of adequate and accurate listening is often mentioned.

Language Learning, A publication of the University of Michigan Linguistics Department, regularly publishes results of research in teaching English as a second language. Critical articles on the same subject evaluate problems encountered by teachers and students in the classroom or in the field. Among the significant articles are those of Dalbor, Weir, Haugen and Wolff. John Dalbor discusses the problem of the Spanish-speaking learner who has the difficulty of hearing and

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[10] Brooks, op. cit., pp. 122-23.

producing the two English phonemes /ʃ/ and /tʃ/.[11] This problem is found in Puerto Rican English language learners use of such words as share and chair. Ruth Hirsch Weir discusses the fact that the student tends to over-differentiate or under-differentiate his perception and production in terms of the phonemic system of his native language.[12] This is a difficulty encountered by the Puerto Rican student in transferring to the English language which has more numerous vowel distinctions than his native Spanish. Einar Haugen describes a problem similar to the one presented by Weir and uses the term diaphone, which is a hybrid sound produced when the second language contains a phoneme not found in the native language. These diaphones can be heard in the Puerto Rican production of English. Haugen says that our goal as teachers is that the learner shall turn the diaphones into phonemes, distinguishing them precisely from his own.[13] Hans Wolff provides an "appraisal of some of the problems and difficulties likely to arise in the teaching of English phonemes to speakers of Puerto Rican Spanish."[14] The phonemic difficulties described here will be referred to in Chapter II.

The advantage of the diagnostic method in dealing with deficiencies in aural comprehension is the subject of various studies by

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[11] John B. Dalbor, "The English Phonemes /s̆/ and /č/: A Hearing and Pronunciation Problem for Speakers of Spanish Learning English," Language Learning, IX (1959), pp. 67-73.

[12] Ruth Hirsch Weir, "The Phoneme in Language Teaching," Language Learning, VIII (1958), p. 16.

[13] Einar Haugen, "The Phoneme in Bilingual Description," Language Learning, VII (1956-57), pp. 17-23.

[14] Hans Wolff, "Partial Comparison of the Sound Systems of English and Puerto-Rican Spanish." Language Learning, III (1950), pp. 38-40.

linguists and language teachers. Dalbor makes the following statement:

> One of the best ways to handle these linguistic stumbling blocks is to predict them beforehand by means of a scientific comparison of the sound systems of the native language and the new language. Thus the most serious difficulties are isolated, given special attention and prepared for easier learning by the student. And to solve only a carefully-chosen and deliberately limited number of such pronunciation problems is to make a great advance toward a complete mastery of the sound system of English.[15]

In his book, Teaching and Learning English as a Foreign Language, Charles C. Fries of the English Language Institute of the University of Michigan, makes the following assertion: "The most effective materials are those that are based upon a scientific description of the language to be learned, carefully compared with a parallel description of the native language of the learner."[16]

It is on this theory that Lado based his book Linguistics Across Cultures. Under the topic "Perception blind spots," he says, "Much less known, and often not even suspected, may be the fact ... that the speaker of one language listening to another does not actually hear the foreign language sound units—phonemes. He hears his own. Phonemic differences in the foreign language will be consistently missed by him if there is no similar phonemic difference in his native language."[17]

The teacher should be aware of this linguistic problem faced by the student. A comparison of the two languages involved will reveal

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[15] Dalbor, op. cit., p. 73.

[16] Charles C. Fries, Teaching and Learning English as a Foreign Language, (Ann Arbor: University of Michigan Press, 1945), p. 9.

[17] Lado, op. cit., p. 11.

the similarities and differences. Efficient teaching will concentrate on overcoming problems related to the differences, affording the student an opportunity to make better progress.

Testing for Listening Comprehension

While it is not the purpose of this thesis to closely examine and evaluate existing tests for aural perception, yet it is concerned with the structure and application of these tests as they may be applicable to the projected listening lessons.

Tests in Print. A Comprehensive Bibliography of Tests for Use in Education, Psychology and Industry, edited by Oscar K. Buros, lists eleven English tests in print for non-native speakers of English. Most of these are devised to test applicants for admission to American colleges. Only three of them, all by Robert Lado, are devised specifically to test aural comprehension or perception. One of the three is especially for Japanese students, one is for non-English applicants in general, and the third is for Latin American students. The third publication, revised in 1957, has not yet been reviewed.[18]

In The Fifth Mental Measurements Yearbook, also edited by Oscar K. Buros, there are two comprehensive reviews of the test for applicants from non-English language countries. Prof. Herschel Manuel's review explains that the test takes about 40 minutes and consists of 60 three-choice items. The examiner reads a sentence (sometimes two or more), and the student marks a picture, phrase or sentence to indicate his understanding of what is read. This test contains constructed items

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[18] Oscar K. Buros, ed., Tests in Print (Highland Park, N. J.: Gryphon Press, 1961), pp. 86-88.

which present speech comprehension difficulties to foreign students, instead of taking samples of English at random. Thus a foreign student might have difficulty distinguishing between sounds "sixty" and "sixteen." Manuel believes that Lado's approach to testing through comparative analysis of the different languages is a promising one. However, he questions the fairness for speakers of different tongues, and is dubious about the length of the last ten items. Nevertheless, he feels that it is a useful test to judge ability of foreign students planning to work in English-speaking colleges.

Prof. Clarence E. Turner evaluates the test as superior and says "... anyone requiring an instrument to determine whether a handicap exists in the aural comprehension of English need look no further."[19]

Robert Lado reviews seven groups of tests himself in "Survey of Tests in English as a Foreign Language," Language Learning, Vol. III, 1950. One of these tests is a U. S. Dept. of State, English Proficiency Examination which includes a section for aural comprehension. This test consists of two anecdotes read twice in natural style. The student writes short answers to ten questions asked orally after each anecdote. Answers are graded according to whether or not they show that the anecdotes and questions were understood.[20] This method would be adaptable for classroom listening lessons.

Another test reviewed by Lado was the Villareal Test for Aural Comprehension of Native Speakers of Spanish. Ten selections and five

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[19] Oscar K. Buros, ed., The Fifth Mental Measurements Yearbook (Highland Park, N. J.: The Gryphon Press, 1959), pp. 396-98.

[20] Robert Lado, "The Survey of Tests in English as a Foreign Language," Language Learning, III (Jan.-June 1950), pp. 51-65.

dialogues read by Villareal in phonograph recordings make up the test. Students listen and indicate responses by means of 75 multiple choice answers. There are five choices each and the questions and choices are on answer sheets in both Spanish and English. Lado decided the passages were too long. Native speakers themselves found it not easy and none made a perfect score.[21]

The Princeton series of "Sequential Tests of Educational Progress" includes one to measure listening ability. This is a well-controlled test for aural perception. It is timed, and the examiner reads both the selection and the answers from which a choice is made by the students. It is devised for students whose native tongue is English and therefore would not be suitable for Puerto Ricans.

An English Proficiency Test used at the University of the Philippines was examined. Part I for aural recognition containes the following:

(1) A choice of minimal pairs for sound discrimination within sentences read by the examiner.

(2) Matching of statements for meaning; the examiner reads a sentence aloud and student must choose a statement on his test paper that is similar in meaning. One word of a minimal pair is contained in the examiner's sentence.

(3) The examiner reads three different selections. After each selection the student marks multiple choice answers that deal with the meaning of the passage.

The testing methods used in the different parts of this test would be applicable to check comprehension of listening lessons.

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[21] Lado, op. cit., pp. 51-65.

Some of the foregoing tests suggest methods that could be applied as practices in evaluating sound discrimination within context. Based on such similar suggestions, the University of Puerto Rico Speech Department developed the aural perception test used in its program. This test described in Chapter III has served also as a means for locating the students' deficient areas in sound discrimination, and these deficiencies in turn have suggested the preparation of the listening materials embodied in this thesis.

A useful book for teachers on the construction and use of foreign language tests has been written by Robert Lado. This book, Language Testing, is based on years of experience in the field. Like Ralph Nichols' books on listening, Language Testing is the first comprehensive treatise in its field.[22]

Another book based on experimental research is Manual of American English Pronunciation, by Clifford H. Prator, Jr. For three years the author and his staff recorded the speech and counted the "errors" of their students. Analysis indicated "a sort of frequency count of the pronunciation difficulties of a group of several hundred average students from abroad. The Manual was built around this count."[23] In explaining the structure of the text, Prator says, "We have adopted an order of arrangement based primarily on simple numerical frequency, considering first and at greatest length those difficulties most prevalent in our

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[22] Robert Lado, Language Testing (London: Longmans, Green and Co. Ltd., 1961).

[23] Clifford H. Prator, Jr., Manual of American English Pronunciation (rev. ed.; New York: Rinehart & Co., Inc., 1957), p. xii.

classes."[24] The author makes use of a "Diagnostic Passage" which is recorded at the beginning of the training course. In analyzing this passage for each individual student, he prepares an "accent inventory" which serves as a training guide. The passage may be used again at the end of the course to measure the progress made. Alternate forms are not available. Prator includes a limited number of sample passages of connected speech in his Manual, which the students can practice, record, and then listen to themselves. This is a usable technique yet it does not apply listening strictly to oral speech without the use of printed material.

Methods of Presenting Listening Experiences

Nichols states that there are three methods of presenting listening improvement feasible for use in our schools:

1. The direct approach—depends upon setting aside classroom time for specific courses in listening.

2. The integrated approach—requires coordination of listening instruction with other subjects—especially those concerned with the language arts.

3. The listening laboratory. This method of listening improvement does not preclude the use of the above two approaches, but supplements them.[25]

In teaching English as a second language, all three of these approaches may be used, adding variety and extra practice in the new language.

Since the advent of the language laboratory, interest has been high in the production and procuring of suitable material for laboratory

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[24] Prator, op. cit., p. xv.

[25] Nichols, op. cit., Are You Listening?, pp. 209-10.

training. Though this involves listening, the idea of production is usually of primary significance. Furthermore, laboratory work stresses drill work in new sounds and words, with much pattern practice. Opinions expressed by speech teachers on the use of the laboratory are revealed in a survey of practices and procedures in teaching English as a second language authorized in 1959 by the Speech Association of America. In tabulating the responses to the survey questionnaire, the investigators found that a vigorous minority exception was taken to the effectiveness of laboratory aids. "No teacher prefers the laboratory technique as a substitute for himself. Recordings cannot evaluate, or criticize, or answer questions, but teachers can."[26]

An unpublished research paper evaluates the effectiveness of English speech training at the University of Puerto Rico.[27] This comparative study is based on test results of trained and non-trained students during the academic year 1961-62. It presents evidence that the trained students improved in sound discrimination without exception, improvement scores ranging from 17 to 76 per cent. The non-trained students showed no consistent pattern of improvement; some scored lower on the retest. More experimental studies should be undertaken in the field of remedial speech dealing with linguistic problems for the general purpose of improving training methods and selecting more effective course materials.

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[26] Cj Stevens, et al.,"English as a Second Language--Practices of Speech Departments," Quarterly Journal of Speech, XLVIII (Oct. 1962), pp. 285-90.

[27] Margaret F. Tucker, "Analyzing Effectiveness of English Speech Training" (Unpublished paper, prepared for Speech 251, Univ. of New Mexico, 1962).

Research in general concentrates on language learning for the beginner, or at least the person studying a new language for the first time. Very little is designed for the student who needs remedial speech in the second language. Numerous authors furnish casual suggestions, but few have recommendations for specific training lessons aimed at improvement of listening in the second language, yet all point to listening as the first step in the process of developing skill in a new language.

Several authors recommend dictation as a means of developing aural comprehension as well as checking for accuracy. Crawford and Leitzell point out the disadvantages:

1. Dictation is a test of recognition of foreign words, but not a test of recognition of their meanings.
2. Writing is usually rather slow, the method time-consuming.
3. It is likely to be unnatural and not typical of ordinary conversational speech.[28]

Dictation, however, serves a useful purpose when it employs transcription of the sounds of the language into I. P. A. symbols. This experience affords training in perceiving the sounds and recording what is heard. This process supplies basic training in sound perception.

The use of connected material in the form of informational paragraphs or short stories to be read by the teacher is advocated by Nichols, Brooks and Finocchiaro as a good means of supplying aural comprehension material. Brooks and Nichols both offer a list of suggestions for aural comprehension activities and some of these would be useful in a classroom devoted to teaching English as a second language. Brooks supplies a long list of ideas and subjects which would be very usable as the bases for listening lessons, or short discussions to give the

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[28] Crawford, op. cit., p. 109.

class experience in aural comprehension.[29] Brooks makes it clear that such topics should be presented from the point of view of a young person of the age and status of the students being addressed, and the perspective should be that of such a person as he goes about his daily tasks.[30]

Mary Finocchiaro includes advice about aural comprehension in her recent book, Teaching English As A Second Language. She recommends the use of passages for aural comprehension "of about ten lines, such as an anecdote, a short poem, a passage from a reader, or an original passage prepared by the teacher to illustrate a structural item or some cultural concept. ... following listening (and one repetition) questions are asked and answers are written. Each question is repeated." Certain suggestions are good, for instance: "Review question words before aural comprehension exercise. With more advanced pupils, give practice in answering 'why' questions."[31] This type of listening recommended by Brooks and Finocchiaro strengthens listening comprehension in contextual material and resembles normal listening experience in the native language.

The advantage of contextual material over isolated words, phrases and disjointed sentences is pointed out in several sources. Crawford says, "It is well to practice on fairly long sentences or on paragraph

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[29] Brooks, op. cit., pp. 87-92.

[30] Ibid., p. 86.

[31] Mary Finocchiaro, Teaching English as a Second Language (New York: Harper & Brothers, 1958), pp. 155-159.

units of expression and the ability to adjust the expression of one part of the sentence to the ideas that are expressed in other and more remote parts." He recommends further that sentences should be connected in thought and content. The use of isolated sentences involves starting at the zero point each time.[32]

Nichols says we "listen with our experience,"[33] and to give an abundance and variety of listening experiences, Finocchiaro, Brooks and Hubener favor the teacher constructing material suitable for his own class and situation. Finocchiaro believes that the eclectic approach is best suited to the teaching of English as a second language and therefore recommends flexibility in the selection and use of teaching materials.[34] Brooks suggests that the teacher spend the first five minutes of the class period talking in the foreign language on a subject not previously announced. He is a firm believer in class discussion following a listening period. "Getting the student to talk is very important."[35] His grasp of the material in the listening lesson can be observed during the discussion period. Hubener believes that the teacher should not depend too much on the textbook. "Lively, improved, spontaneous exercises are preferable to the sentences in the book. ... The verisimilitude of the situation will be enhanced by the teacher's freedom from the textbook."[36] What has been achieved in listening in

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[32] Crawford and Leitzell, op. cit., pp. 55-56.

[33] Nichols, op. cit., Listening and Speaking, p. 12.

[34] Finocchiaro, op. cit., p. 310.

[35] Brooks, op. cit., pp. 189-90.

[36] Hubener, op. cit., p. 187.

a second language is also discussed by Hubener as he furnishes background material on the best methods of presentation.

Listening Materials for Special Teaching Situations

Printed materials devised for training in aural comprehension in English as a second language are also available in the literature. A series of four volumes entitled Intensive Course in English has been prepared and published by the English Language Services, Inc., of Washington, D. C. This series is designed as a training program in English as a second language for those who have had some previous, but limited, training in English. The emphasis throughout the course is on oral-aural training. The majority of the materials are recorded on tape. The reading selections are followed by comprehension check-up questions. In the volume for advanced students, some of the reading selections are on tape only, thus depriving the student of the printed word. The topics treated have interesting content, but are too long for beginners or semi-skilled. There is an attempt to unify the different parts of each lesson. No special attempt to emphasize sound discrimination is evident in the paragraphs. Each section seems to be graded for structure and vocabulary, however. These lessons represent a forward step in teaching English as a second language. The lesson materials offer flexibility in application and a teacher with imagination could vary the lessons to suit the teaching situation. For example, the reading selections could be reduced in length at the teacher's discretion.[37] While these lessons would be useful in several respects, they are not designed to teach sound discrimination in context except as gained indirectly.

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[37] Intensive Course in English, I, II, III, IV (Washington, D. C.: English Language Services, Inc., 1961).

The listening lessons of Language and Life in the U. S. A., American English for Foreign Students, occur at the beginning of each lesson in Part I, and they emphasize both sound and structure. They are graduated in length and vocabulary difficulty as the lessons progress. There are questions following each selection to check comprehension. Listening is practiced with and without the text. The questions for comprehension are answered after the first reading. Since the selections and questions are part of the textbook, any good student could read ahead and prepare himself for the "listening" lesson, thus greatly reducing the value of the aural comprehension section for him. To have value for the student, the aural comprehension lesson should be provided in a controlled situation.[38]

Numerous investigators and teachers in the field of second-language instruction have realized the importance of having specially-prepared materials to fit local needs. The following are some examples:

Brong, in a pertinent study evaluating ear training as a pedagogical technique in improving sound discrimination, states:

> It appears that an ear training program of almost any type has value in improving sound discrimination. However, (a) a program directed specifically toward the skill to be improved seems to have greater efficacy than a broad program of ear training; (b) a program including an emphasis upon both listening and production experience seems to be more potent than a program of ear training which emphasizes training the ear only or production only.[39]

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[38] Gladys J. Doty and Janet Ross, Language and Life in the U. S. A. (New York: Harper & Row, Publishers, 1960).

[39] Clara Cordelia Brong, "An Evaluation of Ear Training as a Pedagogical Technique in Improving Sound Discrimination" (unpublished Ph. D. dissertation, Northwestern University, 1948), p. 96.

Listening lessons directed toward hearing certain sounds, then, should be more effective than those containing a general vocabulary. Furthermore, brief oral discussion following the listening period should increase the effectiveness of the lesson.

An analagous situation is described by Ryan whose doctoral dissertation examines "Common Errors in English Language Usage Made by Spanish-Speaking Pupils." She says, "Errors persist because pupils hear and use the incorrect forms outside of school more frequently in vital situations than they hear and use the correct forms in school. If they have ample opportunities for hearing the correct forms in interesting and vital context in school, the correct forms will begin to 'sound right' to them. ... If the teacher knows in advance what errors are likely to occur, she may plan to use the correct forms frequently ...."[40] She advocates the following activities for oral use of correct forms:

a. The teacher may read to the class stories which contain the correct forms she wishes to stress.

b. The pupils may listen to recordings of stories or to sound films which use the desired language forms.

c. Imitation of the teacher both in concert and individually.

d. The teacher or another pupil asks questions which require the use of the correct form as an answer.[41]

These suggestions are in line with the projected listening lessons to fill the need in the Puerto Rican situation.

Coleman completed an extensive survey which attempted to analyze and evaluate the materials and techniques that had been proposed for

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[40] Louise T. Ryan, "Common Errors in English Language Usage Made by Spanish-Speaking Pupils" (unpublished Ph. D. dissertation, New York University, 1949), p. 85.

[41] Ibid., p. 86.

teaching English to young Spanish-speaking children in the United States. He stated in conclusion that "it is impossible to apply without modification to the Southwestern situation the findings and the recommendations of investigators themselves. Moreover, the particular needs of the Spanish-speaking child make it imperative that special textual materials be prepared or adapted for him, and that special curricular arrangements and procedures be devised for his benefit."[42]

Cornelius declares: "Teaching is always experimental. The teacher of a foreign language is one who 'experiments' in language teaching."[43] "The objective of the foreign-language teacher is to expose his students to the language as it is spoken by the native speakers of that language."[44] "... the student of a foreign language, studying in a school in his own country may hear the language only during the time he is in class. Consequently, these 'situation equivalents' must be arranged for him by someone."[45]

Under the heading of "Preparing new teaching materials," Lado says that "more and more the teacher is faced with the need to prepare textbooks and other teaching materials that are up to date and meet the needs of the particular students he is interested in. ... The teacher who has systematically compared the two languages will be able to prepare supplementary exercises on those patterns which are important or difficult and have been overlooked or treated inadequately in the book."[46]

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[42] Algernon Coleman, English Teaching in the Southwest (Washington, D. C.: American Council on Education, 1940), p. 123.

[43] Edwin T. Cornelius, Jr., Language Teaching (New York: Thomas Y. Crowell Co., 1953), p. 162.

[44] Ibid., p. 92.

[45] Ibid., p. 126.

[46] Lado, p. 3.

The importance of materials especially prepared to meet the local situation is emphasized by Dr. Pauline Rojas, who was for many years the supervisor of the English program in the Puerto Rico Department of Public Instruction as well as being the person in charge of adapting the Fries program of instruction to the Island schools. She states: "The basic principles underlying the program are the following:

(1) that instruction should begin with the colloquial aspects of the language;

(2) that the initial presentation should be oral;

(3) that the materials should be based on a structural analysis of the grammar and sound system of English as compared to the grammar and sound systems of the student's native tongue. ...

The central feature of the program is the specially prepared materials; without them it could not operate."

"Those materials give the students the opportunity to master the distinguishing sound features of English and its structural patterns in a minimum of time."[47]

Thus, we have seen the importance which various investigators have attached to the need for having available specifically applicable teaching materials; and they feel that often these materials, to meet the local needs, must be prepared by the teacher himself. The teachers in the speech program at the University of Puerto Rico agree with this

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[47] Pauline N. Rojas, "The Teaching of English as a Modern Foreign Language," College English, IX (Oct. 1947-Oct. 1948), p. 324.

viewpoint, since they have found a need for such special materials to meet specific local conditions.

Review of the pertinent literature and examination of materials available for teaching English as a second language in the Puerto Rican situation demonstrate that there is a scarcity of suitable lesson material for the purpose of training in aural perception. As a teacher of English as a second language at the University of Puerto Rico, the investigator became aware of the need for specific types of auditory discrimination materials for use in the classroom. The problem of this thesis evolved from this realization.

Summary

In summary, the following points have been realized from the review of the literature:

1. The importance of listening when learning a language is clearly demonstrated in the literature.

2. It has also been demonstrated that listening when learning a second language is even more important than in the native tongue.

3. Tests have been devised to evaluate the listening discrimination and comprehension of various types of students, and the University of Puerto Rico has established its own for evaluative purposes.

4. Investigators recommend preparation of special materials for special language learning situations.

5. There is a demonstrated lack of material suitable for teaching listening discrimination and comprehension to Puerto Rican university students.

viewpoint, since they have [illegible]

to meet specific local conditions.

Review of the pertinent literature [illegible] materials available for teaching [illegible] from attention deficiency. [illegible] lesson material for the general [illegible] a teacher of English as a [illegible] Also, the investigator [illegible] of multiply disadvantaged [illegible] problem of this study [illegible]

In summary, the following [illegible] review of the literature:

1. The importance of [illegible] clearly demonstrated in the literature.

2. It has also been [illegible] a second language is even more [illegible]

3. Tests have been [illegible] nation and comprehension [illegible] of Puerto Rico has [illegible]

4. Investigators [illegible] for special language learning [illegible]

5. There is a demonstrated [illegible] the listening discrimination [illegible] university students.

Therefore, the problem of this thesis is to develop materials appropriate to fill part of the present needs for additional listening experiences in the Puerto Rican situation. Chapter III will illustrate the method of determining the points to be emphasized in the preparation of such materials. There is general agreement in the literature that aural comprehension is dependent upon the perception of the distinctive sounds of a language and that improvement in listening ability comes with additional experiences which should be supplied in the training program.

Chapter II

TERMS AND DEFINITIONS

For the purpose of this study it is necessary to have a clear understanding of certain terms and concepts that will occur throughout the thesis, and are basic to the problem involved.

Aural Comprehension

Basic to language development is adequate aural comprehension. It is an activity which can be divided into three parts: perceiving, recognizing, and comprehending. The order is fixed. Perceiving the sound, the actual hearing of it, comes first. Recognizing the sound, identifying it as to source and type, is next. Then comes the understanding of the sound, comprehension of the meaning it embodies within a given situation.[1] This process of aural comprehension is generally assumed to take place progressively in one's native language.

Auditory comprehension in a second language varies somewhat from the foregoing definition. Robert Lado defines auditory comprehension of a foreign language thus:

> Auditory comprehension of a foreign language means recognition control of the signaling elements of the language in communication situations.[2]

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[1] Giles Wilkeson Gray and Claude Merton Wise, The Bases of Speech (3rd ed., New York: Harper Bros., Pub., 1959), pp. 61-62.

[2] Robert Lado, Language Testing (London: Longmans, Green and Co. Ltd., 1961), p. 206.

This means that recognition of the phonemic elements of the language, or sound discrimination, leads to auditory comprehension in speech situations. The second step in the comprehension process--recognition--is the one for concern in teaching English as a second language. Recognizing the sounds of the new language is vital to accuracy and progress. This becomes a problem area when the sounds are not accurately recognized. Lack of recognition can mean lack of comprehension.

The Phoneme and the Allophone

Basic to the understanding of sound discrimination and this study is the concept of the phoneme. A clear and workable definition of the phoneme is given by Eisenson:

> A phoneme, ... may be defined as the smallest distinctive group or class of sounds in a language. Each phoneme includes a variety of closely related sounds which differ somewhat in production and in acoustic result because of context or conditions of speech.[3]

The words tin and din illustrate phonemic distinction. The initial sounds /t/ and /d/ differentiate the two words and give meaning to each. Thus /t/ and /d/ are separate phonemes within the English language system. The /t/ in tin, however, differs from the production of t in stem, or lets, or later. These variations of the phoneme /t/ are called allophones. They do not represent significant differences in the basic sound unit, but as a group belong to the phoneme /t/ which is a distinctive linguistic element of the language system.

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[3] Jon Eisenson, Basic Speech (New York: The Macmillan Co., 1950), p. 68.

An allophone of one language may be a distinctive sound unit, and therefore a phoneme, in another language. For instance, the Thai language makes a phonemic distinction between aspirated and unaspirated /p/.[4] In English this difference is allophonic in the production of p in pin, or apple, or spend. A problem arises when the phonemic unit of one language is carried into another language where it may be only an allophonic sound.

Minimal Pair

One of the ways of testing phonemic distinctions is with minimal pairs. A minimal pair is a pair of words that are alike except for one difference in sound; for example, reach and rich are phonemically alike except for the vowel sounds /i/ for reach, and /ɪ/ for rich. The difference could be in a consonant instead of a vowel; for example, bit and pit differ in the initial sound, one being /b/ and the other /p/.

Sound Discrimination

Ability in sound discrimination is necessary to hear the phonemic distinctions. This develops with maturation in the native language, but must be acquired in the second language. Sound discrimination is related to the second phase of the aural comprehension process, that of recognition. Since this study concerns sound discrimination in a second language, in a remedial speech setting, Van Riper's definition of sound discrimination is appropriate:

> Discrimination of sounds involves ... recognition, identification, association with symbols, and differential bodily reactions.[5]

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[4] Lado, op. cit., Linguistics ..., p. 11.

[5] Charles Van Riper, Speech Correction (3rd ed., Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1954), p. 222.

An allophone of one language may [illegible]

therefore a phoneme, in another language. [illegible]

phone makes a phonemic distinction [illegible]

/p/.[4] In English this distinction [illegible]

p in pip, or apple, or [illegible]

of one language is another [illegible]

allophonic sound.

[illegible]

One of the ways of [illegible]

pairs. A minimal pair is a [illegible]

difference in meaning for [illegible]

except for the vowel nucleus [illegible]

ference could be in a consonant [illegible]

and pit differ in the initial [illegible]

[illegible]

Ability in hearing [illegible]

distinctions. This [illegible]

must be acquired in the [illegible]

to the second phase of the [illegible]

tion. Since this study [illegible]

guage, in a remedial [illegible]

minimation is appropriate.

Discrimination of sounds involves [illegible]

tion, presumably [illegible]

tions.[5]

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[4] Lado, op. cit., [illegible]

[5] Charles Ser Rivers, [illegible]

New Jersey: Prentice-Hall, [illegible]

Within the retraining program, the characteristics of discrimination are listed as: comparing the correct sound with the error, hearing the difference between the two sounds, and recognizing the contrasts involved.[6] These characteristics were recognized in planning this study.

Language Sound Systems

Each language has its own distinctive sound system. This study is concerned with the sound systems of two languages--Spanish and English. While it is not the purpose of the study to analyze the sound systems of these two languages, we must recognize certain general features which are significant to the learning process as the student moves from Spanish to English.

Spanish. Spanish is one of the languages in which the spelling indicates the sounds of the letters.[7] Consonants and vowels are distributed about equally and are pronounced with relatively the same duration. The five vowels are pure in sound quality, and two or more frequently occur in consecutive arrangement; and there is no vowel /ɜ/. There are fourteen diphthongs. A few consonant clusters are in the system. Aspiration is not strongly applied to either consonants or vowels. There are nineteen consonant phonemes. /tʃ/ and /f/ are lowest in frequency count. Of the vowels, /i/ and /u/ have the lowest frequency count.[8]

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[6] Van Riper, op. cit., p. 224.

[7] Dorothy Mulgrave, et al., Speech (New York: Barnes & Noble, Inc., 1954), p. 171.

[8] Tomás Navarro Tomás, Manual de Pronunciación Española (5th ed., New York: Hafner Publishing Co., 1961), passim.

In dealing with Spanish pronunciation, Wise points out "it is necessary to understand a linguistic concept important in all Romance languages, that of open and closed syllables. An open syllable is a syllable ending in a vowel or diphthong. A closed syllable is a syllable ending in a consonant." He explains further that the change from closed to open syllable, or vice versa, induces a change in vowel value. Also, he points out that every syllable is carefully spoken. Though there is some unstressing of vowels in unaccented syllables, each vowel retains its identity.[9]

English. English, compared with Spanish, is a relatively unphonetic language. It is not always possible to determine the sound from the spelling. The consonant distribution exceeds that of the vowels and there is a variation in the duration applied as each is pronounced. There are eleven vowels.[10] Authorities differ on the exact number of diphthongs. The vowels are not pure in sound quality and there is a tendency to lengthen them into diphthongs, particularly in some regions. Two vowels may occur in consecutive arrangement. The frequency of weak, or unstressed, vowels is typical. There are 25 consonant phonemes,[11] and consonant clusters are typical with many occurring in final position.

It can be seen from examining the general features of Spanish and English that there are a number of dissimilarities which may cause teaching and learning problems. If the reader desires to consult a detailed

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[9]Claude Merton Wise, Applied Phonetics (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1957), pp. 454-470.

[10]Clifford H. Prator, Jr., Manual of American English Pronunciation (rev. ed., New York: Rinehart & Co., Inc., 1957), p. 5.

[11]Ibid., p. 4.

treatment of the differences between English and Spanish, he will find such an analysis in the books by Wise[12] and Lado.[13]

Puerto Rican Spanish and General American English Compared

Puerto Rican Spanish is characterized by certain features that together identify it as Puerto Rican. Some of these features are outlined by Hans Wolff, formerly a linguist at the University of Puerto Rico.[14] It is pertinent to this thesis to list the phonemes of Puerto Rican Spanish as given by Dr. Wolff, as well as the phonemes of General American English which are taught in the Speech Department of the University of Puerto Rico. A summary of the principal allophones of Puerto Rican Spanish as outlined by Wolff can be found in Appendix B.

Phonemes of Puerto Rican Spanish:

Vowels -		i e a o u
Consonants -	stops	p t tʃ k b d g
	fricatives	f s
	nasals	m n ñ
	lateral	l
	trills	r r·
	glides	w y
	and	h

Spanish /ñ/ is formed by the blending of n and y as in can you.

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[12] Wise, op. cit., pp. 454-470.

[13] Robert Lado, Linguistics Across Cultures (Ann Arbor: University of Michigan Press, 1957), pp. 13-50.

[14] Hans Wolff, "Partial Comparison of the Sound Systems of English and Puerto-Rican Spanish," Language Learning, III (Jan. 1950), pp. 38-40.

The tongue must be placed in the y position and the n and y sounded at the same time. Examples: cañon, año.[15]

The symbol /ˈ/ indicates half-long, which differentiates the two trills. The first one, /r/, according to Wolff is a "single flap apico-alveolar."[16]

Although American English speech may be divided into three main regional types, Eastern, Southern, and General American, the latter is the most widespread. A knowledge of the phonemes of General American English provides the Puerto Rican student with a foundation for the understanding and recognition of variations due to regional speech, such as Eastern and Southern. Furthermore, the Puerto Ricans are encountering General American Speech more as their contacts with the people of the United States continually broaden. Therefore their ability to communicate in General American English should be most satisfactory. The International Phonetic Alphabet symbols representative of General American Speech which are taught to all students in Speech 105, are listed below:

Phonemes of General American English:[17]

Vowels - i ɪ e ɛ ɑ a u ʊ o ɔ ʌ ɝ

Diphthongs - ɑɪ ɑʊ ɔɪ

Consonants -	stops	p b t d k g tʃ dʒ
	fricatives	f v θ ð h s ʃ z ʒ
	nasals	m n ŋ
	lateral	l
	glides	w hw j r

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[15] Carlos Castillo and Otto F. Bond, The University of Chicago Spanish-English, English-Spanish Dictionary (New York: Washington Square Press, Inc., 1961), p. xiii.

[16] Wolff, op. cit., p. 39.

[17] The International Phonetic Alpahbet symbols are used throughout this thesis. John S. Kenyon and Thomas A. Knott, Pronouncing Dictionary of American English (2nd ed., Springfield: G.& C. Merriam, Publishers, 1953).

Significant Phonemic Differences

In comparing these two sound systems, definite areas of conflict as well as similarities are observed. These areas of conflict produce problems that are difficult to overcome. The following differences indicate some of the problems:

1. Because of the larger number of vowels in English, the Spanish-speaking person has an immediate problem in learning to hear and produce the unfamiliar English vowels, namely: /ɪ ɛ æ ʊ ɔ ʌ ɝ/.
2. English /w/ before high back vowels /u/ or /ʊ/ is difficult for the Spanish-speaking person to produce or hear in English because this distribution does not occur in Spanish. A common substitute for /wu/ or /wʊ/ is /u/ in such words as woman, and wool.
3. The back allophone of /l/ in English is hard to acquire, especially in distribution in final clusters in such words as field, called, and world. Spanish /l/ is produced further forward and does not occur in final sound clusters.
4. Lip closure in Spanish on both v and b make English /v/ and /b/ difficult to acquire since their production in English is distinctly different, /v/ being a fricative and /b/ a stop, with lip closure only on /b/. The Spanish-speaking student must learn to hear two sounds instead of one.
5. /m/ in Spanish is restricted in final distribution and therefore requires emphasis as a final sound in English.

6. The substitution of /t/, /d/, and sometimes /s/ for /θ/ and /ð/ creates confusion. The Puerto Rican's tendency to produce /t/ and /d/ in a dental position makes it difficult for him to hear, as well as produce, the fricatives /θ/ and /ð/.
7. The final occurrence of /b, d, g, f, and tʃ/ in Spanish is limited and therefore leads to difficulties in hearing these sounds accurately in final position in English. The voiceless correlatives of /b, d, and g/ are often substituted.
8. Since consonant clusters are limited in Spanish, they present a problem in hearing English sound sequences, particularly in endings which generally lead to unfamiliar sound clusters.

The foregoing lists of problems present a challenge in the teaching of English to the Spanish-speaking students at the University of Puerto Rico.

Population and Sample

Two terms employed in this study dealing with the testing procedure need definition. In a descriptive or experimental study population refers to "any group with at least one specified characteristic in common." Sample refers to "any group smaller than the total number in the population from which it is drawn."[18] In this thesis, the population is a total of 942 English speech students at the University of Puerto Rico. The sample of this population is a group of 62 students (four sections) which became available for individual study.

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[18] J. Jeffery Auer, An Introduction to Research in Speech (New York: Harper & Brothers, Pub., 1959), p. 157.

The method of sampling the population may be either restricted or random. When sampling is subjected to certain controls according to the purpose of the investigation, it is restricted. For instance, selective sampling may choose subjects that have a single characteristic in common, such as ex-servicemen, or music majors. Random selection, theoretically, produces an unbiased sample which is more truly representative of the population, such as choosing every tenth person on a list, thus allowing for the operation of chance. Also, the sample selected should be large enough to be representative of the total population.

Summary

Chapter II has sought to define in turn the following terms of significance to the understanding of this thesis: aural comprehension, the phoneme and allophone, minimal pair, and sound discrimination. The two language sound systems involved in this thesis are described, the phonemes of each are listed, and some of the significant phonemic differences are pointed out. Also, the terms population and sample as used in this study are defined.

The Spanish-speaking Puerto Rican student encounters problems in discriminating the sounds of American English. The method of locating these weak areas by means of a testing program will be described in the next chapter.

Chapter III

LOCATING PROBLEM AREAS

Part of the remedial program in sound discrimination is the location of each problem area and the isolation of words and sounds within that area which are inaccurately perceived or not perceived at all. Progress in improving aural perception will depend upon knowledge of the specific sounds to be emphasized in the training program.

Testing Procedures

Two types of diagnostic tests are administered at the beginning of each semester to all students taking the English Speech course in the College of Humanities at the University of Puerto Rico. This course is especially designed for students training for elementary school teaching. One of the tests is devised to measure auditory perception, the other oral production. Each test is repeated at the end of the semester. Results of the first test, which will be known as the pre-test, and results of the last test, which will be known as the post-test, are compared, and the rate of progress determined for each student. The investigation for this thesis is concerned with the results of the auditory perception tested over a two-year period for the academic years 1960-61 and 1961-62.

Subjects. The subjects to whom the auditory test was given were students in the College of Education at the University of Puerto Rico. The total

number of students tested over the first four semesters was 942 or 59 sections of the English Speech course. Four sections during the second year were available for study. This sample constituted a fair representation of the population, i.e., four out of approximately thirty sections, or 62 out of 484 students. Eighty-seven per cent of these students were sophomores who would soon be receiving a special temporary teaching certificate which would allow them to teach in the elementary schools of the Island; 12.9% were juniors or seniors who were earning a degree; 66% were women; 34% were men. Thirty-eight per cent of the men were ex-servicemen, commonly called veterans. Of the total number of students 96.8% were from the public schools, and only 3.2% received their elementary and high school education in private schools.

A study of the four available sections, totalling 62 students showed that:

54 were second-year students
7 were third-year students
1 was a fourth-year student
41 were women
21 were men
8 of the men were veterans
60 were graduates of public high schools
2 were graduates of private high schools

Four of these students, or 6.5%, were suspected of having a hearing loss, but there was no available audiometer to measure the exact loss. They were not excluded from the study since other students with hearing losses were undoubtedly present in the number tested. Information as to the time that these students began the study of English was as follows:

1st grade	32
2nd grade	11
3rd grade	11
4th grade	7
5th grade	1

Inquiry into the English-speaking background of the families revealed that only one set of parents spoke English; in three cases one of the parents spoke English; in one case the family spoke some English in the home; and 57 reported that neither of the parents spoke English. Believing that experience in the States might have some influence on aural perception ability, the author inquired as to the length of time each student had been in the States. Answers to this question revealed the following:

No experience in the States	48
Several months in the States (2 to 6)	6
1 to 3 years in the States	4
4 to 9 years in the States	3
10 to 11 years in the States	1

A summary of the above information reveals that 87% of the students who were questioned were second-year students, and all except two were graduates of public high schools. Approximately half, or 51.6%, began to study English in the first grade, and 35.5% began such study in either the second or third grade. Seventy-seven per cent had had no experience in the States. Six had been there only a few months, while the balance of eight, or 12.9% who were army veterans, had lived in the United States one or more years. One young man had been born in the States and lived there eleven years, but was a graduate of a Puerto Rican high school. There were approximately twice as many women as men in the sample described on page 37.

Test Material. The test material used for this investigation was the diagnostic perception test regularly given to students at the University of Puerto Rico; a copy of this test is included in the appendix. This test was prepared and revised over a period of more than six years by

members of the speech staff of the University of Puerto Rico. The test items are representative of the sound system of English and correspond to words found in the manual[1] used in the speech course, which is based in part on graduated word lists established by the Island Department of Public Instruction. These word lists are based on the vocabulary used in the Fries series of elementary English textbooks. The present test was revised in 1961. This revision added some words and eliminated others. The effect of these changes is noted in the results, which indicate that a few minimal pairs were tested only three semesters instead of four.

Not all sections of the test are pertinent to this investigation. Part II, pertaining to stress, and Part VI, pertaining to intonation, have been eliminated, since the study concentrates on phoneme discrimination. Parts I and III test sound discrimination in minimal pairs. Part I tests vowel and consonant discrimination, while Part III tests consonant discrimination exclusively. Parts IV and VII test minimal pairs for sound discrimination within sentences. Part IV tests vowel discrimination while Part VII tests consonant discriminations. In taking the test, the student is told that only one word of each minimal pair will be read and he is to mark the word he thinks he hears read. Part V tests ability to hear sounds that are alike in groups of three words pronounced by the examiner. There are no printed words in this

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[1]Puerto Rico, University, Speech Committee of the Dept. of English, Manual of Oral English Exercises, English 105 (2 vols.; Rio Piedras, P. R., 1959-60). The manual was prepared by seven members of the Speech staff, including the author.

section. The examinee must rely strictly on what is heard. Instructions are given to him to put a check mark in the boxes corresponding to the words which are alike in sound.

The test material used in this study, then, contains 160 items, covering all the speech sounds of English in a variety of distributions: initial, medial, and final.

Testing Conditions. The departmental aim is to administer the aural perception test in surroundings to provide optimum listening conditions. Each item is read only once unless some unusual noise reduces standard acoustical conditions; then the teacher rereads the item. Since classes are limited to sixteen students and seats can be arranged quite far apart, each student is consequently forced to work independently. In order to secure maximum uniformity in administration of the test the following rules are issued to all teachers by the head of the speech program:

> Be sure that all students understand the instructions.
> Pronounce each word correctly and distinctly at the normal speaking rate.
> Give no particular or unnatural stress or length to any sound or part of a word.
> Read each item only the number of times indicated—if classroom conditions are normal.
> Use normal sentence stress.

Although many sections of speech students are tested, testing conditions are kept substantially the same for all students. This tends to increase the reliability of test results.

Handling of Results. Under direction of the departmental chairman, all teachers follow the same scoring system. Papers are scored according to the total number of errors. Each teacher tabulates the results for

his students, submitting a composite report of total errors made by the students on each test item. The teachers' reports were summarized, resulting in a grand total of errors for all items. A percentage rating was given to the total error count for each item on the basis of the total number of students taking the test. For example, if 200 students were tested and there were 150 errors on one item, then the resulting percentage would be 75%. In other words, the percentage is figured on the number of students taking the test and not on the number of test items. So at all times the percentage figure refers to the per cent of students missing a certain item.

The testing procedure described above and the scoring and tabulating of results led to the observation of high frequency count of certain items, indicating difficulty in mastering sound discrimination involved. An analysis of errors became desirable to improve teaching techniques and reduce students' failure in these areas.

Procedure in Gathering Basic Material for Proposed Listening Lessons from Test Results

In order to ascertain the items which are difficult to master and therefore require additional concentrated study, an analysis has been made of the discrimination errors in the diagnostic perception post-tests administered during the two-year period. The first step in this analysis was to observe the tabulated results of four different categories: vowel discrimination in minimal pairs in isolation and also in sentences; and consonant discrimination in minimal pairs in isolation and also in sentences. Results of tabulations in the four categories were combined

into one summary table for the two-year period--TABLE I. The separate tables for each of the four categories basic to TABLE I may be found in Appendix C. The numerical error count for each item and its percentage are given in TABLE I. An arbitrary cut-off point of 17% was established for this table.

The items in TABLE I are listed in descending error of frequency of error. This table exhibits the highest incidence of error in the 942 papers examined over the four-semester period. As explained on page 39, some items were tested for three semesters only. This is indicated by a star and footnote giving the base of 650 students. A few items were tested only two semesters with a base of 484 students, indicated by two stars in footnote.

In comparing the four parts of TABLE I, certain significant observations can be made on the results as a whole. In the first place, it must be realized that the errors represented here were present in the post-test after a full semester of training for the purpose of eradicating such errors. It is apparent that improvement in sound discrimination among the consonants is more easily effected than among the vowels. Whereas only five consonant pairs show a frequency of error rating of 17% or above, 14 vowel pairs, almost three times as many, are 17% or above. This is a wide difference. The greater difficulty in vowel discrimination is to be expected, however, since the Spanish-speaking person has a larger number of new vowel distinctions than consonant distinctions to learn in English. This comparative feature is noted in Chapter II.

TABLE I

INCIDENCE of VOWEL and CONSONANT ERRORS - AURAL PERCEPTION POST-TEST

Four Semesters, 1960-61 and 1961-62

VOWELS

Order	Phoneme	Minimal Pair Test Item	Base 942 #	%
1.	ɔr-ɝ	warm - worm	401	43
2.	ʌ-o	come - comb	256	27
3.	i-ɪ	beads - bids	230	24
4.	o-ɔ	*sew - saw	147	23
5.	ɪ-i	list - least	204	22
6.	æ-ɑ	battle - bottle	199	21
	i-ɛ	*we're - wear	136	21
7.	ɔ-ʌ	dawn - done	189	20
8.	ð-ɛr	her - hair	178	19
	ɪ-i	*fit - feet	126	19
	ɑ-ʌ	not - nut	175	19
9.	ɑ-ʌ	doll - dull	166	18
10.	u-o	tour - tore	155	17
	ɔ-ʌ	*bought - but	112	17
	Minimal Pairs in Sentences			
1.	ʌ-ɔ	*lunch - launch	248	38
2.	i-ɪ	*scene - sin	222	32
	u-u	stood - stewed	298	31
3.	u-u	*pull - pool	199	31
	ʌ-ɑ	colors - collars	291	31
4.	ɔ-ʌ	boss - bus	260	28
5.	ɪ-i	**bit - beat	128	26
6.	ɪ-i	live - leave	237	25
	ɔ-o	*cost - coast	160	25
7.	ɪ-i	slip - sleep	219	23
	i-ɪ	heat - hit	218	23
8.	ju-ʌ	*tube - tub	127	20
	i-ɪ	*peel - pill	134	20
	u-u	*foot - food	130	20
	ɪ-i	*this - these	132	20
9.	ɛr-ɝ	fares - furs	178	19
	eɪ-e	*pint - paint	123	19
	ɑ-æ	mop - map	171	18

*Base 650 for 3 semesters

**Base 484 for 2 "

CONSONANTS

Order	Phoneme	Minimal Pair Test Item	Base 942 #	%
1.	s-z	loose - lose	302	32
2.	v-b	*covered - cupboard	159	24.5
3.	ŋ-n	thing - thin	188	20
4.	ŋ-n	*long - lawn	126	19
5.	n-ŋ	ran - rang	162	17
	Minimal Pairs in Sentences			
1.	z-s	raise - race	239	35
2.	ks-kst	*mix - mixed	196	30
3.	m-n	warm - worn	272	29
4.	rd-rld	*word - world	182	28
5.	d-ð	ladder - lather	245	26
6.	t-d	hit - hid	226	24
	f-v	*leaf - leave	156	24
7.	n-ŋ	ton - tongue	221	23.5
8.	n-m	scene - seam	186	20
	vd-v	saved - save	185	20
9.	m-n	firm - fern	180	19
10.	m-n	combs - cones	172	18
	ʒ-z	price - prize	171	18
	tʃ-t	watch - watched	168	18
11.	ð-θ	either - ether	164	17.5
12.	ðz-ðd	bathes - bathed	162	17
	ʃ-t	finish - finished	160	17

Base 942 for 4 semesters

Refer to page 41 for method of calculating percentage

TABLE I

INCIDENCE of VOWEL and CONSONANT ERRORS - AURAL PERCEPTION POST-TEST

Four Semesters, 1960-61 and 1961-62

It must be realized that some of the sound discrimination problems are involved with spelling problems as in words like loose-lose and sew-saw. Yet these words must be learned because they are common and important to English comprehension.

In comparing the frequency distribution of minimal pairs in isolation with that of minimal pairs in sentences, the students' difficulty in recognizing consonant sounds in sentences is more than three times that of recognizing consonant sounds in isolation. The same difficulty exists in vowel recognition but not to such a great extent; there are 18 items on which students made errors in sentences, and 14 in isolation. These findings bear out the contention that training for sound discrimination in context should be emphasized in the training program. If we assume that additional training in discrimination is necessary, the next question to be answered is: What sounds need added emphasis?

Examination of the sounds involved shows that the /i-ɪ/ pair has a high incidence in both isolated pairs and within sentences. In fact, it occurs seven times in the sentence list. This distinction is one of the most troublesome for the Spanish-speaking person to hear and therefore more experience is desirable with this pair in a variety of sound environments. The neutral vowel /ʌ/ is confused with /o/, /ɔ/, and /ɑ/ within five pairs in isolation; and in the sentences it is confused again with /ɔ/ and /ɑ/, as well as /ju/. This vowel, /ʌ/, which does not occur in Spanish, presents a difficult problem in aural perception because of the high incidence of confusion with several other sounds. Such confusion calls for extra training in listening to differentiate /ʌ/ in context from /o/, /ɔ/, and /ɑ/.

The high back vowels /u/ and /ʊ/ are difficult to recognize in context. Since /ʊ/ does not occur in Spanish as a phoneme and the incidence of /u/ in Spanish is low, it is reasonable to expect a discrimination problem here. Noticeable in the sentences, also, /ɔ/ presents difficulty as a discriminated vowel in five minimal pairs in isolation; it is confused with /o/, /ʌ/, /ɑ/, and /ʊ/, and before /r/ it is confused with /ɝ/. As noted previously, in sentences /ɔ/ is confused with /ʌ/. This vowel /ɔ/ likewise needs emphasis in the aural training program. There are other scattered errors of a miscellaneous nature and among these is the problem of vowel recognition before /r/. The highest incidence of error, 43%, occurs in the pair warm-worm, /ɔr-ɝ/. Because /ɝ/ does not occur in Spanish, it is hard for the Puerto Ricans to hear this English phoneme; but the chief perplexity in this pair of words is attempting to relate the sound /ɝ/ to the spelling ar or or of warm and worm. The or choice would be the least likely from the standpoint of a Spanish-speaking person. Also difficult is the pair /ɝ-ɛr/ as in her-hair, and furs-fares. Practice in hearing these distinctions in a variety of contexts is desirable to strengthen experience.

The consonant problems in discrimination are of two main types: lack of recognition of nasal distinctions, and inability to recognize various other distinctions in final position. Three of the five problem items in isolated minimal pair discrimination concern the /n-ŋ/ phonemes in final position. There are seventeen problem items within the sentences, five of which concern nasals; one of the five is /n-ŋ/ in final position, and the other four show failure to discriminate /m-n/, three

of which are finals. A problem with the nasals was anticipated in Chapter II when comparing the two languages, Puerto Rican Spanish and American English. The sentences contain thirteen errors in discriminating sounds in final position. Four of these errors indicate a lack of ability to hear past tense endings, and two concern the voiced-voiceless pair /s-z/. Also, several other voiced-voiceless pairs are not discriminated: /t-d/, /f-v/, /θ-ð/, and /d-ð/. The problem of hearing /l/ in world is difficult because of the strange sound sequence. Part of the Spanish listener's problem in hearing past tense endings is the resulting consonant cluster which is unfamiliar to Spanish ears. Examples are: watched, finished, mixed, and saved.

Of the sounds most prevalent in frequency of error in TABLE I, the first five in the two vowel groups include the /i-ɪ/ and /u-ʊ/ pairs, and the phoneme /ʌ/ in combination with /ɔ/, /o/, or /ɑ/. The advisability of improved aural perception of words involving these sounds is indicated. Among the consonants, the /s-z/ pair ranks first on the list of errors. Other problem pairs are /v-b/, /d-ð/, /n-ŋ/ and /m-n/. Hearing the /l/ in world and the past tense ending of mixed are also problematical. The aural perception training program should plan to emphasize the vowel sounds specified above, improving the student's opportunity for ample practice and experience in hearing these sounds in a variety of phonological environments.

Additional information is gained about the aural perception ability of the education students enrolled in the English Speech course at the University of Puerto Rico by examining TABLE II. This table presents a tabulation of the errors found in Part V of the aural perception

test for a three-semester period of time, January 1961 to May 1962. The student listens to groups of three words for each item with no printed stimulus to furnish sound discrimination clues. Tabulations for this section of the test were available for only three semesters and the base on which percentages are figured is 584.

The summary tabulation for the three semesters indicates the highest deficiency in discriminating /v-b/; this pair of phonemes is in two sets of words: marvel-marble ranks first in error incidence, and vest-best ranks third. In second place are the phonemes /ʃ-ʒ/, and in fourth place the three nasals /n-m-ŋ/ at 23% frequency level. The next two items descend to the 13% level, showing lack of discriminating /ʌ/ with /ɔ/ and /ɑ/. The two lowest items on the descending frequency of error list indicate the lack of discrimination in final sounds.

The marvel-marble group appears at the top of the three lists when the semester results are examined separately. While the Confucian-confusion group is in second place on two lists, it is in seventh place on the third list. This may indicate a better command of the /ʃ-ʒ/ pair which some of the teachers may have been emphasizing in the training program at that time. Though there is a shift in the order of error from one semester to another, substantially the same discrimination problems exist among the more frequent errors. This tabulation indicates higher error frequencies among the consonants in comparison with the vowels. Removal of the printed words could have produced more concentrated, accurate listening and therefore improved discrimination among vowel sounds.

TABLE II

INCIDENCE OF ERROR - PART V - AURAL PERCEPTION POST-TEST

Three Semesters, 1960-61 and 1961-62

	May 1961	Base 100		Dec. 1961	Base 284		May 1962	Base 200	
	I			II			III		
Order	Item	#	%	Item	#	%	Item	#	%
1.	marvel-marble-marble	66	66	marvel-marble-marble	149	52	marvel-marble-marble	83	41.5
2.	Confucian-confusion-confusion	59	59	Confucian-confusion-confusion	71	30	vest-vest-best	61	30.5
3.	use(n)-use(v)-use(v)	41	41	sun-sum-sung	58	20	sun-sum-sung	46	23
4.	vest-vest-best	37	37	vest-vest-best	57	20	shut-shut-shot	39	19.5
5.	sun-sum-sung	35	35	rum-run-rum	50	17	use(n)-use(v)-use(v)	35	17.5
6.	pay-paid-paid	35	35	pay-paid-paid	46	16	cuff-cough-cuff	34	17
7.	prove-proof-proof	25	25	cuff-cough-cuff	45	16	Confucial-confusion-confusion	33	16.5
8.	peck-pack-pack	19	19	shut-shut-shot	39	14	lived-lived-lived	26	13
9.	grin-green-grin	17	17	rip-rib-rip	28	10	lend-lend-land	25	12.5
10.	been-been-being	17	17	failed-fade-failed	24	8½	bowl-bowl-ball	24	12

Refer to page 41 for method of calculating percentage.

SUMMARY	Base 584	
1. marvel-marble-marble	298	51%
2. Confucian-confusion-confusion	163	28%
3. vest-vest-best	155	27
4. sun-sum-sung	139	24
5. cuff-cough-cuff	79	13.5
6. shut-shut-shot	78	13.3
7. use(n)-use(v)-use(v)	76	13
8. pay-paid-paid	46	8

TABLE II

INCIDENCE OF ERROR - PART V - AURAL PERCEPTION POST-TEST

Three Semesters, 1960-61 and 1961-62

	May 1961		Base 100	Dec. 1961		Base 300	May 1962		Base 200
	I			II			III		
Order	Item	%	%	Item	%	%	Item	%	%
1.	marvel-marble-marble	66	88	marvel-marble-marble	149	52	marvel-marble-marble	87	41.5
2.	Confucian-confucian-confucian	59	79	Confucian-confucian-confucian	71	30	vash-vash-bash	61	29.5
3.	man(n)-vas(v)-vas(v)	41	41	sun-sun-sun	59	29	sun-sun-sun	46	22
4.	vash-vash-bash	37	37	vash-vash-bash	59	20	shut-shut-shut	37	18
5.	sun-sun-sun	35	37	[illegible]	50	17	[illegible]	35	17
6.	[illegible]	25	35	[illegible]	46	16	[illegible]	31	15
7.	[illegible]	24	24	[illegible]	35	14	[illegible]	29	14
8.	[illegible]	19	19	[illegible]	29	14	[illegible]	24	12
9.	[illegible]	18	18	[illegible]	24	12	[illegible]	18	9

Failure to discriminate consonant sounds in final position is apparent in the results of this section of the test. This finding is significant because it is in agreement with results of section I, III, IV, and VII, shown in Table I. These results are summarized on page 43. It is obvious that training in aural perception should be directed toward improved sound discrimination in final position since there is such a high degree of inaccuracy in recognizing final sounds. Present materials and methods are not improving listening ability for the students. Experimentation with materials, modes of practice, teaching techniques, and various means of enlarging the students' experience with final sounds could lead to a better training program which would enable them to understand more thoroughly what is being heard; and this would improve their comprehension. Concentrated effort to improve the aural training program in one direction should not preclude equal effort in other important areas. A study of the test results discussed indicate the main problems in discrimination to be:

Vowels

Front vowels: /i-ɪ/

Back and central vowels: /u-ʊ/, /ʌ-ɑ-ɔ-o/, /ɛr-ɝ/

Problem words: warm-worm, sew-saw, come-comb, this-these, pint-paint

Consonants

Stops and fricatives: /v-b/, /s-z/, /ʃ-ʒ/, /θ,-ð-d/, /f-v/

Nasals: /m-n-ŋ/, especially in final position

Past tense endings, and voiced-voiceless pairs in final position.

Problem words: world, loose-lose, use(n)-use(v)

It may be concluded, then, that certain sounds, words, and certain types of sound sequence patterns should be given increased attention in the form of patterned lessons and additional experiences that would promote accuracy of perception of contrasting vowel and consonant differences. Better perception in turn should improve comprehension. Peter Hagboldt says that "foreign sound becomes meaningful through frequent adequate use. ...By frequently identifying sound with meaning and meaning with sound, the mother-tongue is excluded and comprehension by ear becomes spontaneous and direct."[2]

Because a weakness was shown in testing sound discrimination within sentences, it is indicated that experience in connected material is needed. To hear the sounds of the language as they appear in normal speech patterns necessitates listening to contextual material. For these purposes paragraphs will be developed which will give the Puerto Rican college students experience with sound discrimination in context.

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[2]Peter Hagboldt, Language Learning (Chicago: University of Chicago Press, 1935), p. 112.

Chapter IV

AUDITORY TRAINING MATERIALS: THEIR CHOICE AND PREPARATION

Since increased training in listening is a good method for the improvement of sound discrimination and aural comprehension, the choice of material and mode of presenting it to the students is vital. This chapter is concerned with the choice and preparation of auditory training materials which will meet the needs of the Puerto Rican university students. These needs were located through examination of test results as described in Chapter III.

The Puerto Rican Situation

Auditory training is especially important in a remedial speech program such as that conducted at the University of Puerto Rico for education students. These students have a limited knowledge of English, and they enter the training program with a repertoire of distorted English sounds. Most of them have had very little experience in listening to accurate English speech and consequently have had no basis upon which to draw a comparison between the accurate and the inaccurate sounds of the language. But the ability to judge the difference between accurate and inaccurate speech sounds is not easy to acquire. Intensive work in hearing and producing the sounds of a language increases this ability.

After three weeks of training, the students in the Speech program at the University of Puerto Rico begin to hear speech errors made by

their classmates. By mid-semester, most of the students recognize errors made by themselves. These two types of recognition mark the beginning of functional aural perception, and from this point on strides can be made in the remedial speech program, since it begins as a remedial hearing program. Examination of aural perception test results (described in Chapter III) suggests that some areas in the training program for these young people have not been adequately taught. When there is an aural perception deficiency, it is apparent that the retraining program must be strengthened to cope with the situation. To realize improvements in aural perception calls for additional listening training that will produce the results desired.

The literature provides few listening lessons which the teacher of English as a second language can draw upon for classroom use as the occasion demands. Because available sources for such lessons are lacking, the teachers who feel the need must prepare their own appropriate materials for the teaching of sound discrimination. The literature indicates that a number of experienced instructors in this field of teaching recommend that the classroom teacher construct materials suitable for his own class and situation. The successful experience of these teachers is encouraging to others who wish to pursue the same course. The Puerto Rican situation is somewhat analagous to that found in the Hawaiian Islands. Eleanor M. Buell reports that in the Hawaiian Islands a type of "pidgin" English is spoken that is "very easy to learn." This situation necessitates the teaching of English in the public schools as a remedial course. She says, "...speech improvement is paramount with us, and in order to obtain it we have included more remedial speech

activities than the ordinary English program necessitates."[1] The Hawaiian program includes a variety of English and speech activities, such as conversation, discussion, reports, and stories, all of which enlarge the student's experiences in hearing and using English.

Listening lessons to expand student experiences in hearing accurately spoken English are lacking in the speech course for Education students at the University of Puerto Rico. Therefore, part of the purpose of this thesis is to explore the possibilities of devising a number of lessons appropriate for auditory discrimination and comprehension training in the Puerto Rican situation. Types of contextual auditory material will now be considered.

Types of Auditory Material for Listening Lessons

Types of connected material available for listening lessons will be judged from the standpoint of Puerto Rican conditions and needs. Such consideration will include the type and age of the student, general level of the student's ability in English, length and suitability of material, and the flexibility and potential effectiveness of the material.

Sentence reading. Sentence material for auditory discrimination purposes is already in use. A certain amount of sentence reading is necessary in introducing and teaching the phonemes in English. Sentence hearing is necessary, but it loses effectiveness when the students have advanced

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[1] Eleanor M. Buell, "Speech Improvement for Bilingual Children in Hawaii," The National Elementary Principal, XXV (June 1946), pp. 36-39.

to where they are ready for connected material involving ideas that require several sentences. Crawford discourages the use of disconnected sentences for listening material, as noted in Chapter I.[2]

Paragraph reading. Paragraphs are used in the Manual for the University of Puerto Rico speech course but they are rarely read for listening training. Paragraph reading would fit well into the classroom program if the paragraphs were not lengthy and contained sound discrimination material which would relate to the lesson being studied. Paragraph reading would be ideal if the vocabulary material, sentence structure, and subject matter were not beyond average difficulty, and if the paragraphs were graduated from easy to difficult in sound discrimination.

Short stories. A few short stories and dialogues are in the University of Puerto Rico Speech Manual for reading purposes. These materials are related to the lessons in speech sound development. Short stories would provide listening material if the length, the interest value, and the phonemic structure were suitable. Stories contain idiomatic expression, however, and care in the selection would be required.

Informative articles. The informative type of listening material must be carefully chosen for vocabulary, suitability, subject matter, and length of selection. The script could furnish data of special interest related to the home, the garden, the car, the food we eat, the weather, and other everyday subjects about which people like to talk. Lessons

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[2]Claude C. Crawford and Edna Mable Leitzell, Learning a New Language (Los Angeles: C. C. Crawford, Univ. of So. Calif., 1930), pp. 14-15.

of this type would be an aid in the acquisition of a vocabulary having a practical value. If too long, this type of selection might be condensed to digest form. In the rewording process, choice of words should be made according to sound discrimination needs.

In choosing the right type of listening lesson, several general questions should be considered. Will the material of the lesson fit the time limit available? Does the content material provide needed sound discrimination patterns? Will the content material evoke questions and discussion which will provide the desirable auditory experience? Can auditory comprehension of the passage be checked satisfactorily? Application of these questions may help to select useful material for listening lessons.

Thus the four types of listening material discussed (the reading of sentences, paragraphs, short stories, articles) afford useful approaches to the improvement of listening lessons. Each could be adapted to the problem and needs of groups being taught.

Best Choice for Puerto Rican Situation

The value of the listening lesson will depend on its appropriateness for the situation. Within the Puerto Rican university environment, the choice of listening lessons based on the use of paragraph material would be preferable. Paragraph material itself is flexible as to subject matter and could encompass some of the features noted in other types of listening material. Paragraphs can be varied easily in length and subject matter to fit the interests of students or a special area. The

preparation of paragraphs can be adjusted to the linguistic needs for certain sounds and words which are representative of sound discrimination problems found in the population.[3]

Short listening lessons constructed as paragraphs would be adaptable within the present program in the University of Puerto Rico Speech Department. Teachers in the Department have expressed the need for the addition of listening lessons to the instructional program. Such listening lessons permit variation at the discretion of the teachers, a further incentive in selecting the paragraph type. Connected material would be of greater interest to the students than isolated sentences. Puerto Ricans enjoy discussions and are quite vocal about their beliefs and opinions. The listening experience would give them more confidence and enable them to participate in a brief discussion following the presentation, allowing the teacher to find out how much they comprehended. Furthermore, these students have not had the opportunity of listening to accurate General American English in a speech situation and are therefore in need of such experience.

The limited number of students within each class provided a suitable environment for listening lesons read by the teacher. Equipment is available for the teacher who wishes to record the listening lesson for classroom use, and the language laboratory is available for listening lessons, also. A listening lesson in the laboratory would provide

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[3]Population here refers to the 942 Puerto Rican students tested in the two-year period.

a stimulating change for the students, and alert them for more discriminative listening. Flexibility in the length of paragraph studies would enhance their usefulness in the instructional program.

Of the possible types of connected auditory material discussed, the paragraph has been selected as the best single type for University of Puerto Rico students.

Development of Paragraph Studies

Studies Based on Phonemic Problems

Training material that is devised for use in a remedial speech program must be centered around linguistic elements that need correction. Effectiveness of the material will be determined by how well it succeeds in reaching the core of the problem and reducing or eradicating the difficulty. The conclusion was reached (Chapter III) that in discriminating the sounds of American English Speech, students in the University of Puerto Rico Speech course had deficiencies. This conclusion was determined by examination of the results of 942 aural perception tests administered during a period of two years. The same test results showed that this deficiency reduced comprehension in connected speech. Various forms of connected speech material applicable for listening lessons were considered in this chapter. It was concluded that paragraph material is adaptable for listening lessons in the Puerto Rican situation.

To be effective in the remedial speech program, the content of the paragraphs to be designed for listening lessons should be based on the sound discrimination problems revealed by appropriate tests. The study described in Chapter III provided the basis for development of a group of paragraphs. Chapter III concludes with a list of the main problems

in discrimination which will serve as the basic elements of the paragraph studies. These problems are divided into two general areas—vowels and consonants. Although more consonant than vowel problems were revealed, the vowel discrimination problems are more difficult to eliminate. This is evidenced by the fact that although intensive study of the vowels begins early in the semester and although there is continuous review until the end of the semester, some of the same inaccuracies still exist in the post-test that were present in the pre-test. Listening lessons based on vowel material could be presented first in the series to parallel the arrangement of the earlier course material. Paragraph listening lessons are needed for the following vowel groups and words:

/i-ɪ/, /u-ʊ/, /ʌ-ɑ-ɔ-o/, /ɛr-ɝ/

warm-worm, sew-saw, come-comb, this-these, pint-paint

Intensive consonant study comes in the second half of the semester, and listening lessons should be prepared to give the students auditory experience in the following consonant groups and words:

/v-b/, /s-z/, /ʃ-ʒ/, /θ-ð-d/, /f-v/, /m-n-ŋ/

world, loose-lose, use(n)-use(v)

The nasal sounds should be given emphasis in final position as well as the voiced-voiceless pairs. Past tense endings need emphasis, also.

Word selection for the paragraph studies is important not only to provide sound discrimination listening, but also to insure frequent hearing of common English words that are linguistically difficult, such as Spanish-English cognates. Such words need additional listening practice because there is usually a difference in syllable stress, as well as in

vowel sounds; for example, animal is /a ni 'mal/ in Spanish, but /'æn ə ml̩/ in English. Whenever a word of this type can be used in composing the paragraph material, it would be preferable to another synonymous word. Idiomatic usages common to English are desirable for listening practice. The flow of English words and sequences should be as natural as possible. The student needs extended experience in hearing natural connected speech in English. Eventually, then, he will realize that the inaccurate speech sounds strange and abnormal, according to Ryan whose recommendations are quoted in Chapter I.[4]

Sequence of Presentation

An arrangement of paragraph material in the order of graduated length and difficulty will be advantageous since the average student's ability in English speech is initially at a low level. For this reason also the reading pace should be adjusted to the level of the students. An easy vocabulary and simple sentence structure are indicated. Any unusual words included in the paragraph could be written on the board for advance explanation. As the semester proceeds, the paragraphs can be lengthened and the vocabulary strengthened. Review words and phrases can be part of every lesson in listening. By degrees more idiomatic material and more difficult sentence structure can be introduced. This pedagogical technique of moving from the simple to the complex is discussed by Billows in relation to "systematic and thorough training of the ear" in language teaching.[5] He advocates that the teacher read

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[4] Louise T. Ryan, "Common Errors in English Language Usage Made by Spanish-speaking Pupils" (unpublished Ph. D. dissertation, New York University, 1949), p. 85.

[5] F. L. Billows, The Techniques of Language Teaching (London: Longmans, Green and Co., Ltd., 1961), p. 41.

passages aloud to his students to give them "as much experience as he can in listening to the spoken word, or to the 'read' word with books shut."[6] He moves from simple paragraph material to that which is narrative in nature.

Because many of the Puerto Rican students have had a limited background, lacking many of the cultural experiences of the students in the United States, at least some of the paragraphs should add to their knowledge of the world. Geographical facts have been included for this reason. Education students at the University of Puerto Rico are not to be compared with the foreign students who come to the United States for training at the university level. Often, the foreign student coming to the United States was especially selected from among other students in his country for his ability. He usually has a good background of knowledge relative to subjects beyond those in his chosen field. Thus the Puerto Rican students in the speech course need exposure to many facts, some very elementary. Paragraphs of graduated difficulty will promote the improvement of comprehension on a progressive basis also.

In conclusion experience in listening to connected English speech in normal sequence patterns will provide training in sound discrimination. This type of training has been lacking in the speech program for the University of Puerto Rico education students. If added, such experiences as outlined would give the students an opportunity to improve their aural perception and general comprehension of spoken English.

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[6] Billows, op. cit., p. 39.

Four possible types of connected auditory material were discussed (sentence reading, paragraph reading, short stories, informative articles), and the paragraph was selected as the best single type for University of Puerto Rico students.

This chapter has pointed out the practicability of arranging paragraph listening lessons of graduated difficulty which permit coordination with the regular classroom lessons. Each listening lesson is based on certain vowel and consonant deficiencies indicated in the results of tabulation of errors of aural perception post-tests for 942 speech students at the University of Puerto Rico.

A series of paragraphs to be used as listening lessons in the University of Puerto Rico speech classes for the education students is presented in Appendix A of this thesis. The sound or sounds emphasized in the lesson are indicated just below the title. There is more than one lesson for those sounds having the highest incidence of error, assuming that more than one listening lesson will be needed to improve auditory perception in the more problematical areas.

The coming academic year, 1963-64, will serve as an experimental period when the author can test the effectiveness of the listening lessons and revise them as experience indicates.

Chapter V

SUMMARY AND CONCLUSIONS

Accurate aural comprehension of English is difficult for Puerto Rican college students. Therefore, improvement in discriminative listening and resulting improvement in comprehension are vital to the student's progress in learning English as a second language in Puerto Rico, where bilingualism is highly important.

There is a lack of suitable contextual material for training Puerto Rican students in sound discrimination of English as a second language. The purpose of this study was to investigate the assumption that additional materials for listening discrimination are needed for teaching English to Puerto Rican college students, and that paragraph listening lessons could provide the auditory experience in sounds difficult for Puerto Ricans to discriminate.

A survey of the literature revealed the following:

1. Effective listening which is basic to aural comprehension can be achieved by purposeful training of the listening skill.

2. Linguistic problems create difficulties for the person who is listening in a second language.

3. Various listening comprehension tests have been developed, but none are suitable for the Puerto Rican situation.

4. Diagnostic testing of aural perception helps to locate the student's problems in advance of the training period, thereby establishing points to emphasize in training the student who is learning a second language.

5. Experimental studies in remedial speech in a second language are limited.

6. Listening to the sounds of the new language in context provides normal listening experience in a training program.

7. Experimental procedures are needed to supply adequate teaching materials in special situations.

8. Those in charge of teaching English Speech to education students at the University of Puerto Rico report a pressing need for contextual material in the listening-learning program.

With these findings as a basis, the writer attempted to locate the problem areas in sound discrimination encountered by the Puerto Rican university student. The following steps were taken:

1. Specific attention was directed toward the phonemes of Puerto Rican Spanish and the phonemes of General American English in order to observe the features of the languagesin contact and linguistic difficulties involved.

2. Tabulations were prepared, showing the results of the University of Puerto Rico auditory perception test as administered to 942 students over a two-year period.

3. The auditory test results were analyzed to determine sound discrimination problems needing increased attention in the training program.

Methods of providing additional auditory experience in sound discrimination training were investigated for the purpose of selecting the most appropriate choice for the Puerto Rican student. Listening lesson techniques considered were: reading of sentences, paragraphs, short stories, and brief informative articles. Paragraph listening lessons were chosen as the most suitable type to fit the Puerto Rican needs.

A series of paragraphs, presented in Appendix A of the thesis. was developed on the basis of the sound discrimination problems revealed, When the results of tabulation of errors of aural perception tests for 942 English speech students at the University of Puerto Rico were analyzed on the basis of percentage of error, certain vowel and consonant errors appeared. Each listening lesson is based on vowel and/or consonant

discrimination deficiencies needing additional auditory experience in the training program for education students in the University of Puerto Rico speech classes. These paragraphs will serve as listening lessons during an experimental period when the author will test their effectiveness and revise them as experience indicates.

The following major conclusions were reached in this study:

1. Tabulation of errors in aural perception tests for 942 speech students at the University of Puerto Rico indicated problem areas in sound discrimination of certain vowels, consonants, and sound sequences.

2. Test results seemed to indicate greater difficulty in discriminating sounds in context rather than in isolation.

3. There is demonstrated lack, in the literature, of contextual material for sound discrimination listening training in English as a second language.

4. To provide the materials needed to extend listening training in contextual sound discrimination for Puerto Rican college students, the development of special listening lessons was indicated.

Therefore, appropriate paragraph studies based on Puerto Rican sound discrimination weaknesses were developed to give the Puerto Rican university student opportunities for additional listening experience. Future study will be required to determine the adequacy of these materials in the actual teaching situation.

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APPENDIX A: LISTENING LESSONS

LISTENING LESSONS

The following paragraphs are examples of the types of materials which a teacher can prepare for use to meet a specific local situation and need, such as the Puerto Rican university situation, where the need is for materials to teach sound discrimination in context. The listening lessons which follow are in the order of sounds corresponding to classroom lessons. Not all problem sounds are represented in this group of lessons, but they comprise the first part of a continuing project.

Sheep in Australia

[i-1]

One of the most useful animals in the world is the sheep. Different breeds of sheep are raised all over the world for two important products: wool and meat. Woolen material is used for clothes and blankets, and because it is considered very warm it is used a great deal in colder countries. Some sheep are raised for their fine quality wool while others are raised especially for meat.

Australia is the leading country in the world in the production of sheep. But the population of Australia is so small that the people do not have use for all the sheep products; therefore they ship them to many parts of the world. Most of the shipments go to England and Scotland, where the situation is the reverse of that in Australia. They have a small amount of land with a large population and not much room for grazing sheep. Australia is an entire continent with vast stretches of land for grazing sheep, so it is not surprising that they can ship a large quantity of wool and various sheep products to other countries.

1. Why is such a large quantity of sheep products shipped from Australia to England and Scotland?
2. What routes or directions might the ship travel in going from Australia to England?
3. Is a shipment always sent on a ship?
4. Name two or more synonyms for the words <u>shipment</u> and <u>ship</u>.
5. Are there any synonyms for sheep?
6. Is the sheepskin an important product also?

Ships Around the World

[I]

The word ship has many applications. Its first important meaning was that of a large boat--a sea-going vessel--that travelled on the great seas and waterways of the world, transporting people and material things from one place to another. These ships became divided into two types: passenger ships and freighters, which are cargo boats.

As travel by air developed, airplanes were often called airships, and now we have space ships that are exploring in outer space.

So we have ships on the water, in the air and in outer space. Are there any ships on the land? Yes, that wonderful animal, the camel, is often called "the ship of the desert." What is the reason for this? The vast deserts of the world look like great inland seas from a distance, and as the camel walks steadily on across the desert, he looks like a ship moving across a sea. He is the ship of the desert transporting people and things across a dry sea.

The islands of the world, like Puerto Rico, are dependent on seaships and airships to connect them with the continental mainlands. Both seaships and airships at the end of their trips come into port, though the airport is on land sometimes far from water.

1. What different kinds of ships come to Puerto Rico?
2. Has the extensive use of the airship reduced the size of the world?
3. Compare a trip from Puerto Rico to New York in 1920 with one you would take today.
4. Compare the journey of two letters mailed in Puerto Rico, both addressed to Chicago; one has an air mail stamp, the other a regular surface mail stamp.

The World's Most Useful Metal

[i-1]

What do you think is the strongest, most useful and leading metal in the world today--the one most important to modern civilization? Yes, the answer is Steel. The history of steel is fascinating to read. Its development probably began in the year 500 when the Chinese discovered the use of cast iron.

There are various kinds of steel, depending on the ingredients used in its manufacture. Each different kind of steel has a special use; for example, the type used in constructing tall buildings, bridges, and ships differs a great deal from that used in making surgical instruments or precision machinery.

The basic ingredient for the manufacture of steel is iron ore; consequently, the big steel mills are generally situated as near the iron ore deposits as feasible. Also, nearby coal deposits are necessary to heat the big steel furnaces, because great heat must be used in the manufacture of steel. Other forms of heat, such as gas and electricity, are used also today, but coal is still most important in steel production.

Although Russia has made a big increase in the production of its steel mills in recent years, the United States is still the leading steel producer of the world. Do you believe that steel will still be the world's most useful metal in the year 2,000?

1. Listen while the passage is read again. How many times do you hear the word still?
2. What people probably discovered the first step in the production of steel?
3. Name several important uses of steel.
4. Why aren't steel mills located in Puerto Rico?

Languages of the World

[1-1]

People seem to think that the language they speak is the most important in the world. This is true for each person as he communicates with other individuals by means of his speech. But he must respect the fact that there are many other languages in the world—actually there are 2,796, according to Mario Pei, author of All About Languages. This is hard to believe, but there are over one thousand American Indian languages alone in North, Central, and South America. In Africa, where there are hundreds of native languages, a similar situation exists, and in Australia there are over a hundred different tongues among the natives. Most of these native languages have only a few hundred speakers apiece.

At the other extreme are the languages which have over fifty million people speaking them. Of these, the leading one is Chinese which has over 500 million speakers, but communication is difficult within China since there are so many dialectal differences. Next is English, with almost 300 million scattered all over the world. The third biggest language is Hindustani, spoken in India and Pakistan, with over 200 million people. Russian has 167 million and Spanish 155 million speakers. These are recent figures taken from The World Almanac for 1963. Of interest to us, English and Spanish are spoken in a number of countries scattered over the world.

1. What is the leading language of the world?
2. How many people speak it? What are its limitations?
3. Where are hundreds of languages spoken that have only a few hundred speakers each?
4. Why are you fortunate in knowing both English and Spanish?

Strange Occupations

* [ɑ-ʌ]

There are many strange occupations in this world, and one of the strangest is that of Mrs. Dunn, who operates a hospital for dolls. She started her business as a hobby in her home while her husband was in the army. After his return he enlarged their home by adding a new room for the hospital. Mrs. Dunn says so many little girls bring their broken dolls to be repaired that she never has a dull day at her doll hospital. She considers her job to be fun instead of work. Many people have hobbies that become full-time jobs. They are usually the happiest people because they are doing what they want to do. These people always like their work and never find it dull and uninteresting.

1. Listen carefully as the passage is read again. How many times do you hear the word dull?
2. Name two synonyms for the word dull.
3. Do you know anyone who has a very unusual, uncommon type of job or occupation? If so, what is it?

* Though there are variant pronunciations for the vowel of doll, / o / and / ɔ/, / ɑ/ is preferable for this lesson.

The Curse of Cancer

[o-o-A]

A great curse to mankind is the disease called cancer. The exact cause of this serious disease is not known. It attacks both young and old but most cases are found among the older people. It can strike any part of the body. Some people are ill a long time; others are sick only a short time. In some cases an operation will cure the disease, but in others an operation may be impossible. Today there is an increase in lung cancer, especially among those who smoke. Lung cancer is difficult to cure, and causes a long illness. What course must people take to avoid cancer? Doctors advise regular physical examinations. This is most important. Also, everyone ought to contribute to the cancer fund which supports study of the cause and cure of cancer.

1. What is the cause of cancer?
2. How long does the disease usually last?
3. Name one form of cancer that apparently is increasing.
4. Tell what a person should do to avoid cancer.

Automatic Things

Initial [ɔ]

and Vowel Review

Many English words are derived from other languages, such as Latin and Greek. One such word, automatic, is derived from the Greek word automatos which means self-moving, or self-thinking; autos means self, matos means thinking. Automatic things operate or move by themselves, but someone usually has to press a button or put a coin in a slot before the machinery will work. For example, the automat is a type of self-serving restaurant where the food is in small compartments with doors which are opened by putting coins into slots. And there are different types of automatic vending machines which sell everything from stamps to hot coffee.

Some English words begin with the prefix "auto"; for instance, an autobiography is a self-written biography. An autograph is a handwritten signature. An autocrat is a person who dominates others. Automobile, the original name for the modern car, really means self-moving, When you understand the derivation of a word, the entire meaning ought to be clearer.

1. From what language is the word auto derived?
2. Name and define two words beginning with the prefix "auto."
3. What is the value of studying the derivation of words?

Mr. Hull and His Dog

[ɔ-ʌ] [k-g] [ɑ-ɔ]

Mr. Hull has a small dog named Doc. His erect ears and sharp whiskers make him look very alert and intelligent. Perhaps this is the reason why Mr. Hull calls his dog Doc, which is a short form for doctor, of course. Mr. Hull and his wife live in a four-family apartment on the second floor. Doc often sits in the hall to protect the Hull's apartment. Whenever anything unusual happens in the hall, he notifies the Hulls by barking sharply.

Doc has a friend who lives in the apartment next door. Her name is Sylvia. Sometimes Doc and Sylvia play together all day long and have alot of fun. Do you think Sylvia is a little girl or a little dog? She is neither one. Sylvia is a cat--a lovely white cat who has one green eye and one blue eye. When Sylvia was a kitten and Doc was a puppy, they became friends and began playing together. Their friendship proves that some dogs and cats can get along together very well, but some people think that all dogs and cats are natural enemies.

1. Is Doc a good name for a dog?
2. What did Doc consider his work to be?
3. When did Doc and Sylvia begin playing together?
4. Is it a sign of intelligence when dogs and cats show friendship for each other?

Be Ready By Dawn

[A-O-U]

(loose-lose)

Everybody was told to prepare for the hurricane. Instructions were given over the radio by the weatherman, who said the hurricane would come at dawn. He announced that he would broadcase the location of the storm every thirty minutes. The first broadcast indicated that the hurricane was moving in a northwesterly direction at the rate of a hundred miles per hour. Unless the course of the wind changed to another direction, the radio reported that the storm would hit the south shore of the island and move inland toward Humacao.

All members of the family worked hard to make everything secure about the house and yard. The windows were shut and covered with boards, and everything that was loose around the house or yard was securely tied down. It is possible to lose many things in the wind if they are not securely fastened. A loose object might be thrown by the wind and cause serious damage. The farm animals and family pets were all put in safe places and food and water were stored in a central place in the house. When dawn came, everything was done--all preparations were finished. But the atmosphere was still calm. A change in direction had caused the hurricane to lose its force. So the family opened the windows and doors and let the pets and other animals loose. All was normal once more.

1. When was the hurricane expected?

2. How often did the weather man say he would report on the progress of the hurricane?

3. What was the rate of the hurricane winds?

4. What had to be done by dawn?

5. Complete the following sentences with <u>lose</u> or <u>loose</u>:

   a. A _____ object can cause damage in the wind.
   b. It is possible to _____ things in the wind when they are not securely fastened.
   c. A change in wind direction caused the hurricane to _____ its force.
   d. Finally, they let the pets and animals _____.

Two Kinds of Sugar

[ʃ] [ʊ]

The two most important kinds of sugar produced in the world are cane sugar and beet sugar. The words cane and beet indicate the type of plant from which the sugar is derived.

The sugar cane plant is a tall tropical grass from which sugar is extracted by crushing the stem of the plant. Several warm islands like Puerto Rico, Cuba, and Hawaii raise a great deal of sugar cane. The leading producer of sugar was formerly Cuba, but first position has been taken by Russia, according to the most recent world production figures. Probably Russia's production is chiefly in beet sugar.

The sugar beet is a vegetable that has a thick white root from which sugar is extracted when it is crushed. Sugar beets are raised in the temperate zone, chiefly in Europe and the United States.

Sugar is added to many foods to make them sweet. It is the main ingredient for candies and syrups.

1. Which of the following words has the same initial sound as sugar; share, chair, jar, yard?
2. Which of the following words has the same vowel in the first syllable as sugar: butter, mover, cooker, talker.
3. Is sugar an essential food?
4. What could cause the decrease in per capita consumption of sugar?

Useful Worms

[ ]

Worm is an unpleasant word to some people who think that all worms are bad. They are thinking about worms in unsanitary places like dirty garbage pails. When the weather is warm, worms of this kind propagate rapidly in unclean places. This condition creates a serious problem in sanitation.

But there are other worms, like the earthworm, that are of benefit to mankind. These worms crawl around in the top soil, especially when the weather is warm, keeping the soil loose so that it will hold more air and moisture. Not only do worms help mankind but also other living creatures. Earthworms serve as the main food of many birds. Have you ever seen a bird pulling a worm out of the earth and then taking it to its baby birds that are eagerly waiting for their food?

Another useful worm is the silkworm that works all the time producing silk. It lives in the mulberry tree and feeds on the leaves; then it spins a cocoon around itself, made of very thin but strong fiber sometimes more than one-half a mile long. This cocoon is unwound and woven into silk material for all kinds of clothes. The culture of the silkworm is very, very old. It began in the Orient in China about 2,000 years ago and spread from there to Turkey and other parts of the world. Most of the work with silkworms is done in the warmer climates in Asia and Africa.

1. In what two ways is the earthworm useful?
2. In what part of the world and when did the silkworm industry begin?

3. Listen while the paragraphs are read again. Listen for the word warm, and then be able to tell how many times you heard it.

4. Is the product of the silkworm in as great demand now as in former years?

The Family Pet

(Vowel Review)

Do you have a pet in your family? Most families that have a pet choose a dog or a cat. But if you live on a farm you might have a pet duck instead of a dog, or you might have a little lamb or a pony. The advantage of having dogs or cats for pets is that they adjust to household and family life and learn how to live indoors. It would be hard to teach a duck how to live indoors, and a pony would be much too large in the living room.

Whether dog or cat, the family pet should be treated with respect. Each dog and cat has its individual personality. If trained with patience and affection, the animal can be taught good behavior so that it will fit nicely into the family routine. Good behavior under pressure should always be rewarded. The intelligent pet will appreciate this.

Dogs and cats don't speak our language, but they can be taught to react to the sound of certain words and phrases. They will learn quickly if some activity is related to the word or phrase to be learned. Tone of voice and facial expression are very important in conveying meaning to your pet. Treat him as you would a good friend, and he will always be a loyal, devoted friend to you.

Instructions: Number from 1 to 10 on a piece of paper to hand in. Listen carefully as the passage is read again. I will stop ten times. Each time I stop, write on your paper the last word you heard, followed by the symbol for the vowel sound in the stressed syllable.

(Choice of words at teacher's discretion, depending upon class problems. However, the selection should furnish a good coverage of the vowel sounds.)

Water and Life

[ɜ-ɛr-or-]

Were you aware that water is very important for life and growth on earth? Water is necessary for plant, animal, and human life. Water is found where certain geologic formations appear. Springs, for example, come from underground drainage areas and rise to the surface where the rock formations permit. Here the springs turn into streams or rivers, or perhaps lakes. Streams and rivers travel downhill, sometimes dropping over waterfalls in the course of their journey. Some streams and rivers run more rapidly than others. Generally their journeys end at the shores of lakes or oceans. Others, however, may dry up before reaching their destinations.

Wandering tribes that live in the deserts, like the Sahara, travel more than most people to obtain their water. They ride over burning sands for very long ways to the oases, which are really springs surrounded by green palm trees and other varieties of plant growth. Desert peoples learn to share their water fairly, so that everyone may have a portion. They drink some water and store more for carrying to places that are without water.

People in some other parts of the world have water to spare and don't have to conserve every drop. Nevertheless, they should learn to take better care of their water resources. For instance, whenever the lumber companies cut great masses of trees out of our national forests, they have to replant with new trees. This is called reforestation. The roots of the trees on mountains and hillsides help to hold the earth in place when heavy rains come. Rain, of course, is a very important water

source. Rain turns the dry dirt into rich and fertile earth, ready for the farmer to plant his yearly crops. Elsewhere there are great stretches of grasslands where herds of animals may graze. Men and animals are very dependent on water.

1. What are springs?
2. What are oases?
3. Explain the effect of trees on water and earth.

Marble

[v-b]

One of the most useful types of stone is marble. It is made of limestone which is a product of volcanic action. When it is snow white, people marvel at the beautiful statues made from it. Other types of marble vary greatly in color. Tombstones made of marble may be placed at the head of a grave when a person is buried in the cemetry. Among the most cherished pieces of antique furniture are marble-topped tables. Because it has two marvelous qualities, beauty and durability, monuments and public buildings are very often made of marble. England, Belgium, France, Germany, Greece, and Italy are foreign countries that produce much of this fine stone. In the United States, some of the finest marble comes from Vermont; but some other states are also large producers of this hard beautiful stone.

1. What are some of the uses of marble?
2. What regions produce the best marble?
3. Can the game <u>marbles</u> be related to the stone called marble?
4. What does marvelous mean?

A Universal Food

[s-z]

Do you know what the most universal food is—the food that is eaten by more people around the world than any other? It is rice. Some people consider it a vegetable, but it is really a grain like wheat and oats, and is grown mainly in the lowlands of countries having warm climates.

Rice is the main food in some parts of the world, especially in the Orient. It is a very adaptable food because it can be used in many different kinds of dishes. In many parts of the world it is the staple food. For instance, the Chinese and Japanese eat rice and fish every day. When there is a rise in the price of rice or a crop failure, many people go hungry. To prevent a rise in the price and to protect the poor people, some countries establish a maximum price.

Farmers are encouraged to raise high quality rice that produces a good yield. Those who raise the best rice win prizes at State and National Fairs. Also, prizes are given at the World Expositions for the finest exhibits of rice. China produces more rice than any other country and is sometimes called the "rice bowl" of the world. In the Occident Brazil is one of the largest producers and consumers of rice.

1. In what part of the world is rice most important? Why?
2. Where does rice grow best?
3. What is the purpose of giving prizes to farmers who raise the most superior grade of rice?
4. Is rice an important food in the Western Hemisphere?

The Meaning of Names

[m]

A man has to keep his family name for life unless he has it legally changed; but a woman has the opportunity to change her name when she gets married. Sometimes it seems that her new name is not as pleasing as her maiden name. For example, if her married name became Smith, would that probably be better or worse than her maiden name? Let's examine the facts. There are over 1,500,000 people in the United States with the family name of Smith. A large number of the men are named John, since John is the most common given name in the English-speaking world. The new Mrs. John Smith would have a problem immediately, explaining which Mrs. John Smith she is. The telephone directory in any large city has many columns of Smiths and many of them are John Smith. What, then, is the solution to such a problem? An unusual middle name would identify John Smith; for instance, J. Loren Smith. Also, in naming their children, parents whose surname is Smith should choose given names that are seldom heard.

Smith is a name derived from an occupation, like Taylor and Farmer. A smith is a person who makes things out of metals. Examples are the silversmith and the goldsmith.

1. Are you familiar with a poem by Longfellow about a smith?
2. What are some unusual names that might combine well with Smith?

Poems and Things

[m-n-ŋ]

"The world is so full of a number of things,
I'm sure we all should be as happy as kings."

This little poem was written by Robert Louis Stevenson who also wrote such exciting stories as Kidnapped and Treasure Island. For a long time he was not able to do much traveling around the world, because he was ill and had to stay at home in Scotland. When he had to remain in bed, he would think and dream about distant places. Instead of being unhappy because of his condition, he spent his time thinking about all the wonderful things in the world.

At last he was able to leave home and travel to other parts of the world, where he continued his writing. He finally settled in the Samoan Islands, where his health became better. The natives loved him and named him Tusitala, "The teller of tales." When he died, the natives buried him there on top of a great mountain peak.

1. Why did Stevenson think everyone should be "as happy as kings?"
2. Name a book or a poem written by Stevenson.
3. Do you think his state of mind improved his state of health?

An International Language

[n-ŋ]

If any one language should have a chance to become nearly universal, which do you think it might be? Chinese would have little chance because of dialectal differences which are so great that people from different regions of China can't understand each other. English might have a chance because it has the second largest speaking population and is already widely spread over the earth, covering over one-fifth of the earth's land surface. Among international business men, it is recognized as the language of commerce. English-speaking people own over half of the world's economic wealth and means of communication: telephones, radio stations, newspapers, motion pictures, automobiles, railroads. It is one of the leading scientific languages, and nearly half of the world's scientific reports are written in English. The extensive literature of English is read around the world. Someone has said that the sun never sets on the English language because it is spoken by people of almost every color and race under the sun. One of the marvels of modern times has been the expansion of English around the world in only a few centuries. If English or another language developed into a universal tongue, it could bring nations closer together and result in greater unity and harmony among them.

1. Do you think that English has a chance to become a universal tongue?
2. How could a language help bring about world peace?

Techniques for Insuring Comprehension

The phonetic elements in each lesson emphasize at least one pair of contrasting sounds. In some cases a third or fourth sound has been added. To avoid confusion for the student, no lesson should undertake to teach several sounds at once. The listening lesson will follow the textbook and laboratory lessons involving the same sound or sounds. This system will produce a coordinated effort in teaching the sound. When new words or phrases are introduced, it is well to write them on the board. Some students who are visual-minded have a keener grasp of the sound if they can associate sound and visual image. The meaning of the new word or phrase can be discussed before the paragraph is read. It may be feasible to discuss one or two review words which might prove to be stumbling blocks to some students. The teacher's judgment would determine the necessity for such supplementary work, depending upon the ability of the class members.

The teacher might ask the students to listen for certain sounds or certain words carrying the sound being studied. This latter activity would be a good teaching device for detecting sound discriminations. The subject matter of the paragraph may indicate the desirability of questions suggesting ideas for which to listen. Questions of this type will aid in alertness and concentrated attention. After comprehension of ideas has been checked following the first reading, the paragraph could be read a second time for the experience of listening for certain sounds only.

Four steps are desirable in presenting the listening lesson:

1. All possible distractions should be reduced to a minimum when the time approaches for the listening lesson, so that the teacher will have the students' undivided attention. If written answers are required immediately after the reading, then the students should have paper and pen in readiness before the reading.

2. Questions may be asked immediately after the reading. However, these are only suggestions to be used by the teacher at his discretion for checking comprehension of the reading. If the teacher desires, he may ask pertinent questions. If written answers are desired, the questions should be phrased so that they can be answered with one or two words or a short phrase. Writing at any length will take away from the prime purpose of the listening lesson, which is aural activity. However, the written answers do check the student's understanding of what he just heard and are therefore valuable. In evaluating students' answers, the instructor will discover the degree of student comprehension achieved, and whether the passage really served its purpose.

3. The teacher may wish to ask questions which will evoke oral responses and promote brief discussion. Questions should provoke answers which will require the use of sounds and words being emphasized in the lesson. Using oral responses, the teacher can immediately recognize whether accurate sound discrimination is taking place. If necessary, misconceptions may be cleared up. Questions should stimulate thinking and discussion <u>in English</u>. Each question is guided in the direction of the sounds and words of the lesson. Ideas might profitably be included in the discussion that were not in the paragraph. This could be an educational experience requiring listening and spontaneous discussion that would improve both listening and speaking.

4. As a possible fourth step, rereading the passage after discussion may prove profitable. Weaker students may understand the reading better after the discussion. A third reading might permit students to recheck their ability with the sound discrimination items. Regular review of the passage may strengthen its remedial effect.

Flexibility in the use of the paragraph listening method is one of its main advantages. Each teacher can adjust the lesson to satisfy the time schedule and ability of the students. In fact, with a little ingenuity, the teacher can prepare additional paragraph lessons to supply extra

auditory training in sound areas that might be particularly stubborn and demand more training and review.

APPENDIX B:

The Regional Spanish of Puerto Rico

The Regional Spanish of Puerto Rico

The Puerto Rican form of Spanish has regional features distinct from other Spanish dialects and those features must be recognized as speech habits which bring about special problems in learning English. Hans Wolff, formerly linguist at the University of Puerto Rico, lists the following allophones of Puerto Rican Spanish:*

Principal allophones are:

Vowels - /e/ and /o/ and [ɛ] and [ɔ^] when stressed; somewhat higher when unstressed.

Stressed /a/ is fronted [a<];

/i/ and /u/ are semivocalic ... further back. [i̯] and [u̯] before stressed vowels.

All vowels may occur slightly nasalized; especially close distribution with nasal consonants.

Consonants - /p, t, k/ voiceless unaspirated stops;

/b, d, g/ voiced stops initially, voiced fricatives intervocalically, but [g] preferred in all positions.

/tʃ/ palatal affricate, voiceless,uunaspirated

/f/ sometimes heard as a bilabial /s/, blade alveolar and voiceless.

/m/ and /ñ/ labial and palatal nasals respectively.

Wolff makes use of the phonetic symbols [^], [<], and [ʌ] to indicate production which is high, fronted, and back, respectively.

An awareness of the following characteristics of Puerto Rican Spanish is helpful in preparing effective teaching materials:

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*Hans Wolff, "Partial Comparison of the Sound Systems of English and Puerto-Rican Spanish," Language Learning, III, (Jan. 1950), pp. 38-40.

1. In final position /n/ becomes [ŋ], an allophonic difference, which makes it difficult for the students to hear the distinction between thin and thing in English.
2. Dropping final s in most Spanish words causes difficulties in teaching third person singular and plural words in English. Possessives and contractions formed by adding s create the same problem. The Puerto Ricans aspirate the final s which is not sufficiently strong to be heard by a native of English. From the standpoint of the native English listener, the substitution of an aspirated s for the English /s/ is tantamount to omitting it.
3. Most Puerto Ricans use a soft form of /tʃ/ which is more like /ʃ/ since it is "a palatal affricate, voiceless and unaspirated," according to Wolff. This difference in phonemes produces such problems as English chair sounding like share when spoken by a Puerto Rican who is unaware of the distinction. The problem is further augmented in that English possesses an abundance of words containing these two sounds, and many of them are minimal pairs.
4. The letters y and ll, generally /j/ in Spanish, are either [j] or [dʒ], sometimes [ʒ], in free alternation in Puerto Rico. This presents a difficult situation since [j] and [dʒ] are allophonic in Puerto Rican Spanish but are distinct phonemes in English, differentiating such words as yellow and jello, year and jeer, use and juice.

The above problems are due especially to Puerto Rican dialect.

APPENDIX C: TEST AND TABLES

Date_____ Section_____ ENGLISH 105 Name_____

PART I

One word from each of the following pairs will be read. Mark X before the word read. (50 points)

Example: (____) reach (____) rich

1.	(____) let	(____) late		26.	(____) men	(____) man	
2.	(____) add	(____) odd		27.	(____) bought	(____) but	
3.	(____) look	(____) luck		28.	(____) wore	(____) were	
4.	(____) fit	(____) feet		29.	(____) list	(____) least	
5.	(____) voice	(____) vice		30.	(____) height	(____) hate	
6.	(____) tin	(____) ten		31.	(____) walk	(____) work	
7.	(____) must	(____) most		32.	(____) should	(____) shoot	
8.	(____) stir	(____) steer		33.	(____) fear	(____) feel	
9.	(____) not	(____) nut		34.	(____) I	(____) high	
10.	(____) ship	(____) sheep		35.	(____) ax	(____) asks	
11.	(____) cut	(____) caught		36.	(____) pull	(____) poor	
12.	(____) bed	(____) bad		37.	(____) back	(____) bag	
13.	(____) warm	(____) worm		38.	(____) lose	(____) loose	
14.	(____) come	(____) comb		39.	(____) rang	(____) ran	
15.	(____) we're	(____) wear		40.	(____) town	(____) down	
16.	(____) doll	(____) dull		41.	(____) guests	(____) gets	
17.	(____) woman	(____) women		42.	(____) Yale	(____) jail	
18.	(____) battle	(____) bottle		43.	(____) half	(____) have	
19.	(____) ounce	(____) once		44.	(____) sue	(____) zoo	
20.	(____) tour	(____) tore		45.	(____) berry	(____) Betty	
21.	(____) beads	(____) bids		46.	(____) cane	(____) came	
22.	(____) cart	(____) court		47.	(____) ill	(____) will	
23.	(____) her	(____) hair		48.	(____) bear	(____) pear	
24.	(____) dawn	(____) done		49.	(____) eyes	(____) ice	
25.	(____) sew	(____) saw		50.	(____) Thursday	(____) thirsty	

PART II

Place an accent mark <u>above the vowel</u> in the syllable that is pronounced most forcefully. Use only <u>one</u> accent mark in each item. (30 points)

Example: character; in the middle; I saw you.

1. canal
2. recognize
3. February
4. determine
5. mail box
6. individual
7. laboratory
8. hamburger
9. govern
10. themselves
11. at 2 o'clock
12. a friend of mine
13. come on
14. this one
15. just a moment
16. the first time
17. very definitely
18. under the mango tree
19. the end of the month
20. What time is it?
21. He couldn't hear you.
22. May I see them?
23. You must write with ink.
24. Get along without it.
25. She likes the red ones.
26. I'll see you next week.
27. Tell me about it.
28. We can help him with it.
29. Take your coat off.
30. What else do you have?

PART III

One word from each of the following pairs will be read. Mark X before the word read. (24 points)

1. (____) thin (____) thing
2. (____) curl (____) girl
3. (____) cheap (____) jeep
4. (____) long (____) lawn
5. (____) very (____) bury
6. (____) zone (____) sown
7. (____) test (____) text
8. (____) scream (____) screen
9. (____) pass (____) path
10. (____) weighed (____) weight
11. (____) curve (____) curb
12. (____) row (____) low
13. (____) tap (____) tab
14. (____) den (____) then
15. (____) field (____) feed
16. (____) mine (____) nine
17. (____) six (____) sick
18. (____) caused (____) cost
19. (____) cheese (____) she's
20. (____) pick (____) pig
21. (____) hard (____) heart
22. (____) wing (____) win
23. (____) breeze (____) breathe
24. (____) covered (____) cupboard

PART I

Place an accent mark above the vowel in the syllable that is pronounced most forcefully. Use only one accent mark in each item. (10 points)

Example: characters: in the middle; I saw you.

1. cabal
2. recognize
3. February
4. determine
5. mail box
6. individual
7. laboratory
8. hamburger
9. govern
10. chemistry

11. at 2 o'clock
12. a friend of mine
13. come on
14. this one
15. just a moment
16. the first time
17. very definitely
18. under the mango tree
19. the end of the month
20. What time is it?

21. We rejoiced very much.
22. May I see them?
23. You must write with ink.
24. Get along without it.
25. She likes the red one.
26. I'll see you next week.
27. Tell me about it.
28. We can help him with it.
29. Take your coat off.
30. What else do you have?

PART III

One word from each of the following pairs will be read. Mark X before the word read. (24 points)

1. (____) skin (____) skiing
2. (____) curl (____) girl
3. (____) cheap (____) jeep
4. (____) long (____) law
5. (____) week (____) bank
6. (____) zone (____) sown
7. (____) coat (____) text
8. (____) scream (____) screen
9. (____) pass (____) path
10. (____) weighed (____) weight
11. (____) curse (____) curb
12. (____) rue (____) ice

13. (____) tap (____) rub
14. (____) dam (____) chem
15. (____) field (____) feed
16. (____) mine (____) mine
17. (____) sik (____) [illegible]
18. (____) causes (____) cost
19. (____) choose (____) shoes
20. (____) pick (____) pit
21. (____) hard (____) [illegible]
22. (____) sing (____) sin
23. (____) breath (____) [illegible]
24. (____) contrad (____) [illegible]

PART IV Circle the word read to complete the sentence. (25 points)

Example: There are some (socks - sacks) in the drawer.

1. The old (ball - bill) wasn't so large.
2. Sally bought some new (pens - pans) the other day.
3. The very high (cost - coast) surprised him.
4. What a terrible (scene - sin) that was!
5. The meat (stood - stewed) for an hour.
6. How many (colors - collars) do you need?
7. His (course - curse) was terrible.
8. I thought he couldn't (live - leave) with her.
9. Wasn't the (boss - bus) late today?
10. Did you find the (mop - map) you needed?
11. She put the orange (peel - pill) in her mouth.
12. They decided not to (pull - pool) it.
13. Push that big (rock - rack) to the side.
14. Why did he (beat - hit) it?
15. Put one (pint - paint) can on the table.
16. There was a rat in the (hall - hole) just now.
17. Can't you persuade her to (sell - sail) it?
18. The new (fares - furs) are very expensive.
19. Where did you (slip - sleep) last night?
20. The city had very (poor - pure) water.
21. The captain's (lunch - launch) is ready.
22. Don't put your (foot - food) on that chair.
23. Put some water in the small (tube - tub) very carefully.
24. Please take (this - these) to the secretary.
25. I saw when he (bit - beat) you.

PART VI

The first of each pair of items is punctuated as a statement; the second is punctuated as a question. If the item is read as a statement, make a check mark in the first box. If it is read as a question, make a check mark in the second box. (10 points)

Examples: (____) Good (____) Good?

(____) In the hall. (____) In the hall?

1. (____) Right. (____) Right?
2. (____) Full. (____) Full?
3. (____) Finished. (____) Finished?
4. (____) Another. (____) Another?
5. (____) O.K. (____) O.K?
6. (____) Too late. (____) Too late?
7. (____) For many years. (____) For many years?
8. (____) In the library. (____) In the library?
9. (____) She was afraid. (____) She was afraid?
10. (____) He needs some money. (____) He needs some money?

PART VII

Circle the word read to complete the sentence. (36 points)

1. There's a statue of an Indian (god - guard) at the entrance.
2. I couldn't find it in the (word - world) book.
3. Who (hit - hid) it this morning?
4. That (rope - robe) is too heavy.
5. You need a long (leaf - leave) for that arrangement.
6. The second (car - card) was green.
7. Just a few (votes - boats) were lost.
8. He didn't want to use the (time - dime) for coffee.
9. The entire (surface - service) needs improvement.

10. That's a good (ladder - lather) you have.

11. The yellow (cap - cab) is better.

12. We have a few (racks - rags) in the store room.

13. That's my (share - chair) you have.

14. We found some good (jams - yams) in the supermarket.

15. They used to (raise - race) horses.

16. Did you (cash - catch) it this morning?

17. You can have (either - ether) if you want.

18. Does it have any (use - juice) at all?

19. He said the (price - prize) was five dollars.

20. When did the (major - mayor) call?

21. Don't (sip - zip) it now.

22. The others (harm - harmed) it.

23. You knew the (truth - truce) would be terrible.

24. I always (save - saved) a little each week.

25. Isn't Mr. Brown (sinking - thinking) ?

26. I'm sure she (bathes - bathed) every day.

27. That's the biggest (firm - fern) I've ever seen.

28. Are you sure you (need - needed) a dollar for that?

29. She was wearing a (warm - worn) coat.

30. I never (finish - finished) on time.

31. Isn't that (scene - seam) too long?

32. We often (mix - mixed) up the drinks.

33. They did order a (ton - tongue) for themselves.

34. I certainly (watch - watched) him carefully.

35. How many (combs - cones) do you want?

36. They never (wait - waited) for us at the corner.

TABLE IA

INCIDENCE OF ERRORS - AURAL PERCEPTION POST-TEST
Comparative Table, Four Semesters, 1960-61 and 1961-62
Vowels in Minimal Pairs

Order	Phoneme	Minimal Pair Test Item	Dec. 1960 #	Dec. 1960 %	May 1961 #	May 1961 %	Dec. 1961 #	Dec. 1961 %	May 1962 #	May 1962 %	Grand Total #	Grand Total %
1.	ɒr-ɜ	warm - worm	78	26.5	111	67	82	29	130	65	401	43
2.	ʌ-o	come - comb	80	27	47	28	76	27	53	26.5	256	27
3.	i-ɪ	beads - bids	8	3	84	50	129	45	9	4.5	230	24
4.	o-ɔ	sew - saw	—	—	39	23	49	17	59	29.5	147	*23
5.	ɪ-i	list - least	17	6	12	7	147	52	28	14	204	22
6.	æ-ɑ	battle - bottle	31	10.5	59	35	41	14	68	34	199	21
7.	ɔ-ʌ	dawn - done	45	**17	24	14	90	32	29	14.5	189	20
8.	ɜ-ɛr	her - hair	37	13	39	23	21	7	51	25.5	178	19
	ɪ-i	fit - feet	—	—	35	21	56	20	35	17.5	126	*19
	ɑ-ʌ	not - nut	53	18	53	32	51	18	18	9	175	19
9.	ɑ-ʌ	doll - dull	40	14	24	14	62	22	40	20	166	18
10.	ɔ-ʌ	bought - but	—	—	33	20	23	8	56	28	112	*17
	u-ɔr	tour - tore	21	7	48	29	49	17	37	18.5	155	17
11.	u-ʌ	look - luck	50	17	24	14	20	7	55	27.5	149	16
12.	ɑʊ-wʌ	ounce - once	—	—	9	5	78	27.5	10	5	97	*15
	ɪ-i	ship - sheep	—	—	34	20	25	9	38	19	97	*15
13.	ʌ-o	must - most	12	4	9	5	62	22	11	5.5	94	10
14.	ɔr-ɜ	wore - were	—	—	14	8	2	1	39	19.5	55	* 8
Number of students tested			292		166		284		200		942	

* Percentage based on 650
** " " " 264

TABLE IA

INCIDENCE OF ERRORS - AURAL PERCEPTION POST-TEST
Comparative Table, Four Semesters, 1960-61 and 1961-62
Vowels in Minimal Pairs

Order	Phoneme	Minimal Pair Test Item	Dec. 1960 #	Dec. 1960 %	May 1961 #	May 1961 %	Dec. 1961 #	Dec. 1961 %	May 1962 #	May 1962 %	Grand Total #	Grand Total %
1.	ɪr-ɜ	warm - worm	78	26.5	111	67	82	29	130	65	401	43
2.	ʌ-ɑ	cope - comb	80	27	41	25	76	27	53	26.5	256	27
3.	i-ɪ	beads - bids	8	3	84	50	129	45	9	4.5	230	24
4.	o-ɔ	dew - saw	—	—	59	25	49	17	59	29.5	167	*23
5.	ɪ-i	lift - least	17	6	12	7	147	52	28	14	204	22
6.	æ-ʌ	bettle - bottle	31	10.5	59	35	41	14	68	34	189	21
7.	ɔ-ʌ	dawn - done	45	**17	24	14	90	32	29	14.5	189	20
8.	ɜ-er	hur - hair	37	13	39	23	21	7	51	25.5	172	19
	i-i	fit - feet	—	—	35	21	56	20	35	17.5	126	*19
	ʌ-ʌ	not - nut	57	18	53	32	51	18	18	9	175	19
9.	ɔ-ʌ	doll - dull	40	14	24	14	62	22	40	20	166	18
10.	ɔ-ʌ	bought - but	—	—	33	20	23	8	56	28	112	*17
	ʊ-ɔr	tour - tore	21	7	42	25	49	17	37	18.5	139	17
11.	ʊ-ʌ	look - luck	50	17	24	14	23	7	55	27.5	149	16
12.	æ-ʌ	ounce - once	—	—	9	5	70	21.5	10	5	97	*15
	ɪ-i	slip - sleep	—	—	34	20	25	9	38	19	97	*15
13.	ʌ-o	sugt - boat	12	4	9	5	62	22	11	5.5	94	10
14.	ɔr-ɜ	wore - were	—	—	14	8	2	1	39	19.5	55	*8
Number of students tested			292		166		284		200		942	

* Percentage based on 250
** " " " 264

TABLE IB

INCIDENCE OF ERRORS - AURAL PERCEPTION POST-TEST

Comparative Table, Four Semesters, 1960-61 and 1961-62

Vowels in Minimal Pairs in Sentences

Order	Phoneme	Minimal Pair Test Item	Dec. 1960 #	Dec. 1960 %	May 1961 #	May 1961 %	Dec. 1961 #	Dec. 1961 %	May 1962 #	May 1962 %	Grand Total #	Grand Total %
1.	ʌ-ɔ	lunch - launch	—	—	92	55	53	19	103	51.5	248	*38
2.	i-ɪ	scene - sin	—	—	64	38	111	39	47	23.5	222	*32
	ʊ-u	stood - stewed	95	32	34	20	124	44	45	22.5	298	32
3.	ʊ-u	pull - pool	—	—	81	49	32	11	86	43	199	*31
	ʌ-ɑ	colors - collars	104	35	26	16	127	45	34	17	291	31
4.	ɔ-ʌ	boss - bus	60	20	43	26	93	33	64	32	260	28
5.	ɪ-i	bit - beat	—	—	—	—	27	9.5	101	50.5	128	**26
6.	ɪ-i	live - leave	73	25	61	37	44	15.5	59	29.5	237	25
	ɔ-o	cost - coast	—	—	34	20	86	30	40	20	160	*25
7.	ɪ-i	slip - sleep	49	17	48	29	66	23	56	28	219	23
	i-ɪ	heat - hit	36	12	24	14	137	48	21	10.5	218	23
8.	ju-ʌ	tube - tub	—	—	36	21	23	8	68	34	127	20
	i-ɪ	peel - pill	—	—	27	16	75	26	32	16	134	*20
	ʊt-ud	foot - food	—	—	21	13	86	30	23	11.5	130	*20
	ɪs-iz	this - these	—	—	18	11	99	35	15	7.5	132	*20
9.	ɑɪ-e	pint - paint	—	—	30	18	54	19	39	19.5	123	*19
	ɛr-ɝ	fares - furs	70	24	27	16	42	15	39	19.5	178	19
10.	ɑ-æ	mop - map	53	18	20	12	56	20	42	21	171	18
11.	ɑ-æ	rock - rack	—	—	33	20	30	11	40	20	103	*16
12.	ɔr-ɝ	course - curse	26	9	18	11	43	15	46	23	133	14
13.	ɔ-o	hall - hole	17	6	9	5	59	21	10	5	95	10
Number of students tested			292		166		284		200		942	

* Percentage based on 650

** " " " 484

TABLE IB

INCIDENCE OF ERRORS - ADRAN TRANSCRIPTION POST-TEST

Comparative Table, Four Semesters, 1960-61 and 1961-62

Vowels in Minimal Pairs in Sentences

Order	Phoneme	Test Item	Minimal Pair	Dec. 1960		Apr 1961		Dec. 1961		May 1962		Grand Total	
				%	%	%	%	%	%	%	%	%	%
1.	ʌ-o	lunch - launch	—	—	—	92	56	57	19	105	51.5	249	*38
2.	i-ɪ	meme - em	—	—	—	64	38	111	39	47	23.5	222	*32
	u-ʊ	stood - blood	95	32	34	20	124	44	45	22.5	208	32	
3.	u-ʌ	pull - pool	—	—	—	61	49	32	11	86	43	149	*31
	ʌ-ɑ	colors - collars	104	35	26	16	127	45	34	17	241	31	
4.	o-ʌ	boss - bus	50	20	43	26	93	33	64	34	260	38	
	i-ɪ	bit - beat	—	—	—	—	87	3.5	101	50.5	128	*26	
	i-ʌ	live - love	71	25	61	37	44	15.5	59	29.5	271	45	
	ʌ-ɑ	cost - cause	—	—	34	20	66	30	40	20	160	*25	
5.	i-ɪ	ship - sheep	34	13	10	6	71	26	90	45	215	23	
	i-ʌ	hunt - hit	105	37	124	74	127	47	81	40.5	218	25	
	ʌ-ɑ	[illegible] - [illegible]	—	—	41	24	21	8	88	44	177	20	
	i-ʌ	[illegible] - [illegible]	—	—	35	21	36	13	32	16	136	*20	
	ʌ-ɑ	[illegible] - [illegible]	—	—	7	4	38	14	34	17.5	179	*20	
	i-ʌ	[illegible] - [illegible]	—	—	30	18	28	10	45	23	132	20	
	ʌ-ɑ	[illegible] - [illegible]	—	—	1	1	74	27	50	25.5	125	*15	
	i-ʌ	[illegible] - [illegible]	—	—	17	10	92	33	59	29.5	176	19	
	ʌ-ɑ	[illegible] - [illegible]	—	—	1	1	57	20	62	31	171	18	
6.	ʌ-ɑ	[illegible] - [illegible]	—	—	5	3	40	14	40	20	109	11	
	i-ʌ	[illegible] - [illegible]	—	—	11	7	55	19	61	30.5	127	14	
	ʌ-ɑ	[illegible] - [illegible]	—	—	5	3	38	13	52	26	95	10	

TABLE IC

INCIDENCE OF ERRORS - AURAL PERCEPTION POST-TEST

Comparative Table, Four Semesters, 1960-61 and 1961-62

Consonants in Minimal Pairs

Order	Phoneme	Minimal Pair Test Item	Dec. 1960 #	Dec. 1960 %	May 1961 #	May 1961 %	Dec. 1961 #	Dec. 1961 %	May 1962 #	May 1962 %	Grand Total #	Grand Total %
1.	z-s	loose - lose	83	28	70	42	75	26	74	37	302	32
2.	v-b	covered-cupboard	—	—	23	15.6	107	37.7	29	14.5	159	*24.5
3.	ŋ-n	thing - thin	70	24	22	13	67	23.6	29	14.5	188	20
4.	ŋ-n	long - lawn	—	—	40	24	53	18.7	33	16.5	126	*19
5.	n-ŋ	ran - rang	25	8.5	39	23	42	14.8	56	28	162	17
6.	f-v	half - have	56	19	31	18.6	20	7	29	14.5	136	14
7.	tʃ-ʃ	cheese- she's	31	10.5	32	12.6	23	8	42	21	128	13.6
8.	ks-sks	ax - asks	—	—	7	4	63	22	14	7	84	*13
9.	j-dʒ	Yale - jail	19	7.8	16	9.6	41	14.4	45	22.5	121	12.8
10.	d-ð	doze - those	57	19.4	—	—	—	—	—	—		
Number of students tested			292		166		284		200			

* Percentage based on 650.

TABLE ID

INCIDENCE OF ERRORS - AURAL PERCEPTION POST-TEST

Comparative Table, Four Semesters, 1960-61 and 1961-62

Consonants in Minimal Pairs in Sentences

Order	Phoneme	Minimal Pair Test Item	Dec. 1960 #	Dec. 1960 %	May 1961 #	May 1961 %	Dec. 1961 #	Dec. 1961 %	May 1962 #	May 1962 %	Grand Total #	Grand Total %
1.	z-s	raise - race	91	31	58	35	123	43	57	28.5	329	35
2.	ks-kst	mix - mixed	—	—	55	33	125	44	16	8	196	*30
3.	m-n	warm - worn	98	33	35	21	87	30.6	52	26	272	28.9
4.	rd-rid	word - world	—	—	21	12.6	137	48	24	12	182	*28
5.	d-ð	ladder-lather	79	30	56	33.6	35	12	75	43.5	245	26
6.	t-d	hit - hid	39	13	35	21	110	39	42	31	226	24
	f-v	leaf - leave	—	—	115	69	22	7.7	19	9.5	156	*24
7.	n-ŋ	ton - tongue	55	18.7	42	25	41	14.4	83	41.5	221	23.5
8.	n-m	scene - seam	65	22	37	22	32	11	52	26	186	19.7
9.	vd-v	saved - save	58	19.7	40	24	63	22	24	12	185	19.6
10.	m-n	firm - fern	32	11	13	7.8	105	37	30	15	180	19
11.	s-z	price - prize	14	4.8	7	4	132	46.5	18	9	171	18
	m-n	combs - cones	44	15	21	12.6	60	21	47	18.5	172	18
12.	tʃ-tʃt	watch - watched	46	15.6	14	8.4	77	27	31	15.5	168	17.8
13.	ð-θ	either- ether	36	12	44	26.4	28	10	56	28	164	17.4
14.	ðz-ðd	bathes- bathed	32	11	20	12	57	20	53	26.5	162	17.2
15.	ʃ-ʃt	finish- finished	6	2	64	38.4	12	4	78	39	160	17
16.	r-rd	car - card	6	2	60	36	15	5	63	31.5	144	15
17.	s-θ	sinking- thinking	22	7.5	13	7.8	24	8.5	44	22	103	11
18.	d-rd	god - guard	—	—	1	.6	62	22	5	2.5	68	*10.5
19.	d-ɪd	need - needed	5	1.7	0	0	78	27.5	3	1.5	86	9
Number of students tested			292		166		284		200			

* Percentage based on 650.