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The effect of language ability and varying the immediate recall protocol procedure on recall measures of listening comprehension in university students of intermediate Spanish

Taylor, Sheryl Vivian, Ph.D.

The Ohio State University, 1993

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THE EFFECT OF LANGUAGE ABILITY AND VARYING THE IMMEDIATE RECALL PROTOCOL PROCEDURE ON RECALL MEASURES OF LISTENING COMPREHENSION IN UNIVERSITY STUDENTS OF INTERMEDIATE SPANISH

DISSERTATION

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

By

Sheryl Vivian Taylor, B.S., M.A.

* * * * *

The Ohio State University

1993

Dissertation Members:

Dr. Gilbert A. Jarvis
Dr. Keiko Samimy
Dr. Terrell A. Morgan

Approved by

[Signature]

Adviser

College of Education
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Sheryl Vivian Taylor
1993
To my family

and

my family of friends
ACKNOWLEDGEMENTS

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March 4, 1955........... Born - E. St. Louis, Illinois

1977.................... B.S., Western Illinois University, Macomb, Illinois

1977.................... Itinerant Migrant Teacher, Rock Island, Illinois

1977-1980............... Bilingual Teacher, Johnstown/Milliken, Colorado

1980..................... Bilingual Teacher, Kindergarten Bambi, San Miguel de Allende, Mexico

1981-1982............... Bilingual Teacher, Johnstown/Milliken, Colorado

1982-1985............... M.A., Colorado State University, Fort Collins, Colorado

1984-1986............... English as a Second Language Teacher, Englewood, Colorado

1986-1988............... English as a Second Language Instructor, Ashland University, Ashland, Ohio

1988-1993............... Graduate Teaching Associate, Department of Educational Studies, Department of Spanish and Portuguese, The Ohio State University, Columbus, Ohio
PUBLICATIONS


FIELDS OF STUDY

Major Field: Education

Professors Gilbert A. Jarvis, Keiko K. Samimy, and Elizabeth B. Bernhardt

Minor Field: Spanish Linguistics

Professors Terrell A. Morgan and Dieter Wanner
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CHAPTER I
THE PROBLEM

Introduction to the Problem

Listening traditionally has been "the 'neglected' skill of language instruction" (Morley, 1990, p. 317), and for years was referred to as a passive language skill, thus receiving little attention in second/foreign language (L2) instruction (Joiner, 1991). It is important to acknowledge that only recently has listening been recognized as a crucial element to language learning and one that consumes a greater percentage of communication time than any other of the four language skills (Weissenrieder, 1987). Morley (1990) states that it is undeniably "the single language skill used most in human communication" (p. 317). Indeed, as human communicators we spend twice as much time listening as speaking, quadruple the time listening over reading, and five times more time listening than writing (Feyton, 1991; Weaver, 1972). In fact, Asher (1977) estimated that by the age of six the average child has spent a minimum of
17,520 hours listening to his/her native language. In contrast, Asher noted that by the end of one full year of modern language instruction, the average student has listened to only 320 hours of the target language, a generous estimate at best. These estimations are even more alarming considering Byrnes' (1984) statement: "Listening comprehension precedes production in all cases of language learning, and there can be no production unless linguistic input was provided and became comprehensible intake for the listener" (p. 318). In fact, according to Winitz (1981), comprehension "appears to be the basic mechanism through which the rules of language are internalized" (p. 130).

Despite the overwhelming evidence that it plays a critical role in language learning, listening received little attention in second language instruction and research until the 1980s (Dunkel, 1991). In fact, "this essential skill does not yet occupy a central place in native, second, or foreign language instruction" (Joiner, 1991, p. 3). Morley (1990) states that it is imperative that listening "not be treated trivially in second and foreign language
curricula" (p. 82). Unfortunately, this is exactly what appears to be happening in the L2 classroom. In a study by Long (1983) in which she investigated time-on-task in the foreign language classroom, results (based on tabulations of the proportion of time allocated for listening, speaking, reading, writing, grammar, culture, vocabulary, and other instructional activities) indicate that listening represented only four percent of the total number of time intervals recorded.

Although the importance of listening to language instruction has been demonstrated through several influential movements emphasizing comprehension (Asher, 1977; Chaudron, 1985; Hatch, 1983; Krashen, 1977; Terrell, 1982), the recent proficiency trend has reestablished oral communication in a position of priority. Given the current emphasis on oral language development in L2 instruction, the result has been a neglect of the receptive skills, listening and reading, as mentioned above. Rivers (1966) noted that "speaking does not of itself constitute communication, unless what is said is comprehended by another person"
Indeed, Belasco (1971) distinguished between listening solely as a basis for speaking versus listening for the comprehension of meaning. He cautioned that "it is possible to develop so-called 'speaking ability' and yet be virtually incompetent in understanding spoken language" (pp. 4-5).

It was not until the 1980s that much of the language teaching field stopped taking listening for granted (Morley, 1990). Consequently, not only had listening been overlooked in second language instruction, but it had also been neglected in the area of research. Lund (1991b) states that the "dearth of studies in second language listening suggests clearly the need for research" (p. 4). Indeed, Dunkel (1991) suggests that researchers need to "advance the state of second language theory building and to expand the knowledge base about the process of L2 comprehension" (p. 438). She contends that one way this expansion be accomplished is by focusing on specific factors, internal to the listener (language ability, degree of sociolinguistic competence, intelligence, memory, motivation, background knowledge, etc.) as well as the impact that these factors have on the success or
failure of L2 comprehension for beginning-, intermediate-, and advanced-level listeners.

A factor internal to the listener that has recently been investigated in relation to L2 listening is the learner's second language ability (James, 1987; Long, 1990; Mueller, 1979). According to Long (1990), when internal factors, such as language ability, are not functioning at optimal levels, they may contribute to misleading clues or add little to comprehension. Indeed, some of the L2 listening studies that have investigated the effect of listeners' language ability indicate that L2 linguistic knowledge has a positive relationship with performance in listening comprehension (Long, 1990; Mueller, 1979), but others do not (James, 1987).

Research implies measurement; nevertheless, the area of testing continues to be problematic in the field of second language listening. Joiner (1991) noted that due to the deficiency of a widely accepted standardized instrument that is compatible with current empirical results in L2 listening comprehension, many foreign language researchers have begun to employ the
recall protocol as a measure of listening comprehension.

Originally used in first language (L1) research, the immediate recall protocol procedure involves exposing the learner to a written passage. After reading the text, the learner is asked to complete a written recall of the passage. Johnston (1983) states that the measure of free recall "is the most straightforward assessment of...text-reader interaction" (p. 54).

The use of the immediate recall protocol procedure as a measure of listening comprehension is a direct transfer from its extensive implementation in second language reading research (Joiner, 1991). Over time, L2 researchers have determined a commonly accepted format for the immediate recall protocol procedure to be used in studies of L2 reading comprehension. Following this format, learners read the L2 passage twice (no notetaking allowed), then write an immediate recall protocol in their L1. Comprehension is measured according to the number of idea units each reader recalls as compared to the total number of idea units in the L2 passage (Bernhardt & Deville, 1991).
According to James (1986), "The rationale for using the immediate recall protocol for reading comprehension should work equally well for listening comprehension" (p. 39). Indeed, investigations employing the immediate recall protocol as a measure of listening comprehension have steadily increased in number in the last decade (James, 1986, 1987; Long, 1990; Lund, 1991a, 1991b; Rader, 1990; Schmidt-Rinehart, 1992).

Whereas in second language reading research a widely accepted format for the immediate recall protocol procedure has been determined, the format used in investigations of listening comprehension has varied considerably. In some cases, for example, subjects have been asked to listen to the L2 passage two consecutive times with no notetaking allowed, then complete a written recall in their L1. In other studies, subjects have been asked to write a preliminary "practice" recall after the first listening exposure. This recall is immediately collected. Subjects then listen to the passage a second time, with no access to the preliminary recall, and ultimately write a final recall protocol. The one consistent
factor in these investigations has been the disallowance of notetaking during any one exposure to the aural text. Other recommended variations include having subjects draw a line under their first recall (thus giving them access to the first recall during the second listening), or allowing subjects to take notes during the second listening.

Using the immediate recall protocol procedure as a measure of listening comprehension has become an accepted practice by researchers in the field of foreign and second language listening. Because the format of the recall procedure has not been consistent, one must be cautious when generalizing the empirical results across studies. Presently, few L2 studies in listening comprehension have explored the relationship between varying the format of the immediate recall protocol procedure and listening comprehension.

In conclusion, listening plays a predetermining role in language learning and language production. As communicators, humans spend a tremendous amount of time actively listening and comprehending aural messages. Indeed, the critical significance of listening comprehension must be acknowledged.
Although language ability, as a factor internal to the listener, has been investigated in studies of L2 listening comprehension the empirical results conflict. Therefore, the need exists to verify the significance of language ability as a significant factor in L2 listening comprehension.

As noted above, a common format has been established for the immediate recall protocol procedure when it is employed as a measure of reading comprehension in L2 research. In the context of measuring L2 listening comprehension, however, an appropriate variation of the immediate recall protocol procedure has yet to be determined or supported by empirical evidence.

Statement of the Problem

Since the early 1970s, investigations of second language reading comprehension have included recall scores as a dependent variable (Bernhardt, 1991). During the past decade, the inclusion of recall as an assessment of L2 listening comprehension has become more common as well. L2 researchers have begun to operationalize listening comprehension via the immediate recall protocol procedure. Whereas the L2
reading researchers use a widely accepted format of the immediate recall protocol procedure that has been substantiated by empirical results in L2 reading comprehension, researchers in L2 listening have yet to determine a common format of the recall procedure to be used in investigations of listening comprehension. Regardless of format variations in the immediate recall protocol procedure employed across investigations, L2 listening comprehension researchers tend to generalize the empirical results.

Based on the use of the immediate recall protocol in second language reading comprehension, James (1985) recommends the recall procedure as "the most promising technique for eliciting listening comprehension without prejudicing the outcome or contaminating the data" (p. 36). In other words, because the listeners are only solicited to write what they understand from the aural text, they gain no clues from comprehension questions as to the content of the passage. Nor do the listeners run the risk of miscommunicating in the L2 because recalls are written in their L1.
In a summary concerning the testing of both reading and listening comprehension in foreign language learning, Bernhardt and James (1987) highlight the value of the immediate recall protocol procedure as its "ability to tap and to expose individual comprehension strategies...to determine the extent to which adequate and accurate comprehension is occurring" (p. 71). The procedure they propose involves exposing listeners to the passage twice with no notetaking allowed during either listening. Ultimately, after the second exposure, listeners write a protocol in their L1 including everything they can recall from the aural text.

To date several second language listening studies (Long, 1990; Rader, 1991; Schmidt-Rinehart, 1992) have employed the format of the immediate recall protocol procedure recommended by Bernhardt and James (1987), though two of the researchers concluded that the format may need to be altered in the future by allowing subjects to take notes as they listen or write after the preliminary listening. In fact, the format of the immediate recall protocol procedure has been varied in several recent studies (James, 1987; Lund, 1991a; Lund
1991b); however, not one considered the relationship between varying the format and the subjects' listening comprehension as an independent variable.

In the three investigations in which the format of the immediate recall protocol procedure was varied, subjects were asked to write a preliminary "practice" recall following the first exposure to the aural text. During the second exposure to the listening passage, subjects did not have access to the preliminary protocol. Upon listening to the aural text a second time, subjects wrote a second and final recall protocol.

In both studies by Lund (1991a, 1991b), the results indicate that subjects recalled more propositions on the second protocol than they did on the preliminary protocol. He suggests that as they composed the first recall protocol, subjects were encouraged to form an explicit representation of the aural text that provided listeners with a "test structure of meaning to be fit to the text on the next repetition" (p. 201). In the study by James (1987), subjects also wrote a preliminary recall after the first listening as well as a final recall following the
second listening. The researcher concluded, however, that the preliminary written recall was of no assistance if subjects were not able to recognize the topic during the preliminary listening. Without any recognition of the listening topic, they were not able to add a significant amount of information to their final recall after the second listening. Unfortunately, although the addition of a preliminary written recall to the immediate recall protocol procedure may be well suited to studies of L2 listening comprehension, the empirical support for the efficacy of this alteration in the format has not yet been determined.

In the 1987 study by James previously noted, the effect of language ability on listening comprehension, as indicated by the subject's grade in the previous language course, was investigated. Results indicate that it did not correlate positively with the subject's final recall score. Long (1990) and Mueller (1979) also studied the effect of subjects' language ability (also determined by grade in the previous language course) and found it to have a positive influence on subjects' listening comprehension. In fact, the
results indicate that more proficient L2 language learners used their linguistic knowledge to negotiate meaning from the listening passage. With conflicting results such as these, the factor of language ability warrants further investigation.

Bernhardt and Deville (1991) state that "Immediate recall has shown to be an effective and valid integrative measure of comprehension...[and that] recall provides a relatively direct view of the process of comprehension" (p. 50). In other words, the recall procedure allows the reader or the listener the opportunity to select from the text exactly what he/she comprehends without being influenced by the questions of a test writer.

Although listening and reading are in essence acts of comprehension and are frequently grouped together (Nunan, 1989), it cannot be assumed that the format of the immediate recall protocol procedure suitable for assessing reading comprehension is appropriate for measuring listening comprehension. As noted by Joiner (1991), "While the comparison with reading has led to many valuable insights, it has also resulted in...less
interest in the characteristics that listening does not share with reading" (p. 8).

Due to characteristics unique to listening, a particular format of the immediate recall protocol procedure may be better suited to studies of listening comprehension than the accepted format generally used in reading research. Although recommendations have been made to alter the procedure as it is currently used in studies of reading comprehension in order to better adapt the procedure as a measure of listening comprehension (Rader, 1991; Schmidt-Rinehart, 1992), investigations are lacking in this area. Consequently, research is needed to enlighten us as to the effects of varying the format of the immediate recall protocol procedure on listening comprehension. This headway would allow L2 researchers to move closer to determining an acceptable format that is in tune with the characteristics specific to listening.

Significance of the Study

During the past two decades, listening comprehension has evolved to a position of "central concern" in second language teaching theory and pedagogy (Morley, 1990, p. 317). In fact, according to
Dunkel (1991) the study of listening comprehension has become a "polestar of second language theory building, research, and pedagogy" (p. 432). Regardless of its current position, there exists a dearth of empirical research in the area of L2 listening comprehension (Lund, 1991b). Problems remain in both L1 and L2 listening comprehension theory and research. Much of the research in listening is not based on theory, it is often contradictory, and it frequently lacks follow-up replication or verification studies (Witken, 1990).

The listener internal factor of language ability appears to have a notable influence on the listener's comprehension, but results of empirical studies conflict. In fact, Dunkel (1991) states:

We are...in dire need of empirical investigations that assess the validity of our assumptions. We need...to increase vastly the number of empirical studies that investigate the ways in which factors inside and outside of the L2 head affect comprehension of L2 discourse. (p. 444-445)

Because second language learners are frequently in situations in which they encounter many uncertainties and may be able to decipher only a part of an aural
message, they must often rely on their language ability or linguistic knowledge. Due to mixed results from empirical studies, a need exists for further research in the effect of language ability on the learner's listening comprehension.

Measurement is an area that continues to be problematic in second language research; of particular concern is assessment in second language listening research. This area remains in need of standardized instruments that are compatible with present knowledge about listening. Due to the absence of a widely accepted testing instrument, many researchers have begun to use the recall protocol as a measure of listening comprehension (Joiner, 1991). Concerns exist, however, because the use of the immediate recall protocol procedure as an assessment of listening comprehension is a direct adoption from L2 reading research. Due to the differences in the presentation of written and aural texts, not to mention processing distinctions required by listeners and readers, the format of the immediate recall protocol procedure used as a measure of reading comprehension may not be appropriate as a measure of listening comprehension.
The constructs of listening and reading are often grouped together, as many researchers assume that these two skill areas have more similarities than differences. Although empirical findings indicate that the subskills of reading and listening are similar, they suggest that listening is a more integrated skill in which subskills contribute to a holistic comprehension of the aural message (Reves & Levine, 1988). Listeners tend to aim for a general impression of the message heard, whereas readers focus on discrete discourse units and details. Consequently, an assessment instrument originally developed to be used as a measure of reading comprehension may need to be adapted based on current empirical data in L2 listening comprehension.

Traditionally, a variety of techniques have been used to assess second language aural comprehension skills. Multiple-choice items are frequently used because of the ease and reliability in scoring. Direct questioning, e.g., open-ended questions, are also used as a measure of listening comprehension, though, they do not allow for the same facility in evaluation as multiple-choice. Bernhardt and Deville (1991) caution
against both of these assessment measures as test takers often infer the answers from the questions. First of all, a question, be it multiple choice or open-ended, that relates to the first portion of the text may be unintentionally answered in a later question. Secondly, even if the listener is able to select the correct answer to a multiple choice question, the process of listening comprehension is not really observed in the listener's action (Jones, 1984). When the learner selects an answer to a multiple choice question, no insight is gained as to the manner in which the listener processed the text. In fact, there is no absolute certainty as to whether the learner actually knew the answer or made a lucky guess.

Aural cloze tests also have been implemented as a measure of listening comprehension (Bernhardt, 1991). Here words are deleted on a regular basis (usually every 5th or 7th word) from the aural text. As the test examiner reads the text aloud, the listener follows along with the script attempting to fill in the blanks with the deleted words. This procedure becomes an activity in word perception and word recognition, not a listening comprehension exercise, as listeners
concentrate on the isolated words that belong in each blank. Listeners need not comprehend the entire passage in order to understand and fill in the missing words (Bernhardt, 1991).

Dictation is another instrument that has been purported as a measure of listening comprehension. In most cases this task, like the aural cloze test, becomes a measure of sound and word perception. It comes closer to being a spelling test than a test of listening comprehension. Overall, dictation, as a listening comprehension exercise, has faded in and out of popular use over the years (Morley, 1990).

The view of listening comprehension as a complex problem-solving activity is relatively recent. According to Morley (1990), it was not until the 1970s that L2 instructional programs began to emphasize functional and communication approaches, thus incorporating listening as an integrative component. Listening is undeniably the single language skill used most in human communication (Morley, 1990). It is an active process of information gathering; an act of communication that requires the listener to consider the speaker, the situational context, and ultimately
analyze the speech act intended. A multitude of information processing occurs as the listener attempts to reconstruct the aural text (Dunkel, 1991).

Because of the numerous factors necessary to achieve comprehension, successful assessment instruments need to be integrative in nature (Bernhardt & Deville, 1991). Instead of tests that are a collection of discrete points, a need exists for the development of assessment measures that will reflect the process of comprehension. Traditional measures used in assessing reading and listening comprehension have fallen short in this area. The immediate recall protocol procedure, however, allows for the analysis of the integrative comprehension process in which the learner reconstructs the text (Bernhardt, 1991; James, 1987; Johnston, 1983). The learner recalls what he or she understands from the text, thus providing contamination-free learner-generated data. There is no risk of data contamination by the influence of content questions or multiple-choice question stems developed by the tester (Bernhardt & Deville, 1991).
General similarities between reading and listening that have been identified by researchers in the field of reading and listening (Alderson & Urquhart, 1984; Richards, 1983) include:

1. Reading and listening both involve the perception and interpretation of discourse.
2. Both reading and listening require interactive work and active participation of the comprehender. The learner must possess overall linguistic competence as well as background knowledge, and implement both of these in order to decode the message.

According to Widdowson (1984), the difference between the two processes exists in the permanent nature of the reading text that enables the reader to reread, whereas the listener has no replay option. Spoken messages are often characterized by ungrammatical clause forms filled with hesitations, pauses, and false starts. Because of the spontaneity and elusiveness of spoken language, it stands to reason that methods of assessing the comprehension of a written passage versus an aural passage may warrant
variation (Glisan, 1988; Lund, 1990; Reves & Levine, 1988).

When investigating listeners' comprehension via the immediate recall protocol procedure, Lund (1991a) attributes gains in the amount recalled on the subjects' first protocol as compared to their second recall protocol to the act of reprocessing. He states that the recall activity can increase the potential for comprehension, but it is the reprocessing of the text that results in comprehension gains. James reports in his 1987 study that repeated use of the written recall exercise did not positively influence comprehension, if subjects did not recognize the passage topic during the first listening. In an investigation by Dunkel (1989) on the effects of encoding, i.e., notetaking of lecture information for English as a second language students as well as native speakers of English, the results indicate that the encoding process does not positively influence subjects' comprehension and retention of lecture concepts or detailed information. Without access to and review of notes, the encoding process itself does not positively affect listeners' comprehension. These results provide insights into the
the immediate recall protocol procedure on listening comprehension.

Is there an effect of varying the immediate recall protocol procedure? If so, is one particular variation of the procedure more appropriate as a measurement of listening comprehension? Should L2 researchers continue to generalize empirical results when investigations of listening comprehension have employed different variations of the immediate recall protocol procedure? Is the immediate recall procedure variation influenced by the listener's language ability? Does the listener's language ability have an effect on his/her listening comprehension?

Purpose of the Study

This study was designed to investigate the effect of varying the format of the immediate recall protocol procedure and the effect of listeners' language ability (as indicated by grade in the previous Spanish class). Four format variations were investigated. (See Table 1.) The widely accepted variation (Procedure 2) generally used in L2 reading research that has since been adopted by researchers in listening comprehension served as one treatment condition (listen, listen,
recall). In an effort to gather baseline data, the format of listening one time only and writing a recall was also included (Procedure 1). Two final treatment conditions involved having subjects listen once, write a preliminary recall, then listen a second time. After the second listening, subjects wrote a final recall. These two groups differed in that one group was allowed to keep and refer to their first recall exercise as they listened and wrote the second recall (Procedure 4), whereas the other group had their preliminary recall collected prior to the second listening and prior to the completion to the final recall protocol (Procedure 3). Upon completion of the immediate recall protocol procedure, subjects were given a post-listening questionnaire. Here they noted their grade in the previous Spanish course (an indicator of language ability) and answered questions concerning their background knowledge of the topic as well as their reaction to the particular procedure variation followed.
Table 1

**Procedure Variations**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Variation of Tasks</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>listen recall</td>
</tr>
<tr>
<td>2</td>
<td>listen listen recall</td>
</tr>
<tr>
<td>3</td>
<td>listen recall #1 listen recall #2</td>
</tr>
<tr>
<td></td>
<td>[recall #1 collected]</td>
</tr>
<tr>
<td>4</td>
<td>listen recall #1 listen recall #2</td>
</tr>
<tr>
<td></td>
<td>[recall #1 not collected]</td>
</tr>
</tbody>
</table>

The research questions were as follows:

1. Does varying the immediate recall protocol procedure (listen, listen, recall) affect recall measures of listening comprehension?

2. Does language ability (as indicated by grade in the previous Spanish class) affect recall measures of listening comprehension as measured by the immediate recall protocol procedure?
3. Do the effects of procedure variation vary with subjects' language ability?

4. Does the completion of two recall protocols instead of only one affect recall measures of listening comprehension?

Definition of Terms

Language Ability: The subjects' capability in the foreign language as indicated by their grade in the last Spanish language course completed prior to this investigation.

Immediate Recall Protocol: The subject's written recollection of information presented in the aural text. Subjects reconstructed the aural text as completely and as accurately as possible in their native language.

Listening Comprehension: Listening comprehension was measured by way of a quantitative analysis of subjects' immediate recall protocol, which was written in English, the subjects' native language. Any non-native speakers of English were not included in the final analysis of data.
Assumptions

1. The subject's ability to write a recall of the taped passage was a measure of his/her ability to understand that taped passage.

2. No subject had any serious hearing impairment.

3. The subjects to whom the preliminary recall protocol was made available referred to it during the second listening and writing of the final recall, as per the instructions.

4. The standard language laboratory equipment and procedures were familiar to the college Spanish student because they were required to utilize the language lab to fulfill course requirements at the beginning levels of Spanish. Therefore, subjects had experience in listening to tape recorded materials with the use of headsets in the language lab setting.

5. The passage was potentially relevant and meaningful to subjects in that it was recorded in Spanish, the foreign language of study by choice of the subjects. Also, as was determined through the pilot study, the passage contained information potentially meaningful to subjects.
Spanish spoken by the native speaker from Mexico was comprehensible to subjects. The speaker spoke a standard educated Spanish and maintained as neutral an accent as possible.

Limitations

1. The tape is not a recording of spontaneous free speech, but is deliberate free speech designed specifically for this study. Thus it may or may not maintain some of the production-related characteristics of spontaneous speech.

2. Findings of this study regarding subjects and passage are limited in their generalizability regarding language level (third quarter) and text. One must assume that different aural passages may elicit different findings.
CHAPTER II
REVIEW OF LITERATURE

This study will investigate the effect of variations in the immediate recall protocol procedure as a measure of second language listening comprehension. The following related literature will be reviewed in this chapter:

1. Theoretical Bases of Listening Comprehension
2. Relationship Between Listening and Reading
3. Recall Procedure as a Measure of Listening Comprehension
4. Relationship Between Language Ability and Listening Comprehension

Theoretical Bases of Listening Comprehension

Research in listening extends back approximately 60 years. In a synthesis of native language listening and reading comprehension, Carroll (1971) observes that in the 1950s and 1960s there was a notable increase in
the number of empirical investigations on native language (NL) listening, though few of the studies were adequately "penetrating and analytical" (p. 130). Nearly two decades later in a review of the state of the art of NL listening theory, Witkin (1990) cautions that it is in a parlous state. She contends that research on listening "appears confused, incomplete, messy [and] inconclusive" (Witkin, 1990, p. 7). In a search of articles on listening research in 11 national and regional communication journals, Rhodes (1985) notes that the results indicate there is an insufficient focus on listening as a variable in research. Of the 160 articles on listening published between 1934 and 1984, Rhodes found that only 34 percent were concerned with listening as a variable. According to Rhodes, given the centrality of listening to the communicative process, researchers of listening have not "contributed as much (quantitatively) to the literature on listening as might be expected" (p. 10).

One of the central problems confronting the field of NL listening research is the lack of an agreed upon definition of listening despite numerous recent
empirical studies (Feyton, 1991; Glen, 1989; Witkin, 1990; Wolvin & Coakley, 1988). After analyzing 34 definitions of listening presented in speech communication scholarly works, Glen (1989) concluded that there is no universally accepted definition of the construct NL listening. Unfortunately, many researchers have begun to adapt typical definitions of reading comprehension to the listening process (Feyton, 1991).

Lundsteen (1971) defined listening as the "process by which spoken language is converted to meaning in the mind" (p. 297), viewing listening as more than merely hearing or perceiving aural input. Once again addressing the process of listening, Wolvin and Coakly (1982) describe listening as the "process of receiving, attending to, and assigning meaning to aural stimuli" (p. 74). Steil, Barker, and Watson (1983) define listening via four related activities (a) sensing, (b) interpreting, (c) evaluating, and (d) responding. Expanding upon this definition, sensing refers to taking in verbal and nonverbal messages, while interpreting relates to the process of understanding. Evaluating includes categorizing fact and opinion, then
agreeing or disagreeing with the speaker. Finally, responding refers to the implementation of verbal and nonverbal cues when reacting to a message. Because the first three activities cannot be directly observed, the fourth activity is of particular importance in determining whether or not the speaker has successfully gotten his/her point across (Steil et al., 1983).

In an attempt to categorize the multitude of definitions of listening, Hirsch (1986) identified three orientations: process, sequential, and generalist. Clearly, the three aforementioned definitions exemplify the process approach to listening: a series of steps, dynamic in nature. Proponents of the sequential orientation view listening as a sequence of events in which one factor is dependent upon a preceding factor, i.e. a linear course. The generalist orientation to listening is supported by Brooks and Heath (1985) as being "a combination of what we hear, what we understand, and what we remember" (p. 86). Hirsch notes that this approach views listening as neither sequential, nor a process.
One point on which the majority of listening scholars agree is that listening is too complex to be considered a single construct, but rather is a multidimensional phenomenon (Rhodes, Watson & Barker, 1990). Listening is "tightly interwoven with other language skills" (James, 1984, p. 129), and is not a single skill, but a collection of skills clearly involved in the aural perception of oral stimuli. According to James (1984), listening consists of 6 components, "(a) the sonic realization, (b) the segmental/suprasegmental form, (c) the musical pitch and rhythm, (d) the lexical phrasing, (e) the purpose of the message intended by the speaker, and (f) the actualization of the message in the listener" (p. 130).

Rivers' (1971), description of active listening superimposes three stages onto the aforementioned components, "(a) sensing rapid impressions from speech flow, (b) identification through segmentation of grouping of individual parts of the spoken utterance, and (c) rehearsal and recoding of the material for longterm storage" (pp. 129-130).

Witkin (1990) elects to resolve the contradictory definitions of listening by taking a system view of
listening. This approach recognizes that (a) a system is composed of many interrelated and dynamically interacting parts or subsystems, (b) the system is greater than any of its parts, and (c) any change in any part of the system affects the whole system.

Researchers in second language listening clearly support this interrelated view of listening. Joiner (1991) notes that "the interactive relationship between listener and text...and between listener and speaker...seems to be generally agreed upon...in the native, foreign, and second language literature" (p. 3). In a review of pertinent native language listening studies, Omaggio (1986) notes that listeners reconstruct the meaning of the aural message once they consume the raw speech, hold an image of it in short-term memory, organize this image into its constituents, identify their content and their function, after which these constituents are grouped to form a coherent message. This coherent message, a reconstructed meaning deduced by the listener, is then held in long-term memory. As the listener reconstructs the meaning of the original aural message, he/she works to determine the speaker's intentions and considers the
situation, the context, the other participants, as well as the goals and purposes of the communication. This interactional view of listening stresses the multidimensional aspect along with the creative dimension involved in listening, be it native, foreign, or second language listening. Clearly, as noted by Joiner (1991), "the effective listener is seen as an active comprehender who anticipates or predicts...monitors for discrepancies in messages and revises hypotheses accordingly" (p. 3).

This view of listening as an active process in which the listener reconstructs the aural message has not always been accepted in the field of second language. In fact, during the peak of the audiolingual approach in which language learning was viewed as habit formation, the listener was seen as mainly a passive receiver of an aural code (Byrnes, 1984). Only recently, according to Byrnes, has listening comprehension as a complex problem-solving activity come to the forefront of the second language learning and teaching methodology.

The renewed interest in listening comprehension research is due in part to the "realization and
accumulating evidence that input plays a critical role in second language acquisition" (Dunkel, 1991, p. 435). According to Joiner (1991), the awareness of the importance of listening in language acquisition is evident by the presence of several influential movements of the recent past:

1. The communicative movement that emphasizes the aspect of negotiation between speaker/listener;
2. The functional-notional movement that concentrates on real-life purposes in language, and consequently real-life reasons for listening;
3. The comprehension movement in which the importance of listening in language acquisition is emphasized i.e., the beneficial aspects of a "prespeaking" period in language instruction;
4. The information-processing view of listening that accentuates its receptive or comprehension skills.

None of these movements portray listening as passive. In fact, Morley (1990) maintains that listening is anything but a passive activity. Although L2 educators are beginning to consider the notion of
listener as negotiator, "the view of listener as an active participant in the construction of text meaning has not always been widely accepted, nor has the complexity of processing oral language been fully appreciated" (Joiner, 1991, p. 3). After the listener recognizes and attends to the acoustic signals of language, a series of processes begins: predicting, monitoring, revising, making inferences, interpreting, and ultimately evaluating the speaker's message and intention (Joiner, 1991). Consequently, the view of listening as a passive skill or as the neglected skill in language instruction is definitely outdated (Morley, 1990).

What are the generally accepted approaches and characteristics of second language listening comprehension? Byrnes (1984) delineates three categories of approaches in a recent review of literature: (a) linguistic approaches determine how the listener deciphers the phonological, lexical, syntactic, and semantic aspects of language; (b) conceptual approaches focus on how the listener assigns a conceptual structure to the linguistic input;
(c) communicative approaches view comprehension primarily as the result of an interaction or negotiation between speaker and listener.

The view of listening as an interactive negotiation, is a relatively recent conceptualization. Current theory recognizes two processing styles whose origins are rooted in the listening comprehension approaches categorized above. As described by Joiner (1991), bottom-up processing portrays the listener as building the message from information carried by the aural input. Top-down processing, considered to be more efficient, has the listener relying on contextual and semantic clues as well as his/her background knowledge. Therefore, poor comprehension may be the result of one of the following: a lack of background knowledge, not making connections with pertinent existing knowledge, or activating inappropriate background knowledge.

Even though the last decade has brought an increased interest in the field of second language listening and listening research, the L2 research base in listening is still in its infancy. In fact, Dunkel (1991) stresses the need for empirical investigations that assess the validity of existing assumptions.
regarding the effect that interactive factors (those that are internal and external to the listener) have on L2 listening comprehension. We can look to L1 listening research for direction; however, Witkin (1990) identified several current problems in a review of the state of the art of listening theory 
"(a) most research on listening is not based on theory, (b) the extant research is often contradictory, (c) almost no studies have been done to replicate or verify previous research" (p. 7).

Comprehension has frequently been considered a general construct that applies to both reading and listening. It involves the learner gathering information either from written or spoken discourse. In essence, comprehension is an act of communication, whether it is between speaker and listener, or author and reader. Past research efforts have had a tendency to be devoted largely to reading, despite the growing awareness that listening is an essential factor in language acquisition (Lund, 1991a). In comparing the two modalities, researchers have gone so far as to apply the principles of reading comprehension onto listening comprehension; however, Lund (1991a)
questions whether reading research automatically transfers to listening. According to Long (1989), the exact nature of the similarities between the two language skills has yet to be determined; consequently, she supports the need for further research in listening.

The Relationship Between Listening and Reading

When comparing listening to reading, Sticht et al. (1974) acknowledges that similarities exist as both processes require the use of language and result in some form of internal conceptualization. A common factor includes context because it plays a key factor in comprehension whether the learner is processing an oral or written text (Bransford & Johnson, 1972). In order to construct meaning from texts, both listeners and readers use context, image generation, and previously acquired knowledge. Interaction between various types of linguistic knowledge—phonological, lexical, grammatical, and semantic—also occurs as the reader or listener processes the message (Glisan, 1988). Other subskills noted by Glisan put to use by both reader and listener include:
1. Discriminating sounds or letters,
2. Recognizing suprasegmental patterns or sentence structure,
3. Recognizing word-order patterns,
4. Recognizing vocabulary,
5. Recognizing parts of speech,
6. Identifying key words and ideas,
7. Recognizing connecting elements,
8. Guessing meaning from context,
9. Understanding relationships between the parts of the oral or written text,
10. Understanding implicitly and explicitly stated information,
11. Understanding the implications,
12. Understanding the function of the text,
13. Listening/Reading for different purposes,
14. Retaining the main ideas of text,
15. Reacting to the text through expressions of opinions, attitude formation, etc. (p. 11)

In a theoretical taxonomy, Rubin (1980) explains one perception of the receptive skills: that the process of language comprehension via the modes of reading and listening is fundamentally the same.
Supporters of this view purport that "reading comprehension = listening comprehension skills + decoding" (Rubin, 1980, p. 411). When presenting an alternative view, Rubin notes that although the processes share some crucial subparts, they differ in significant ways. According to Rubin (1980), differences in processing are due to medium-related and message-related dimensions, which are interactive depending on the situation or the communicative purpose:

Medium-related dimensions

<table>
<thead>
<tr>
<th>Modality</th>
<th>Spoken or written formats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction</td>
<td>Written language is static, speech may be participatory.</td>
</tr>
<tr>
<td>Involvement</td>
<td>The participants' involvement in actual communication, be it spoken or written, can vary between speaker-writer and listener-reader.</td>
</tr>
<tr>
<td>Spacial Context</td>
<td>Whether or not the participants share a spacial context affects comprehension.</td>
</tr>
<tr>
<td>Temporal Context</td>
<td>Whether or not the participants share a temporal context affects comprehension.</td>
</tr>
<tr>
<td>Concreteness of Referents</td>
<td>Concreteness or abstractness of referents affects reading and listening comprehension.</td>
</tr>
<tr>
<td>Separability of Characters</td>
<td>Distinction between character or points of view differs in written and spoken mediums.</td>
</tr>
</tbody>
</table>

Message-related Dimensions

<p>| Topic               | Familiarity of topic, by listener or reader, affects comprehension. |</p>
<table>
<thead>
<tr>
<th>Structure</th>
<th>Speech is based more on clausal units and tends to be redundant. Written discourse is based on a sentential unit. The comprehension of both written and spoken modalities are affected by syntactic, lexical, and semantic knowledge.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Function</td>
<td>Functions in speech are usually in sync with the two speakers' goals (interact, get or give information, persuade), whereas in written texts the functions (describe, entertain, evoke) tend to differ from the reader's goals. (pp. 414-424)</td>
</tr>
</tbody>
</table>

Glisan (1988) also considers differences between the spoken and written message when delineating distinct processes involved in listening and reading. Because written discourse is organized by the sentential unit (whereas the clause is the major unit in speech) readers can visually follow the text sentence by sentence. Listeners, however, must recognize and process each clause aurally. Readers can rely on grammatical clues, due to the grammatical nature of written texts. Spoken language is characterized by more ungrammaticalities and shortened forms, i.e., omissions of parts of speech, etc.
Therefore, listeners need to rely more on context and content words as they decipher informal speech. Related to the rapidity of the spoken message is the fact that listeners must contend with pauses, hesitations, false starts, and connectors. Written texts, however, are highly organized providing the reader with organizational clues for building meaning. Lastly, due to the interactive process involved in conversations, listeners can usually negotiate meaning, rely on nonverbal signals, and ultimately change topics. Readers do not have this option. They are, however, able to reread and refer to previous information.

Due to the distinctions between the two language modalities, Heike (1987) cautions against an overreliance on reading theory when considering listening comprehension, and mentions that the oral characteristics of language should not be ignored. Bernhardt and James (1987), researchers in L2 reading and listening, respectively, lend support to this view as they state that "Differences between the processing of oral texts and the processing of written texts serve to complexify the inherently complex process of
comprehension" (p. 71). In addition, they note that when examining written versus oral language, two distinct processing behaviors are necessitated because of the differences in language modality. Experts in the area of assessment are gradually acknowledging the existence of differences in processing spoken and written texts.

Recall as a Measure of Listening Comprehension

Recall as an assessment of comprehension is a common measure used in first language reading research. Johnston (1983) refers to it as "the most straightforward assessment" (p. 54) of the text-reader interaction. According to Bernhardt (1991), "The use of recall is not totally new on the second language scene. In the early 1970s 'recall score' started to be listed as a dependent variable in a number of studies" (p. 200). Recall provides insight into the readers' organization of stored information, their retrieval strategies, and the method in which they reconstruct the text because no questions or prompters are given that might influence the learners' comprehension of the passage. Through careful analysis of the written
recall the researcher can observe comprehension processes as well as the effect that the readers' lack of grammatical competence has on their comprehension of the text (Bernhardt, 1991).

The immediate recall protocol procedure has been used as a measure of comprehension in numerous studies of second language reading (Allen et al., 1988; Bernhardt, 1983; Connor, 1984; Lee, 1986; Steffenson et al., 1979) and has been adopted as a measure of second language listening comprehension in recent investigations (Long, 1990; Lund, 1991a, 1991b; James, 1987; Rader, 1990; Schmidt-Rinehart, 1992). Bernhardt and James (1987) recommended the following sequence of tasks for the procedure as an analysis of reading comprehension:

1. Select an unglossed text of approximately 200 words.

2. Tell the students that they may read the text as often as necessary and that they will be asked to write down what they recall.

3. Once students have been given time to read, and to write their recall, the written protocols should be collected. (p. 71)
The procedure recommended by Bernhardt and James for the analysis of listening comprehension varies only in aspects particular to the aural text. For example, the suggested text should have a word rate of 200 words per minute and a recommended running time of one to two minutes.

A second distinction in the immediate recall protocol procedure for listening comprehension involves repeated exposures to the aural text. According to Bernhardt and James (1987), students are to be told that they will hear the text only once, that they should take no notes, and that they will then be asked to write in their native language everything they remember from the text. After the first listening; however, students are then allowed to listen to the text a second time before writing their recall protocol. The recall protocols are analyzed, thus giving insight to the manner in which learners reconstruct messages from the aural text. This analysis allows for the observation of those components in the text that interfere with understanding, consequently providing a relatively direct view of the process of comprehension (Bernhardt, 1991). In
essence, a free recall supplies a purer measure of comprehension than traditional assessment measures of listening comprehension, such as open-ended questions, multiple-choice questions, or cloze activities.

The particular procedure for the immediate recall protocol recommended by Bernhardt and James (1987) has been employed in several recent investigations in the area of second language listening comprehension. One such study by Long (1990) looked at the role that background knowledge plays in comprehension through an investigation of the effects that relevant schemata (i.e., background knowledge organized in the form of scripts or frames) and linguistic knowledge have on listening comprehension. Working with university students of Spanish, Long exposed the subjects to two different aural texts. One passage dealt with a familiar topic, the other presented an unfamiliar topic. Both aural texts were adapted from recent articles appearing in the Spanish language press (i.e., texts originally intended for reading). The immediate recall protocol procedure was used as a measure of listening comprehension; hence, subjects listened to one aural passage two times and then wrote a recall
protocol. This same procedure was followed for the second listening passage.

Prior to listening, subjects completed a demographic questionnaire that included a self-rating of their listening performance on regular examinations, as well as the grade they received in their previous Spanish course. They also completed a survey of their general knowledge of the listening passage topics, providing information concerning subjects' background knowledge of the two topics. Results indicate that if subjects lacked specific topic-related schema, they were able to rely on linguistic knowledge as they attempted to comprehend the passage. Linguistic knowledge, however, appeared not to influence comprehension when subjects had relevant background knowledge.

Rader (1990) and Schmidt-Rinehart (1992) each conducted studies in which the immediate recall protocol procedure (following procedures recommended by Bernhardt and James (1987)) was used as a measure of listening comprehension. Rader investigated the effect of word rate on comprehension, while Schmidt-Rinehart looked at the impact of topic familiarity on listening
comprehension. In Rader's study, university students in the third quarter of Spanish study were exposed to three texts of native Spanish radio broadcast narratives in three different speech rate expansions. Following the immediate recall protocol procedure, subjects listened to the aural text twice then wrote a written recall. The researcher controlled for background knowledge, thus selecting text topics unknown to the subjects. No subjects indicated prior familiarity of the text topics based on information collected in the post-listening questionnaire. Results indicate that word rate did not positively or negatively influence students' recall of the listening passage. The researcher concluded that perhaps the effect of no background knowledge precluded word rate from having a facilitative effect on listening comprehension. Concerns were raised regarding the recall protocol procedure employed; subjects may have had difficulty recalling textual information without being allowed to take notes or write a recall after each of the two exposures to the text.

Schmidt-Rinehart (1992) investigated the effects of topic familiarity on the listening comprehension of
university students of Spanish. First-, second-, and third-quarter university students of Spanish listened to two aural texts: one with a familiar topic, the other with an unfamiliar topic. Subjects' familiarity of each topic was verified by a post-listening questionnaire. The immediate recall protocol procedure was implemented, thus requiring subjects to listen to a text twice after which they would write one recall protocol. This procedure was completed with each text. Results indicate that subjects scored higher on their recalls of the familiar topic than on the novel topic, and that scores of third-quarter students differed from those students in first- and second-quarter study of Spanish. Concerning the immediate recall protocol procedure, the researcher cautions that short-term memory may have been a factor in the subject's demonstration of comprehension. In fact, she recommends that researchers consider allowing students to write after each pass of the listening passage in order to assure that what is being tapped is comprehension, not the subject's ability to remember.

Indeed, James (1986) suggested the inclusion of a preliminary written recall that would follow the first
listening in the immediate recall protocol procedure when it is used as a measure of listening comprehension. James recommended that subjects listen once without taking notes, write a short recall (in approximately three minutes), then listen a second time and write a recall without looking back at the first protocol. James contends that learning "depends upon training the short-term memory, tapping the content and structure of language contained in the short-term memory should yield insights into the processes that learners use...to perceive, absorb, and store language material" (p. 39).

A study implementing this suggested sequence of tasks (two exposures to the aural text, each followed by a written recall) was conducted by James (1987) in order to replicate the second language reading research that employed the immediate recall protocol procedure in an environment involving the listening modality. Up to that point in time, two exposures to the text, followed by one writing of a recall protocol, had been the most widely used sequence of tasks in second language reading research. In this study, James presented subjects with three text types (a dialogue,
a news broadcast, a song) to first-, second- and third-quarter university students of German. In some cases, an advanced organizer was given in which the text topic was announced prior to the listening. Students listened, but took no notes.

Following the first listening of all three texts, students were instructed to write in their native language everything they could recall from each text. They could take as long as necessary to write the recall, but were to indicate if they took more than three minutes. Subjects were then asked to continue with the second listening by selecting the text of their choice from the three original texts, listening to it a second time, and taking no notes. After the second listening, students were asked to write a final recall of the selected text, adding any new information or revising anything recalled from the first listening without looking back at the first recall.

The results indicate that the news broadcast was more difficult to process than the dialogue or the song, if the text was presented without an advanced organizer. Concerning proficiency levels, all texts were equally difficult for first-quarter students;
however, there was little difference between the performance of second- and third-quarter students. James also considered the effects of language ability, as indicated by the subject's grade in the previous German course. Results show that language ability does not correlate positively with the subject's performance on recall of the listening texts.

Regarding repeated exposure to the aural texts, James (1987) considered the content of the preliminary recall (written after the first listening) and the final written recall (completed after the second listening, with no reference to the first recall). After examining the content of the two sets of recall protocols, James concluded that the second listening allowed subjects to include additional factual information in the second recall only when the subject was aware of the passage topic. A second exposure to the aural text did not contribute to the subject's ability to add new information to the second recall when the listener was not able to recognize the topic during the first listening or, when the topic was not announced prior to the first or second listening. Consequently, conclusions can be drawn to indicate that
the first and second recall protocols differed substantially only when the subject was able to recognize the text topic during the first listening, thereby allowing the subject to include additional factual information in the second recall protocol. If the subject did not recognize the text topic during the first or second listening, information recalled in the preliminary protocol did not vary much from that which was recalled in the final protocol.

Lund (1991a, 1991b) employed repeated use of the immediate written recall in two recent investigations i.e., the listener wrote a preliminary recall following the first listening and a final recall after the second listening. In the 1991a study the process of L2 listening comprehension was compared to L2 reading comprehension. Lund hypothesized that listeners should recall more main ideas as well as more idiosyncratic responses, while readers should recall more details. This view is based on the flexible model of comprehension in which the nature of the medium affects the comprehension process. According to Lund, repetition of the listening task, which in this case is the immediate recall protocol, should help listeners
more than readers because repeated written recall protocols would allow listeners to add detail to their final recall of the aural text.

Subjects in this study—first-, second-, and third-quarter university students of German—were exposed twice to either the aural or the written text. After each exposure to the text, subjects were given five minutes to write a recall of what they understood. Results indicate that readers recalled more quantity of information than listeners. Both readers and listeners reported proportionately more main ideas and fewer details than the original text values. Total amount of information recalled was superior for third-quarter students to second-quarter students, which was superior to first-quarter students.

Repeated exposure to texts helped readers more than listeners. When considering only the third-quarter students, listeners and readers showed equal gains with regards to the preliminary recall compared to the final recall. According to Lund, the preliminary recall exercise encouraged listeners to form an explicit representation of the text before the
second listening, thereby providing subjects with a context for the second exposure to the aural text.

In a second study by Lund (1991b), in which the effect of listening tasks on comprehension was investigated, once again subjects were drawn from the population of the first three levels of university German study. Lund assigned five listening tasks to five groups of subjects:

1. Main idea: Students listened to the main ideas or topics and identified the actual topics heard in correct sequence using a list of ten possible topics.

2. Detail: Students listened for specific details in order to answer seven specific questions provided in advance.

3. General: Students were asked to understand as much of the conversation as they could and then write a recall protocol [Upon completion of the total task, subjects in this group had written two recalls].

4. Script: Students were asked to understand as much of the conversation as they could and to make mental notes of parts that were unclear. After listening, they would be able to read a summary of the conversation before listening to the text again.
5. Control: Students were asked to understand as much of the conversation as they could, after which they would 'learn how to get information about campgrounds in Germany.' This task was related to the text only by topic, but not by content. The activity consisted of reading an extract from a camping guide and trying to guess the meanings of the various symbols. (Lund, 1991b, p. 6)

After subjects completed a prelistening activity, they were then presented with an advanced organizer of the text topic. All subjects then listened to the aural text and had four minutes to complete their particular task. Upon completing the task, subjects learned that they would hear the aural passage again, after which they would have four minutes to write a recall in English in which they should include both important details and main ideas. Consequently, the subjects whose task was to focus on general comprehension completed a written recall after each of the two exposures to the aural text.

Overall results indicate that the functional listening task that was assigned to each listener encouraged a particular listening function and
behavior. That is, when a particular function was assigned, listeners adjusted their strategies accordingly, as indicated by listening comprehension scores on the recall protocols.

Results specific to the general comprehension group that wrote preliminary and final recall protocols, indicate that the second written recall showed improvement over the first recall. The percent improvement in total propositions recalled on the second recall was 65 percent for students of the first- and third-quarter courses, and 55 percent for second-quarter students. Lund concluded that having listeners complete a preliminary and final written recall added significantly to their comprehension. These conclusions conflict somewhat with those determined by James (1987) in a previously discussed investigation in which subjects' second recalls showed improvement over the first only if subjects were able to recognize the passage topic during the first listening exposure. If subjects could not recognize the passage topic during the first listening exposure; however, they were not able to improve upon the amount recalled in the final
recall protocol written after the second listening exposure.

Although neither of Lund's (1991a and 1991b) studies concentrated on the process of notetaking, they did reflect on the effect that the process of encoding (committing to writing one's mental representation) has on comprehension. Lund concluded that the encoding of the preliminary recall protocol contributed positively to the listeners' overall comprehension of the listening passage. That is, the first recall encouraged subjects to form an explicit representation of the text prior to the second listening. According to Lund, this process of encoding one's mental reconstruction of the aural text provided subjects with a context for the second listening.

The effect of encoding has been investigated in numerous studies on notetaking. Dunkel (1988) observed the effect that notetaking has on lecture learning by native and nonnative speakers of English. The researcher investigated the process of encoding (committing to writing one's mental representation) as compared to the product of encoding (the written representation or notes). Results indicate that there
was not a significant effect for notetaking on immediate recall of lecture information by natives or nonnatives. This outcome suggests that the act of encoding alone i.e., committing comprehension to writing without the subsequent review of what was written, may not facilitate effective processing of lecture information for either group of subjects. Related studies (Annis & Davis, 1975; Carter & Van Matre, 1975) support this view that the processing of an aural message may be facilitated via the encoding of notes when subjects are given the opportunity to review their notes.

The Relationship between Language Ability and Comprehension

As is evident by several of the listening comprehension studies already delineated, second language researchers have begun to investigate factors internal to the listener, such as intelligence and language facility (Samuels, 1984), inferencing ability (Rost, 1990), motivation (Carroll, 1977), and basic information-processing ability (Goss, 1982).
Dunkel (1991) cautions that:

It is clear that internal and external factors may interact in a variety of ways to make the L2 listener's task easier or more complex, but what is not clear is exactly how each functions to affect the comprehension of listeners...of different levels of language proficiency and possessing different learner traits. (p. 444)

James (1987) looked at the effect of the listener's language ability (as indicated by grade in the previous language course) on listening comprehension and determined from the results of the investigation that this factor does not correlate positively with the subject's ultimate listening performance. He found that if subjects could not recognize the topic of the aural passage initially, their language ability did not appear to assist in their comprehension of the passage during the second exposure to the passage (as indicated by the information recorded in subjects' preliminary and final recalls).

In an investigation of the effect of linguistic aptitude (as determined by the subjects' grades in the
preceding German course) and visual contextual organizers on listening comprehension by Mueller (1979), the researcher determined that more proficient foreign language learners needed less assistance from visual contextual clues to activate related schema, whereas less proficient learners needed more verbal contextual organizers. Long (1990) also studied the relationship between the subject's linguistic competence (as indicated by the subject's grade in the previous language course). Third-quarter students of Spanish listened to two passages, one dealing with a familiar topic and the other an unfamiliar topic. The passages had been adapted from articles appearing in the Spanish press. Results of this study indicate a positive correlation between subjects' previous course grades and their comprehension measure of the unfamiliar topic. When subjects' familiarity of the aural text topic was not available, they relied on their linguistic knowledge to negotiate meaning from the passage of the unfamiliar topic. Consequently, subjects' language ability played an important role in their efforts to gain comprehension of an unfamiliar text topic. When subjects did have relevant background
knowledge of the topic and high language ability, they appeared to be more confident and wrote longer recall protocols.

Unfortunately, the results of the aforementioned studies conflict. While Mueller (1979) found that language aptitude has a positive effect on learners' listening comprehension, Long (1990) found this to only be true when subjects were working with an unfamiliar topic. In the study by James (1987) results indicate that language ability assisted learners only when they could recognize the topic of the passage. These results conflict directly with those of Long. Indeed, the motivation is clear for Dunkel's (1991) urging of verification and replication of studies and the "dire need of empirical investigations that assess the validity of our assumptions regarding the interactive effects certain factors [internal to the listener] have on L2 listening comprehension" (p. 444). The effect of language ability on L2 listening comprehension is a factor that clearly warrants further investigation.
CHAPTER III
PROCEDURES
Population and Sample

The population from which this sample was drawn consisted of university students of third-quarter Spanish at The Ohio State University. There is a two-year high school foreign language entrance requirement at The Ohio State University, and a foreign language placement exam is required of students who studied a foreign language at the high school level upon admission to The Ohio State University. According to their placement exam score, students place at varying levels of Spanish (102.01 or 102.66, a course covering 102.01 content and reviewing 101.01 content). Students may also have the option of enrolling in an intensive course, Spanish 110.01 that covers both 101.01 and 102.01 content. Those students who have not had any coursework in Spanish must enroll in Spanish 101.01. Therefore, students in Spanish 103.01 have either placed into it directly as a result of a high performance on the placement exam, or they have
successfully completed one or both of the previous courses in the sequence (at O.S.U. or elsewhere).

The Spanish curriculum at O.S.U. is structured in order to address equally the skills of speaking, reading, listening, and writing. Course objectives are clearly delineated in the course syllabi that are used by all department instructors, and these objectives clearly follow the textbook, *Puntos de partida*, third edition, by Knorre, Dorwick, VanPatten, and Villarreal (New York, Random House, 1989). Chapters 13 through 19 are addressed in Spanish 103.01, while chapters one through six are addressed in Spanish 101.01 and chapters seven through 12 in Spanish 102.01.

The evaluation of student achievement is based on class participation and homework, chapter quizzes, composition exams, oral exams, one midterm exam, and one final exam. Students in these courses are assigned listening tasks and are expected to use an audio tape program on a regular basis when preparing for class. The midterm and final exams (developed by the department) consist of the following components: grammatical structures (50%), listening (20%), reading (20%), and culture (10%). All instructors of Spanish
103.01 and its prerequisite courses use departmental exams.

The Spanish 103 classes receive conventional classroom instruction for five periods a week (48-minute class sessions) mainly from Graduate Teaching Associates.

Third-quarter Spanish students were selected as the population for several reasons. Despite being beginners in their study of Spanish, students at this level have been exposed to aural texts during the previous two courses. They are accustomed to listening to short passages for practice and for assessment purposes. Besides having worked with aural texts, the third-quarter students have been exposed to and have knowledge of most major grammatical concepts of Spanish; therefore, the results of this study can be viewed as a direct consequence of the treatment conditions and did not run the risk of being influenced by subjects' unfamiliarity with the Spanish language.

The sample consisted of ten intact class sections of third-quarter Spanish randomly selected from morning and afternoon classes offered during spring quarter 1992. Classes varied in size from 15 to 24 students.
The researcher randomly assigned two of the four task variations of the immediate recall protocol procedure to each class section. Data collected from any subjects who identified themselves as having a native language other than English were removed. The final sample size was 120 students.

Table 2 describes the number of years of high school Spanish completed by the sample. Of the subjects in Procedure one, 77% had two to three years of high school Spanish instruction, while 6% had four years of high school Spanish. Subjects following Procedure two consisted of 70% who had between two to three years of Spanish instruction in high school, and 13% with four years. Procedure three was comprised of 63% who had two to three years of high school Spanish instruction with 20% having had four years. Subjects following Procedure four included 50% who had two to three years of high school Spanish and 27% with four years.
Table 2

High School Spanish Language Instruction

<table>
<thead>
<tr>
<th>Procedure</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>One (n=30)</td>
<td>10%</td>
<td>6%</td>
<td>37%</td>
<td>40%</td>
<td>6%</td>
</tr>
<tr>
<td>Two (n=30)</td>
<td>13%</td>
<td>3%</td>
<td>33%</td>
<td>37%</td>
<td>13%</td>
</tr>
<tr>
<td>Three (n=30)</td>
<td>6%</td>
<td>10%</td>
<td>43%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Four (n=30)</td>
<td>23%</td>
<td>0</td>
<td>23%</td>
<td>27%</td>
<td>27%</td>
</tr>
<tr>
<td>TOTAL (n=120)</td>
<td>13%</td>
<td>5%</td>
<td>34%</td>
<td>31%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Concerning Spanish courses completed at The Ohio State University (Table 3), subjects having completed Spanish coursework prior to 103 at O.S.U. (either 101 and 102, 102 only, 102.66 only, or 110 only) consist of 89% for Procedure one, 73% for Procedure two, 79% for Procedure three, and 96% for Procedure four. When considering the total sample, only 15% of the subjects had taken no previous Spanish coursework at The Ohio State University.
Table 3

Spanish Courses Completed at The Ohio State University

<table>
<thead>
<tr>
<th>Procedure</th>
<th>0</th>
<th>101 &amp; 102</th>
<th>102</th>
<th>102.66</th>
<th>110</th>
</tr>
</thead>
<tbody>
<tr>
<td>One (n=30)</td>
<td>10%</td>
<td>23%</td>
<td>33%</td>
<td>30%</td>
<td>3%</td>
</tr>
<tr>
<td>Two (n=30)</td>
<td>27%</td>
<td>37%</td>
<td>13%</td>
<td>17%</td>
<td>6%</td>
</tr>
<tr>
<td>Three (n=30)</td>
<td>20%</td>
<td>23%</td>
<td>43%</td>
<td>13%</td>
<td>0</td>
</tr>
<tr>
<td>Four (n=30)</td>
<td>3%</td>
<td>43%</td>
<td>33%</td>
<td>17%</td>
<td>3%</td>
</tr>
<tr>
<td>TOTAL (n=120)</td>
<td>15%</td>
<td>32%</td>
<td>31%</td>
<td>19%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Research Design

A two-way analysis of variance was selected for this study in order to determine the main effects among independent variables and interaction effects. Factors in the analysis of variance were variation in the sequence of tasks for the immediate recall protocol procedure and language ability. The design layout can be found in Table 4.
Table 4

Research Design

4 X 3 Factorial Design

<table>
<thead>
<tr>
<th>Procedure Variations (A)</th>
<th>Language Ability (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High/ Medium/ Low</td>
</tr>
<tr>
<td></td>
<td>(B1) (B2) (B3)</td>
</tr>
</tbody>
</table>

Procedure 1
(A1)

Listen/Recall
n=30

Procedure 2
(A2)

Listen/Listen/Recall
n=30

Procedure 3
(A3)

Listen/Recall 1/Listen/Recall 2
[Recall 1 collected]
n=30

Procedure 4
(A4)

Listen/Recall 1/Listen/Recall 2
[Recall 1 retained through entire procedure]
n=30
Variables and Treatment Conditions

The first independent variable, variation in the sequence of the tasks implemented in the immediate recall protocol procedure, consisted of four task variations:

1. Listen, write recall.
Subjects were given one exposure to the aural text, followed by a written recall exercise.

2. Listen, listen, write recall.
Subjects were given two exposures to the aural text, followed by a written recall exercise.

3. Listen, write recall, listen, write recall.
Subjects were given one exposure to the aural text after which they wrote a preliminary recall. This first recall protocol was collected prior to the second listening. Subjects were given a second exposure to the text after which they wrote a final recall.

4. Listen, write recall, listen, write recall.
Subjects were given one exposure to the aural text after which they wrote a preliminary recall. Subjects retained this recall during the second exposure to the text and during the writing of the final recall.
The second independent variable, subjects' language ability, was indicated by their grade in the previous Spanish course completed prior to this investigation (regardless of when/where the previous course was taken). Subjects recorded this information on a post-listening questionnaire. Language ability was categorized by three levels:

1. high (grade point of 3.2 to 4.0)
2. medium (2.1 to 3.1)
3. low (0 to 2.0).

The dependent variable was the subject's listening comprehension score, as indicated by the percentage of text material recalled as demonstrated by the immediate recall protocol score.

Explanation of the Variables

The Immediate Recall Protocol Procedure

Due to the lack of "a widely-accepted standardized instrument compatible with present knowledge about listening, many foreign language researchers have adopted the recall protocol...as a measure of listening" (Joiner, 1991, p. 10). In the past, this instrument has frequently been used as a measure of
first language reading comprehension. Johnston (1983), a specialist in first language reading, called the free recall "the most straightforward assessment" (p. 54) of text-reader interaction.

The immediate recall protocol procedure has also been implemented in numerous studies of second/foreign language reading (Allen et al., 1988; Bernhardt, 1983, 1988; Connor, 1984; Lee, 1986) and listening (James, 1987; Long, 1990; Lund, 1991a, 1991b; Rader, 1990; Schmidt-Rinehart, 1992). According to Bernhardt and Deville (1991), "Recall protocols permit the analysis of the manner in which learners reconstruct messages from text as well as the observation of those components in texts which interfere with understanding" (p. 50).

In a recent review of language testing, Bachman (1991) stresses the necessary characteristics of communicative language tests, one of which includes the "integration of test tasks and content within a given domain of discourse" (p. 678). Because of its ability to examine the extent to which a text communicates a coherent message to a reader or a listener, Bernhardt and Deville (1991) contend that the immediate recall
has proven to be "an effective and valid integrative measure of comprehension" (p. 50), whereas traditional discrete point measures of testing reading and listening comprehension reflect only part of the comprehension process.

The sequence of tasks generally followed in the immediate recall protocol procedure consists of two exposures to the text, be it aural or written, after which a written recall protocol is completed in the subject's first language (English, in this case).

**Variations in the Sequence of Tasks**

In recent investigations of listening comprehension by James (1987) and Lund (1991a, 1991b), the generally accepted sequence of tasks for the immediate recall protocol procedure were varied; however, this alteration in the procedure was not the focal point of any of the three studies. An additional step was included in the immediate recall protocol procedure that consisted of a preliminary written recall protocol completed after the first exposure to the listening passage. Results, although mixed, indicate that in most cases the preliminary recall
exercise contributed to gains in information recalled in the final recall, which followed the second exposure to the listening passage. Questions remain, however, concerning the effect of the preliminary recall as a process of encoding. Does the mere act of completing a preliminary recall help subjects construct a mental representation of the aural text, or do subjects need to see and review this recall during the second listening?

These questions warrant investigation, especially when considering caveats noted as a result of recent empirical studies. Both Rader (1990) and Schmidt-Rinehart (1992) raised concerns regarding the postponement of a written recall until after the second exposure to the aural text. Rader notes that subjects complained of not being allowed to take notes while listening. She contends that subjects may have had difficulty recalling textual information after extended exposure to the aural text without being permitted to take notes or write a recall after the first exposure. Schmidt-Rinehart questions whether short-term memory had an effect on subjects' demonstration of
comprehension because the recall was written after subjects had heard the passage twice.

Treatment conditions employed in this experiment were selected according to the aforementioned suggestions and the combination of procedure sequences that have been employed in past investigations of second/foreign language listening comprehension.

The variation in the sequence of tasks in the immediate recall protocol procedure employed in the experiment include the following variations. (See Table 5.)
Table 5

Procedure Variations

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Procedure Variations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Listen</td>
</tr>
<tr>
<td></td>
<td>Recall</td>
</tr>
<tr>
<td>2</td>
<td>Listen</td>
</tr>
<tr>
<td></td>
<td>Listen</td>
</tr>
<tr>
<td>3</td>
<td>Listen</td>
</tr>
<tr>
<td></td>
<td>Recall #1</td>
</tr>
<tr>
<td></td>
<td>Listen</td>
</tr>
<tr>
<td></td>
<td>Recall #2</td>
</tr>
<tr>
<td></td>
<td>[Recall #1 collected]</td>
</tr>
<tr>
<td>4</td>
<td>Listen</td>
</tr>
<tr>
<td></td>
<td>Recall #1</td>
</tr>
<tr>
<td></td>
<td>Listen</td>
</tr>
<tr>
<td></td>
<td>Recall #2</td>
</tr>
<tr>
<td></td>
<td>[Recall #1 not collected]</td>
</tr>
</tbody>
</table>

(Note. See Appendix A for general directions and specific instructions for the four variations in the immediate recall protocol procedure.)

Listening Passage

The aural text that was used for this study was authentic in the orality of the language, i.e., it contained all the characteristics of "planned spoken language" (Reves & Levine, 1988, p.330); it was not a script or a written article read out loud. (See
script or a written article read out loud. (See Appendix B for the Spanish passage.) According to Ur (1984), despite the fact that most heard speech is spontaneous and colloquial in nature, many listening comprehension exercises today are based on formal spoken prose. Byrnes (1984) notes that oral language occurs in four modes:

1. Spontaneous free speech which is characterized by the interactiveness of the situation (turn-taking, overlapping speech, repairing, etc.).

2. Deliberate free speech occurs in interviews and discussions (it has higher informational value, but maintains some of the production-related characteristics of spontaneous speech).

3. Oral presentation of a written text as it occurs in newscasts, commentaries, and lectures.

4. Oral presentation of a fixed, rehearsed script such as occurs on stage or in a film. (p. 319)

When considering the controversy of authentic versus nonauthentic listening material, Dunkel (1986) refers to Ur's (1984) statement that there may be advantages to using speech which is not entirely authentic in listening exercises. Ur, in fact,
texts is necessary. She suggests that learners may learn best from listening to speech which, although not totally authentic, "is an approximation to the real thing and is planned to take into account the learners' level of ability and particular difficulties" (Ur, 1984, p. 24). Ur makes several suggestions for creating near-authentic texts, two of which are to provide the speaker with a skeleton text or notes, and to introduce the speaker to a basic situation followed by his/her own improvisation of the situation.

Numerous types of texts have been employed in studies of listening comprehension. In fact, there is a lack of consensus concerning which types of listening texts are best for research purposes (Long, 1990). As previously mentioned, researchers have selected news broadcasts, song lyrics, dialogues, narratives, and adaptations of written works. Because of the specialized language used in news broadcasts, Weissenrieder (1987) cautions against the use of these without careful teacher guidance, especially if they are to be used with lower-level learners. In studies by Long (1990) and Lund (1991a), listening passages were based on adaptations of written works. Reves and
Levine (1988), however, promote the use of aural texts that are not written articles read aloud, but those that have all the characteristics of planned spoken language. In two very recent investigations (Lund, 1991b; Schmidt-Rinehart, 1992) selected listening passages have been based on texts more spontaneous in nature. Lund chose a text that was elicited by a contact person going out into the community in search of information. The contact person asked questions of a native speaker (the L2 resource person). The actual questions and replies generated by the L2 resource person were not rehearsed. Consequently, the aural text used in this experiment was complete with pauses, false starts, redundancies, and background noises. The text used by Schmidt-Rinehart (1992) fits the description of "free deliberate speech" (Byrnes, 1984), i.e., upon being given guidelines for content, the speaker was asked to speak in a natural conversational manner explaining the topic as if he were talking with a friend.

The listening passage for this study was abstracted from a narrative that was created according to the aforementioned criteria suggested by Ur (1984).
The native speaker was not presented with specific guidelines or notes; however, he was given a theme upon which to expound: unexpected incidents that occur during travel experiences. He was shown a list of travel-related vocabulary to which the subjects had been exposed in a previous Spanish course. The native speaker then described an unexpected event that occurred during a recent trip. No script or specific content was provided. The actual aural text used in the study was a short cohesive segment of a much longer narrative.

Previous practices vary concerning the overall length and word-per-minute rate of aural texts used in investigations of listening comprehension. Based on recommendations made by Bernhardt and James (1987), the running time of the text should be one to two minutes, at a speed of approximately 200 words per minute. James (1986) believes that "sensory overload" (p. 41) will be induced by any listening passage running over three minutes, unless the topic is highly entertaining or of key interest to listeners.

Upon reviewing studies of second/foreign language listening comprehension, there clearly exists a wide
range of passage lengths and speeds that have been implemented. Word rate per minute and total running time are frequently not reported in studies. The range of reported times and rates used in recent studies include: 123 words per minute with a total running time of one minute 26 seconds (Schmidt-Rinehart, 1992), 150-word text—no rate or running time length provided (Lund, 1991a), 220-word text—no rate or running time length provided (Voss, 1984), 396-word passage at 226 words per minute for a total running time of one minute 45 seconds.

When the rates and running times reported above are averaged together with those recommended by Bernhardt and James (1987), the outcome is 184 words per minute at a running time of one minute 57 seconds. The aural text used in this experiment had a rate of approximately 189 words per minute and a running length of two minutes four seconds.

The listening passage that was used for the study was recorded by a Mexican male with a doctoral degree in education. Research in the area of sociolinguistics indicates that listeners pay closer attention to
speakers and consider them to be more credible in terms of expertness (Markham, 1988).

Questions of Background Knowledge

Because of the critical nature that background knowledge plays in the area of listening comprehension (Byrnes, 1984; Dunkel, 1986; Long, 1989), several steps were conducted to ensure the subjects' familiarity with the topic of the aural passage. In order to attribute the results of the proposed study to the four treatment conditions, a text topic familiar to the subjects was selected. Travel, the general topic for the aural text, is the central theme of two chapters presented in the textbook that is used for instruction in first-, second- and third-quarter Spanish courses at The Ohio State University. This theme (travel) is the basis for vocabulary building, language exercises, and readings presented throughout the chapters. The format of the textbook is such that once vocabulary and grammatical concepts have been introduced, they are recycled throughout the remaining chapters. The narrative relayed by the speaker dealt specifically with the topic of air travel and related problems. Based on a
preliminary survey using a separate sample of subjects within the same population, the researcher was able to determine that subjects' were highly familiar with this theme; in fact, many had firsthand experience with it. Subjects' familiarity and background knowledge of this text topic were reconfirmed in the pilot study using a post-listening questionnaire.

During data collection, the subjects' were asked to verify their familiarity with the topic by completing a questionnaire after the listening and recall tasks. (Post-listening questionnaire may be found in Appendix C.) Subjects were asked a series of questions that related to the topic of travel specific to the listening passage:

11. Have you ever been to an airport?
   Yes No

12. Have you ever traveled by airplane?
   Yes No

13. Have you ever experienced an incident similar to that which was described by the native Spanish speaker on the recording?
   Yes No Didn't understand
14. Have you ever traveled to another country?
   Yes   No
15. Have you ever been through customs (upon your return to the USA)?
   Yes   No
16. When a plane enters or returns to the USA from abroad, it passengers must deplane at an international airport.
   Yes   No

In the passage that was used for the experiment, the speaker relays an air travel incident in which he was returning to the United States from Mexico. This trip involved unexpected delays, a detour because of bad weather, the need to land at an international airport in order to clear customs, and further detours during the return flight to Columbus, Ohio. Consequently, the post-listening questions concerning the subject's background knowledge were developed to relate specifically to the events mentioned in the listening passage.

The post-listening questionnaire results (See Table 6.) indicate that an overwhelming majority of the subjects have airport experience (99%) and have
traveled by airplane (88%), thereby being familiar with the process of air travel and possible unexpected incidents related to air travel. Based on their responses to the post-listening questions, subjects had not had direct experience with traveling outside of the United States, nor with the process of clearing customs. Despite the absence of firsthand knowledge with international travel, a large percentage of the subjects (81%) recognized the need for a plane entering the United States from abroad to land at an international airport. Consequently, the post-listening questionnaire results related to background knowledge show that subjects had firsthand experience with air travel and airports, as well as a clear understanding of the need for airplanes to land at international airports when returning to the United States from abroad.
Table 6

**Results of the Post-listening Questions**

### #11 Have you ever been to an airport?

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure One</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>Procedure Two</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>Procedure Three</td>
<td>97%</td>
<td>3%</td>
</tr>
<tr>
<td>Procedure Four</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>99%</td>
<td>1%</td>
</tr>
</tbody>
</table>

### #12 Have you ever traveled by airplane?

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure One</td>
<td>97%</td>
<td>3%</td>
</tr>
<tr>
<td>Procedure Two</td>
<td>87%</td>
<td>13%</td>
</tr>
<tr>
<td>Procedure Three</td>
<td>87%</td>
<td>13%</td>
</tr>
<tr>
<td>Procedure Four</td>
<td>83%</td>
<td>17%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>88%</td>
<td>12%</td>
</tr>
</tbody>
</table>
Table 6 (continued)

#13 Have you ever experienced an incident similar to that which was described by the native Spanish speaker on the recording?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Uncertain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure One</td>
<td>20%</td>
<td>23%</td>
<td>56%</td>
</tr>
<tr>
<td>Procedure Two</td>
<td>30%</td>
<td>40%</td>
<td>30%</td>
</tr>
<tr>
<td>Procedure Three</td>
<td>30%</td>
<td>57%</td>
<td>13%</td>
</tr>
<tr>
<td>Procedure Four</td>
<td>20%</td>
<td>60%</td>
<td>20%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>25%</td>
<td>45%</td>
<td>30%</td>
</tr>
</tbody>
</table>

#14 Have you ever traveled to another country?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure One</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Procedure Two</td>
<td>47%</td>
<td>53%</td>
</tr>
<tr>
<td>Procedure Three</td>
<td>53%</td>
<td>47%</td>
</tr>
<tr>
<td>Procedure Four</td>
<td>53%</td>
<td>47%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>53%</td>
<td>47%</td>
</tr>
</tbody>
</table>
## Table 6 (continued)

### #15 Have you ever been through customs (upon your return to the USA?)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure One</td>
<td>40%</td>
<td>60%</td>
</tr>
<tr>
<td>Procedure Two</td>
<td>47%</td>
<td>53%</td>
</tr>
<tr>
<td>Procedure Three</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Procedure Four</td>
<td>40%</td>
<td>60%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>44%</td>
<td>56%</td>
</tr>
</tbody>
</table>

### #16 When a plane enters or returns to the USA from abroad, its passengers must deplane at an international airport.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Yes</th>
<th>No</th>
<th>Uncertain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure One</td>
<td>73%</td>
<td>17%</td>
<td>10%</td>
</tr>
<tr>
<td>Procedure Two</td>
<td>70%</td>
<td>10%</td>
<td>20%</td>
</tr>
<tr>
<td>Procedure Three</td>
<td>90%</td>
<td>7%</td>
<td>3%</td>
</tr>
<tr>
<td>Procedure Four</td>
<td>90%</td>
<td>3%</td>
<td>7%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>81%</td>
<td>9%</td>
<td>10%</td>
</tr>
</tbody>
</table>
A vocabulary check was completed on the listening passage for the proposed study in order to determine whether or not the selected text contained a disproportionate amount of unfamiliar vocabulary, a factor that could be a detriment to subjects' comprehension. Of the 289 total words in the listening passage, 99% were found in the textbook, 94% of these words were included in the textbook vocabulary lists. Of the six percent not found in the textbook vocabulary lists, 50% of these words were cognates. (See Appendix D for a complete listing of vocabulary from the listening passage.)

Language Ability

The second independent variable is language ability, as indicated by the subject's grade in the previous Spanish course. In the post-listening questionnaire (See Appendix C.), subjects were asked to indicate their grade in the previous Spanish course.

In an effort to encourage the verification and validation of current assumptions via empirical investigations, Dunkel (1991) recommends the need to determine which factors, internal and external to the
listener, impact positively or negatively on second language listening comprehension. Empirical results concerning the effect of language ability on second language listening comprehension are mixed, at best.

In studies by James (1987) and Long (1990), language ability, as indicated by the subject's grade in the previous language course, appear to be affected by an overriding influence of the presence or absence of background knowledge.

Long concluded that when subjects lacked specific topic-related knowledge, they were able to rely on their language ability when attempting to comprehend the listening passage (as indicated by a moderate relationship between subject's language ability and total idea units recalled). When subjects had both high language ability and background knowledge working together, Long concluded that they had more confidence and consequently wrote longer recall protocols. James (1987), on the other hand, concluded that language ability had little or no effect on subjects' recalls if they did not recognize the aural text topic from the onset of the listening exposures.
Scoring

The subjects' immediate recall protocols were analyzed quantitatively using the Johnson System (Johnson, 1970). The Johnson System is an objective methodology in which verbal passages are divided into semantic units based on pausal locations. In other words, a semantic unit is one that has a pause on either end of it. Three native speakers of Spanish, three near-native speakers of Spanish, and the speaker of the passage worked with the researcher to calibrate the passage. The passage was divided into semantic units and the panel rated the structural importance of each semantic unit within the aural text. (See Appendix E for semantic units and semantic unit values for listening passage.) Ultimately, the total number of linguistic subunits was divided by four in order that subunits of equal semantic importance were ranked equally. The researcher scored the protocols. Approximately three months after the original scoring session, 20% of the recall protocols were randomly selected to be rescored by the researcher for the purpose of determining reliability. Intra-rater reliability was determined to be .92.
Johnson (1970) contends that the linguistic units vary in their structural significance to the aural text. Raters must "eliminate insignificant subunits until only 1/4, 1/2, or 3/4ths of the original number of words" remain in the whole passage (Johnson, 1970, p.13). The rating of idea units was conducted with the help of a panel of experts consisting of native and near-native speakers of Spanish.

The Johnson System was favored over the Meyer System (Meyer, 1985), another well-known scoring instrument implemented in first and second language reading research, because of ease in scoring. Bernhardt (1991) determined that the two systems have a correlation of .90 and that they tap the same comprehension behavior. Consequently, because the Meyer System requires 30 to 60 minutes scoring time per protocol, whereas the Johnson System necessitates approximately 10 minutes scoring time per protocol, the researcher selected the latter scoring system to be used in the proposed study.

Data Collection

Permission to collect data from third-quarter Spanish students was sought from the Department of
Spanish and Portuguese at The Ohio State University for the spring quarter of 1992. The researcher used intact classes that were randomly selected to participate in the study. The researcher contacted and met individually with the course instructors the fifth week of the quarter in order to confirm their students' participation in the proposed study and to explain the procedures of the experiment. Although the instructors were notified that the investigation would focus on listening comprehension, they were not exposed to the listening passage.

Actual data collection occurred the ninth week of the quarter. By this time in the quarter all pertinent grammatical concepts had been presented in the third-quarter Spanish course. Upon arrival at the language laboratory, students were invited to participate in the proposed study. The researcher explained that the aural text and the subsequent recall exercise would provide them with practice in listening comprehension. It was anticipated that this type of listening exercise format would be beneficial for students' listening development and preparation for their final
test as the final exam includes a task in listening comprehension.

Prior to the experiment, the researcher reserved the laboratory and checked the proper functioning of the equipment. The language laboratory was used as the location of data collection because of (1) the acoustic quality of the lab, and (2) its capability to provide each subject with similar sound exposure to the listening passage. The intact classes were asked to meet with their instructors and the researcher at the university language laboratory. Students each sat at a carrell. Every carrell was equipped with a headphone and a volume control. All classes were informed of the experiment and asked to participate voluntarily.

Each student was given a folder containing a written copy of the general instructions, instructions specific to the procedure variation assigned, and piece of paper on which to write the recall protocol (color coded according to the procedure variations). (See Appendix A.) General instructions, including an announcement of the passage topic, were presented orally as well as in written form. Students then read the instructions particular to the assigned procedure
variation. The researcher then asked for questions from any students who may not have understood.

Following the introduction of general and specific instructions, all students heard a practice passage (an introduction to the topic of the actual listening passage) so that they could adjust the volume and become accustomed to the speaker's voice. Once it was certain that all students had adjusted the volume, none had problems with the sound equipment, and all understood the task, the experiment began.

During the experiment, two of the four procedures were randomly assigned to each intact class. Procedures one and two were randomly assigned to intact class sections, while procedures three and four were randomly assigned to the other intact class sections. Each subject listened to the aural text, either one or two times, depending on the treatment condition. No student was allowed to take notes. Students responded in written form after they had listened to the tape for the final time.

In procedure one, students listened to the text one time only and wrote a recall. Those students in procedure two listened to the text two consecutive
times, then wrote a recall. Students in these two groups each received one blank page on which to write their one recall protocol. Students were given 10 minutes to complete their recalls, though all took less than the allotted time. Once the subjects in procedure one and two had completed their written recalls, the recall protocols were collected, and the post-listening questionnaire was administered simultaneously to the entire intact class.

Procedures three and four were randomly assigned to intact classes. The subjects in both groups three and four listened to the aural text one time, after which they completed the first written recall. In the case of procedure three, the first recall was immediately collected after the initial exposure to the aural text and prior to the second exposure to the passage. Students following procedure four, however, retained their preliminary recall. They were encouraged to refer to it during the second listening and during the writing of the final recall. Once all subjects had been given time to complete their preliminary recall (none required more than 10
minutes), the entire intact class was exposed to the aural text for a second time.

Following the second listening, both groups three and four completed their final written recall. Upon completion of the second recall, it was collected from the entire group, and students were asked to complete the post-listening questionnaire. Students were able to complete the immediate recall protocol procedure and the post-listening questionnaire within the 48-minute class period.

The main purpose of the post-listening questionnaire was to collect information concerning the subjects' language ability as indicated by their grade in the last Spanish class. Subjects recorded additional information concerning Spanish language courses taken at O.S.U. and the number of years of Spanish language study in high school. The questionnaire also contained questions relating to subjects' reactions to the procedure variation as well as their background knowledge of the passage topic.

Students in procedures one and two each wrote one recall protocol, whereas students in groups three and four completed two written recalls; one after the first
listening and a final recall following the second listening.

The researcher asked students to each write the last four digits of their social security number at the top of each protocol and on the post-listening questionnaire for easy, yet anonymous, identification. Because it was crucial that subjects wrote the recall protocol in a common native language (i.e., English), the researcher asked all subjects to indicate their first language on the post-listening questionnaire. During the time that subjects were completing the post-listening questionnaire, they were not given the opportunity to refer to their written recall(s) as these were collected before the questionnaire was administered.

Pilot Study

A pilot study, using two randomly selected intact 103.01 Spanish classes, was conducted the second week of spring quarter 1992, seven weeks prior to the actual experiment. Procedures one and two were randomly assigned to one class, while procedures three and four were assigned to the other class. Neither of the two
classes that participated in the pilot study were included in the sample of the actual experiment.

The purpose of the pilot study was to refine the general and specific instructions for each procedure. The procedure variations used for the pilot study were identical to the procedures delineated in the data collection and the data analysis. The pilot study allowed the researcher to determine if general instructions and specific task directions were comprehensible to subjects.

The 48-minute class period provided sufficient time for the students to complete the procedure variations. Language laboratory acoustics were determined to be appropriate conditions in which students could complete the experiment procedures, and the equipment functioned without problem. The researcher was able to ascertain the acceptability of the listening passage and topic, based on subjects' written reactions and comments in the post-listening questionnaire.

Based on the results of the pilot study, several changes were made. The printed directions for each task variation were shortened slightly by deleting the
instructions to begin work on the post-listening questionnaire. It was decided that no subject should have access to the questionnaire until the recall protocol had been collected. In the actual study, written protocols were collected first then the questionnaires were distributed. In order to facilitate a timely collection of the group three protocols, protocol papers for each procedure variation were color-coded.

A third change involved the addition of a practice passage to the procedure. This provided the subjects with the opportunity not only to adjust the volume of the headphones, but it also gave them the opportunity to become acquainted with the speaker's voice prior to the beginning of the experiment.

Additional questions that were designed to tap the subjects' familiarity with the passage topic were included in the post-listening questionnaire. The original questionnaire contained the questions: "Have you ever been to an airport?" and "Have you ever traveled by airplane?". Because the listening passage dealt specifically with international air travel, the following questions and statement were added to the
original two: 14. "Have you ever traveled to another country?", 15. "Have you ever been through customs (upon your return to the USA)?", and 16. "When a plane enters or returns to the USA from abroad, its passengers must deplane at an international airport.". An affirmative response by the subjects indicated familiarity of the topic.

Data Analysis

The researcher scored the recall protocols for quantitative analysis using the Johnson System (Johnson, 1970).

The recall scores were statistically analyzed to determine if there were any effects of the independent variables on the dependent measure. A 4 X 3 analysis of variance was employed to test for main effects of the independent variables (procedure variation and language ability) on the recall protocol measure. Subsequent multiple comparison procedures were executed to determine if any of the procedure variations were statistically significantly different. The Statistical Analysis System (SAS) package was applied at the Academic Computing Services of The Ohio State University.
Null Hypotheses

Ho1: There will be no significant effect attributable to four procedure variations in the immediate recall protocol procedure on recall measures of listening comprehension in third-quarter university Spanish students.

Ho2: There will be no significant relationship between subjects' language ability and recall measures of listening comprehension in third-quarter university Spanish students.

Ho3: There will be no significant interaction attributable among the four variations in the sequence of tasks of the immediate recall protocol procedure and language ability.

Ho4: There will be no significant difference between combined mean recall scores of listening comprehension for students exposed to Procedures 1 & 2 and for students exposed to Procedures 3 & 4.
CHAPTER IV
RESULTS AND DISCUSSION

Introduction

The purpose of this study was to investigate the effect that varying the immediate recall protocol procedure would have on recall measures of listening comprehension for university students of intermediate Spanish. The subjects, in ten intact classes of third-quarter Spanish, listened to one passage of two minutes four seconds in length recorded by a native speaker of Spanish. The passage was about an unexpected incident that occurred to the speaker while traveling by airplane. In fact, the incident described is one that the speaker actually experienced. The speech employed in this listening passage fits the characterization of "deliberate free speech" (Byrnes, 1984, p. 319). Following recommendations made by Ur (1984) for developing near authentic texts, the speaker was introduced to a basic theme or situation. He then created his own improvisation of the theme. The text was scripted afterwards.
All subjects listened to the passage at least once; no one was allowed to take notes. Specific variations of the immediate recall procedure that were employed in this study are as follows:

Table 7

**Procedure Variations**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Variations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Listen</td>
</tr>
<tr>
<td>2</td>
<td>Listen</td>
</tr>
<tr>
<td>3</td>
<td>Listen</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Listen</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In each recall exercise subjects were asked to write in their native language (English) an account of all that they could remember from the passage.

The independent variables of the study were (a) four levels of variation in the immediate recall
protocol procedure and (b) three levels of language ability as indicated by the subject's grade in the previous Spanish course completed prior to this study. The dependent variable was the subject's listening comprehension score, indicated by the percentage of listening passage material recalled as demonstrated by the immediate recall protocol.

The recall protocols were analyzed quantitatively using the Johnson System (1970), a procedure in which the listening passages are divided into semantic units based on pausal locations. Each semantic unit is assigned a value of one to four according to its structural importance to the overall passage (four being the most important, one being the least). In the scoring process the protocols are analyzed and awarded the assigned value for each semantic unit recalled.

A 4 (procedure) X 3 (language ability: high, medium, low) analysis of variance was performed on recall protocol scores in order to determine main effects among the independent variables as well as interaction effects. The analyses were completed using the Statistical Analysis System (SAS) at The Ohio State University Academic Computing Services.
Data Analysis

The results of an initial analysis demonstrated that interaction between the variables of procedure and language ability was not significant at the p<.05 level (F(6,119)=.59). (See Appendix F for summary table.) Group means in Table 8 demonstrate that subjects' language ability within the procedure groups was consistent. The group means for language ability, as indicated by the subjects' grade in the previous Spanish class, ranged from a 3.05 grade point to 3.16 (on a 4.0 scale) for the four procedures.

Table 8

Group Means and Standard Deviations for Language Ability by Procedure

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.12</td>
<td>0.65</td>
</tr>
<tr>
<td>2</td>
<td>3.16</td>
<td>0.70</td>
</tr>
<tr>
<td>3</td>
<td>3.08</td>
<td>0.82</td>
</tr>
<tr>
<td>4</td>
<td>3.05</td>
<td>0.63</td>
</tr>
</tbody>
</table>
A main effects only model, therefore, was applied to the data. (See summary table in Appendix G.) The main effect of the independent variable of procedure was statistically significant at the $p<.05$ level, $F(3,119)=2.60$. As indicated by the group means for procedure, shown in Table 9, subjects scored the highest in Procedure 3 (group mean = 48.17) followed by those subjects in Procedure 2, Procedure 4, and Procedure 1.
Table 9

*Group Means and Standard Deviations for Recall Scores by Procedure and Language Ability*

<table>
<thead>
<tr>
<th>L. Ability</th>
<th>One</th>
<th>Two</th>
<th>Three</th>
<th>Four</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High</strong></td>
<td>37.80</td>
<td>44.77</td>
<td>49.53</td>
<td>48.69</td>
</tr>
<tr>
<td>45.80</td>
<td>(9.72)</td>
<td>(15.38)</td>
<td>(28.44)</td>
<td>(21.97)</td>
</tr>
<tr>
<td><strong>Medium</strong></td>
<td>30.18</td>
<td>39.46</td>
<td>49.00</td>
<td>31.64</td>
</tr>
<tr>
<td>36.28</td>
<td>(11.53)</td>
<td>(16.27)</td>
<td>(32.81)</td>
<td>(14.57)</td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td>36.33</td>
<td>30.00</td>
<td>42.40</td>
<td>28.00</td>
</tr>
<tr>
<td>35.00</td>
<td>(17.39)</td>
<td>(5.29)</td>
<td>(15.90)</td>
<td>(6.00)</td>
</tr>
<tr>
<td></td>
<td>33.33</td>
<td>40.50</td>
<td>48.17</td>
<td>38.67</td>
</tr>
<tr>
<td></td>
<td>(11.71)</td>
<td>(15.31)</td>
<td>(27.68)</td>
<td>(19.44)</td>
</tr>
</tbody>
</table>

Language ability, the second independent variable, also reached statistical significance, $F(2,119)=3.15$, $p<.05$. Group means of recall scores by language ability (high, medium, low) are shown in Table 9. Subjects of a high language ability scored higher than those with a medium or low language ability. In all cases but one, the group means demonstrate that the higher the subject's language ability, the higher
s/he scored, regardless of the procedure. The exception involved subjects of medium language ability level who completed Procedure 1. Although their language ability was higher than subjects of low language ability, the group mean recall score for subjects of a medium language ability ($\bar{x}=30.18$) was numerically lower than the mean score for those subjects with a lower language ability ($\bar{x}=36.33$). While subjects in the medium language ability level of Procedure 1 ($n=17$) had a range in recall scores from 12 to 58, subjects in the low language ability level in Procedure 1 ($n=3$) had recall scores of 23, 30, and 56.

A post-hoc multiple comparison using a Fisher's Least Significant Difference Test was applied to the adjusted means (See Appendix H for adjusted means.) of recall scores by procedure (See Table 10.) and language ability (See Table 11.), in order to determine which variations of procedure and which levels of language ability were significantly different. Results related to procedure revealed a significant difference between Procedure 1 (adjusted mean = 32.58) and Procedure 3 (adjusted mean = 46.31). There is also an indication
of a difference between Procedures 3 and 4 (adjusted mean = 37.12 for Procedure 4).

Table 10

Fisher's Least Significant Difference Test of Procedure Probability Table

<table>
<thead>
<tr>
<th>Procedure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>0.194</td>
<td>0.007**</td>
<td>0.361</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>0.146</td>
<td>0.695</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>0.066*</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .07  
**p < .007

A multiple comparisons test was also applied to the adjusted means of recall scores to determine which language abilities differ. Results indicated a significant difference between high and medium language ability as well as a significant difference between high and low language ability. (See Table 11.)
Table 11

Fisher's Least Significant Difference Test of Language Ability-Probability Table

<table>
<thead>
<tr>
<th>L. Ability</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>0.0373**</td>
<td>0.0493*</td>
<td>0.5693</td>
</tr>
<tr>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p< .04

**p< .03

A Contrast Analysis was completed on the combined mean scores of Procedures 1 and 2 versus the combined mean scores of Procedures 3 and 4. Subjects in Procedures 1 and 2 completed one written recall after listening once or twice to the aural passage, while subjects in Procedures 3 and 4 each completed two recall protocols, one after each of two exposures to the aural text. Although the combined mean score for Procedures 3 and 4 (43.42) was numerically higher than the combined mean score for Procedures 1 and 2 (36.92), results demonstrate that there was no significant
difference at the p<.05 level between the combined mean recall scores.

Alternate Scoring System

In an attempt to examine the semantically weighted scoring system of Johnson (1970), the statistical analyses were run a second time with an alternate scoring system. Instead of weighting each semantic unit from one to four, each correctly recalled unit was given a value of one while incorrectly recalled units were assigned a zero. Group means varied substantially from the original analyses for procedure (See Table 12.) and language ability (See Table 13.) because of the different weighting of semantic units, but the outcome of the analysis of variance did not vary from the original analysis.
Table 12

**Group Means and Standard Deviations for Procedure Utilizing Alternate Scoring System**

**Recall Scores**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11.37</td>
<td>4.22</td>
</tr>
<tr>
<td>2</td>
<td>15.27</td>
<td>5.67</td>
</tr>
<tr>
<td>3</td>
<td>17.27</td>
<td>9.98</td>
</tr>
<tr>
<td>4</td>
<td>13.87</td>
<td>6.71</td>
</tr>
</tbody>
</table>

Table 13

**Group Means and Standard Deviations for Language Ability Utilizing Alternate Scoring System**

<table>
<thead>
<tr>
<th>Ability</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>16.87</td>
<td>7.55</td>
</tr>
<tr>
<td>Medium</td>
<td>13.33</td>
<td>6.00</td>
</tr>
<tr>
<td>Low</td>
<td>13.13</td>
<td>7.53</td>
</tr>
</tbody>
</table>
Results of this second analysis of variance were the same as those from the analysis of variance that was applied to recall scores weighted one to four. There was no interaction between the independent variables. Utilizing a main effects model, the procedure variable was found to be significant at the \( p < .05 \) level, \( F(3,119)=3.38 \). The language ability variable reached statistical significance at the \( p < .05 \) level, \( F(2,119)=3.82 \). (See Appendix I for summary table.)

A post-hoc multiple comparison using Fisher's Least Significant Difference Test was applied to the adjusted means of recall scores by procedure and language ability. Results related to procedure were similar to those using recall scores weighted one to four, with one exception. Results revealed a significant difference between Procedures 3 and 1 with an indication of a difference between Procedures 3 and 4. Unlike the results of the previous multiple comparison, however, there was also a significant difference noted between Procedures 2 and 1. (See Appendix J for probability tables for procedure.)
As was the case with the previous multiple comparisons test concerning language ability levels, results using recall scores generated by the alternative scoring system indicated a significant difference between high and medium language ability levels as well as a significant difference between high and low language ability levels. (See Appendix J for probability tables for language ability.)

Deville and Chalhoub-Deville (1993) and Schmidt-Rinehart (1992) found no difference in the results of statistical analyses applied first to recall measures scored by the Johnson System (1970) and then to recall scores rescored according to this alternative system. The scoring process employed in the Johnson System would be greatly simplified with the implementation of the alternative system. Findings here lend support to the conclusions of the aforementioned studies as they relate to the alternative scoring system.

Each null hypothesis and relevant results will be discussed belows:

H01: There will be no significant effect attributable to four variations in the sequence of tasks of the immediate recall protocol procedure on
recall measures of listening comprehension in third quarter university Spanish students. The analysis of variance produced a group main effect (p<.05) for the procedure variable. The group means revealed that subjects in Procedure 3 recalled more from the listening passage (\(\bar{x}=48.17\)) than subjects in Procedure 2 (\(\bar{x}=40.50\)), Procedure 4 (\(\bar{x}=38.67\)), or Procedure 1 (\(\bar{x}=33.33\)). A post hoc multiple comparisons procedure demonstrated a significant difference between recall scores of Procedures 3 and 1. There is also a trend for a difference between the scores of Procedures 3 and 4. The first null hypothesis is rejected.

\(H_02: \text{There will be no significant relationship between subjects' language ability and recall measures of listening comprehension in third quarter university Spanish students.}\) The null hypothesis of no significant difference in subjects' language ability on listening comprehension is rejected. The analysis of variance produced a group main effect (p<.05) for the language ability variable. Post hoc multiple comparisons procedures demonstrated a significant difference on recall scores between high language ability (\(\bar{x}=45.20\)) and medium language ability (\(\bar{x}=37.57\))
and high language ability and low language ability
($\bar{x}=34.18$) groups.

\textbf{Ho3: There will be no significant interaction}
attributeable among the four variations in the sequence
of tasks of the immediate recall protocol procedure and
language ability. The third null hypothesis regarding
interaction between the two independent variables is
retained. Procedure effects did not vary according to
the subject's language ability.

\textbf{Ho4: There will be no significant difference}
between combined mean recall scores of listening
comprehension for students exposed to Procedures 1 & 2
and for students exposed to Procedures 3 & 4.
The results of a Contrast Analysis of Procedures 1 & 2
(combined mean score = 36.92) versus Procedures 3 & 4
(combined mean score = 43.42) demonstrate no
significant difference between the combined mean recall
scores. At best, there is a trend ($p<.09$) for scores
in Procedures 3 & 4 to be numerically higher than the
scores in Procedures 1 & 2. The final null hypothesis,
therefore, is retained.
Descriptive Analysis

Analysis of Semantic Units by Procedure

The number of semantic units recalled by subjects in the four procedure variations are summarized in Tables 14, 15, 16. There were a total of 99 semantic units in the listening passage. Of these 99 units, 23 were recalled by 25% or more of the subjects (Table 14), eight were recalled by 50% or more (Table 15), and three semantic units were recalled by 60% or more (Table 16). (See Appendix K for the proportion of subjects by procedure variation that recalled each semantic unit.) Subjects in Procedures 2 and 3 tended to recall a higher percentage of semantic units than subjects in the other Procedures 1 and 4.
Table 14

**Frequency of Semantic Units Recalled on Final Recall by 25% or More of the Subjects by Procedure Variation**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Semantic Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>17</td>
</tr>
<tr>
<td>Two</td>
<td>27</td>
</tr>
<tr>
<td>Three</td>
<td>23</td>
</tr>
<tr>
<td>Four</td>
<td>21</td>
</tr>
<tr>
<td>Overall</td>
<td>23</td>
</tr>
</tbody>
</table>
Table 15

**Frequency of Semantic Units Recalled on Final Recall by 50% or More of the Subjects By Procedure Variation**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Semantic Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>6</td>
</tr>
<tr>
<td>Two</td>
<td>10</td>
</tr>
<tr>
<td>Three</td>
<td>11</td>
</tr>
<tr>
<td>Four</td>
<td>8</td>
</tr>
<tr>
<td>Overall</td>
<td>8</td>
</tr>
</tbody>
</table>

Table 16

**Frequency of Semantic Units Recalled on Final Recall by 60% of More of the Subjects By Procedure Variation**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Semantic Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>2</td>
</tr>
<tr>
<td>Two</td>
<td>3</td>
</tr>
<tr>
<td>Three</td>
<td>5</td>
</tr>
<tr>
<td>Four</td>
<td>4</td>
</tr>
<tr>
<td>Overall</td>
<td>3</td>
</tr>
</tbody>
</table>
The subsequent discussion gives a description of subjects' recall of semantic units according to the four procedure variations.

Procedure 1

In Procedure 1, 60% or more of the subjects recalled semantic unit #2 "ibamos a llegar" (63%) and #15 "a Houston" (63%). These results indicate that in this procedure the majority of subjects were only able to comprehend a very small portion of the overall message. Approximately 50% of the subjects in Procedure 1 recalled the following semantic units:

- #2 ibamos a llegar (63%)
- #3 a Dallas (53%)
- #5 y Fort Worth (53%)
- #15 a Houston (63%)
- #56 a Columbus (50%)
- #73 a Nashville primero (53%)

When analyzing these semantic units, it becomes clear that half of the Procedure 1 subjects were able to understand that unexpected events kept the speaker from arriving in Dallas as planned (we were going to arrive in Dallas, but...). They were then able to comprehend other possible destinations, and understood that
Nashville would be visited first (a Nashville primero).

One fourth of the Procedure 1 subjects recalled 17 of the semantic units, indicating that they were able to glean a fair bit of the overall passage.

Procedure 2

The majority of subjects in Procedure 2 recalled only three semantic units:

#5 y Fort Worth (63%)
#73 a Nashville primero (60%)
#78 llegamos a Columbus (60%)

These subjects clearly understood the full travel cycle of the initial destination (and to Fort Worth), the layover city (to Nashville first), and ultimate destination (we arrived in Columbus), but were not able to supply any details of the trip. The list of semantic units recalled by 50% of the subjects includes:

#2 íbamos a llegar (57%)
#3 a Dallas (57%)
#5 y Fort Worth (63%)
#8 pero el problema fue (50%)
#15 a Houston (53%)
#44 sin beber (50%)
Most of the subjects here comprehended the key points of the passage and the existence of a problem. Once again, however, the recalls were lacking details. These subjects comprehended: the unexpected events that kept the speaker from arriving in Dallas/Fort Worth (#2), the fact that there was a problem of some kind (#8) that took the traveler to Houston (#15), no drinks were provided (#44), and the speaker had to go (#72) to Nashville first (#73) because there were no direct flights (#70). Eventually, the speaker arrived in Columbus (#78).

Procedure 3

Five semantic units were recalled by the majority of the subjects on their final written recall in Procedure 3. These include:

#2 íbamos a llegar (67%)
#15 a Houston (70%)
#72 tuvimos que ir (67%)
#73 a Nashville primero (77%)
The majority of the subjects in this procedure comprehended not only key destinations, but also part of the rationale for the disjointed trip: we were going to arrive in Houston, but...(#2, 15), we had to go to Nashville first (#72, 73), and [ultimately] we arrived in Columbus (#78). Fifty percent or more of the subjects recalled the following:

#2 íbamos a llegar
#3 a Dallas
#5 y Fort Worth
#15 a Houston
#68 para venir
#69 a Columbus
#70 pero no había avión directo
#71 a Columbus
#72 tuvimos que ir
#73 a Nashville primero
#78 llegamos a Columbus

The analysis of the semantic units recalled by 50% or more of the subjects in Procedure 3 demonstrates that this group understood the unmet intention of arriving in Dallas/Fort Worth, something about going to Houston
in order to get to Columbus, the ultimate destination (#2, 3, 5, 15, 68, 69). But, there was no direct flight to Columbus (#70, 71), so the traveler had to go to Nashville first (#73) and then arrive in Columbus (#78). Basically, subjects in Procedures 2 and 3 recalled similar information. Subjects in Procedure 3, however, understood that the specific purpose of detouring through Dallas/Fort Worth and Houston was to ultimately arrive in Columbus.

Procedure 4

Four semantic units were recalled by 60% or more of the subjects on their final recall in Procedure 4.

#5 y Fort Worth (67%)
#15 a Houston (63%)
#72 tuvimos que ir (60%)
#73 a Nashville Primero (73%)

These subjects appear to have comprehended the first (expected) destination and other detours, but did not grasp that Columbus was the ultimate destination.

Fifty percent of these subjects recalled only eight of the semantic units in the passage. They include:

#2 íbamos a llegar (53%)
This group understood the basic information of the traveler intending to arrive in Dallas/Fort Worth, and that there was a problem that took him to Houston (#2, 3, 5, 8, 15). He had to go to Nashville first, then arrived in Columbus (#72, 73, 78). Details explaining the reason for the failed arrival and detours, however, are missing.

**Analysis of Semantic Units by Value**

According to the Johnson System (1970), each semantic unit was assigned a value of one to four denoting its structural importance to the passage. A value of four (4) indicates the highest significance to the overall passage meaning, while one (1) designates the least. There were a total of 99 semantic units in the listening passage used for this study. Total
number of semantic units with a value of one, two, three, and four include:

<table>
<thead>
<tr>
<th>Value</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of one</td>
<td>24</td>
</tr>
<tr>
<td>Value of two</td>
<td>25</td>
</tr>
<tr>
<td>Value of three</td>
<td>25</td>
</tr>
<tr>
<td>Value of four</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>99</strong></td>
</tr>
</tbody>
</table>

**Semantic Units with a Value of One (1)**

Of the semantic units with a value of one, six were recalled by 20% or more of the subjects (#1, 4, 5, 65, 68, 71, 77). Thirty to fifty percent of the subjects recorded the following units:

- #43  sin comer (37%)
- #44  sin beber (39%)
- #69  a Columbus (37%)

The semantic unit recorded by the highest percentage of subjects was #5 "y Fort Worth" (59%).

**Semantic Units with a Value of Two (2)**

Twenty percent or more of the subjects recalled seven semantic units with a value of two (#7, 18, 43, 44, 63, 66, 69). Again, only one unit was recorded by 50% or more of the subjects: semantic unit #18 "American Airlines" (52%).
Semantic Units with a Value of Three (3)

Six semantic units with a value of three were recalled by 20% or more of the subjects (#17, 41, 56, 72, 74, 84). The semantic unit that was recorded by the highest percentage of subjects was #72 "tuvimos que ir" (56%).

Semantic Units with a Value of Four (4)

As noted above, there were 25 semantic units with a value of four. According to the Johnson System (1970), these units valuing four contain the information that is most significant to the overall passage, i.e., the main ideas. Twenty percent or more of the subjects recalled ten of the semantic units (#2, 3, 6, 8, 13, 15, 40, 70, 73, 78). Five of these units valued at four were recorded by 50% or more of the subjects. They include:

#2 íbamos a llegar (60%)
#3 a Dallas (55%)
#15 a Houston (63%)
#73 a Nashville primero (66%)
#78 llegamos a Columbus (54%)

More subjects recalled semantic units with a value of four than those valued at three, two, or one.
Post-listening Questionnaire Results

Upon completing one of the four variations in the recall protocol procedure, subjects were asked to complete a questionnaire that elicited information about their previous language study, their language ability, and their familiarity with the theme of the passage. A final series of questions addressing the listening task as well as the specific variation of the immediate recall protocol procedure employed were included in order to allow subjects the opportunity to comment on the procedure. All subjects were asked to respond to the following questions (a) What was the most difficult part of this listening activity for you? (See Table 17.), and (b) What would have helped you in your comprehension and recall of this listening passage? (See Table 18.) The most common responses to the first question related to the areas of (a) the rate of speech, (b) vocabulary, (c) the aspect of memory as related to no allowance of note taking, and (d) the speaker's slurring together of words: the concept in pronunciation of linking. Table 17 reports the distribution of students that mentioned these factors.
(See Appendix L for a complete listing of all the subjects' responses.)

Table 17

Number of Responses Reported on the Post-listening Questionnaire

"What was the most difficult part of this listening activity for you?"

<table>
<thead>
<tr>
<th>Procedure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Rate</td>
<td>12</td>
<td>14</td>
<td>7</td>
<td>15</td>
<td>48</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Memory</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Linking</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

The most frequent responses related to speed of delivery. Word rate was mentioned by 48 subjects (40%) as being the most difficult aspect of the listening activity. Common comments included:

- "He spoke more quickly than I'm used to."
"Comprehending too fast..."

"Once I got behind in the passage it was hard to catch up"

The word rate employed by the speaker was approximately 190 words per minute. Based on an average of the reported rate of delivery (184 words per minute) of passages used in recent studies of listening comprehension (Bernhardt & James, 1987; Lund, 1991a; Schmidt-Rinehart, 1992; Voss, 1984), the word rate employed in this study is of average speed.

Unfamiliar vocabulary was mentioned by 15 subjects (13%) as contributing to the passage being difficult. Six subjects (5%) reported that memory was a source of difficulty and 3 (3%) mentioned pronunciation to be a problem, i.e., the linking of consonants and vowels in a phrase.

Subjects' responses to the second question concerning what would have aided their comprehension may provide more insight to the aspects of difficulty in the four variations of the recall procedure. The most frequent responses related to (a) rate of delivery, (b) memory, (c) being able to listen to the passage an additional time, (d) unfamiliar vocabulary,
and (e) the inclusion of a visual aid. Table 18 reports the number of subjects that mentioned these factors. Subjects' comments will be summarized in the following discussion.

Table 18

Number of Responses Reported on Post-listening Questionnaire

"What would have helped you in your comprehension and recall of this listening passage?"

<table>
<thead>
<tr>
<th>Procedure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Rate</td>
<td>12</td>
<td>13</td>
<td>10</td>
<td>12</td>
<td>47</td>
</tr>
<tr>
<td>Memory/Notes</td>
<td>11</td>
<td>11</td>
<td>7</td>
<td>7</td>
<td>36</td>
</tr>
<tr>
<td>Listen Again</td>
<td>12</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Visual</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

Once again word rate was a common factor mentioned. Forty-seven subjects (39%) reported that a
slower speed of delivery would have contributed to higher comprehension. Thirty-six subjects (30%) revealed that not being able to take notes detracted from their comprehension or memory of the passage. Subjects noted:

- "I would have done better if I would have been able to write down facts as I went along."
- "To write stuff down..."
- "If I could have taken notes or heard the passage in smaller parts."
- "To hear it again with my leisure of stopping, relistening, and note taking."
- "Taking notes the first couple of times and writing it on the third of fourth time of listening."

These comments are in keeping with concerns and recommendations made by Rader (1990) and Schmidt-Rinehart (1992). Rader suggested the addition of note taking while both researchers recommended that subjects be allowed to write something before the final recall. Subjects in this study, however, believed that their comprehension would have been facilitated by taking notes as they listened.
Hearing the passage an additional time was the third factor most often mentioned. In fact, ten of the 30 subjects in Procedure 1 believed that being able to listen an additional time would have aided their comprehension.

Ten subjects (8%) noted that better vocabulary knowledge would have aided their comprehension of the passage. Four subjects (3%) mentioned that a visual representation of the speaker would have assisted their comprehension.
CHAPTER V
SUMMARY AND RECOMMENDATIONS

Overview of the Study

The use of recall as a dependent variable has been utilized in studies of second language since the early 1970s (Bernhardt, 1991); initially in reading research and later in listening research. According to James (1986), "The rationale for using the immediate recall protocol procedure for reading comprehension should work equally well for listening comprehension" (p. 39). In fact, using the immediate recall protocol procedure as a measure of listening comprehension has become an accepted practice by second language researchers (James, 1986, 1987; Long, 1990; Lund, 1991a, 1991b; Rader, 1990; Schmidt-Rinehart, 1992). Despite researchers' agreement to use the procedure as a measure of listening comprehension, they lack a consensus concerning the most suitable variation of the procedure. They also have neglected to consider or question the effect that varying the accepted procedure variation has on measures of recall.
The views of listening as interactive or of the listener as an active participant, are relatively new in the field of second language learning (Joiner, 1991). With this new perspective comes an interest in the interactive effect that certain factors, internal and external to the listener, have on L2 listening comprehension (Dunkel, 1991). Language ability is one of the internal factors that has been investigated in recent studies of listening comprehension (James, 1987; Long, 1990; Mueller, 1979). Verification of the empirical findings on language ability is needed because the results from the aforementioned studies are not compatible.

The purpose of this study was to investigate the effect that varying the immediate recall protocol procedure of listen-listen-recall has on recall measures of listening comprehension and to verify the effect that language ability has on listening comprehension. Although researchers have begun to vary the immediate recall protocol procedure as a measure of listening comprehension by inserting a preliminary recall exercise, they have generalized empirical results of listening studies regardless of the
procedure variation employed in data collection. Few, if any, studies have investigated the effect that varying the recall procedure has on measures of listening comprehension. Investigations are also needed to determine which variation of the immediate recall protocol procedure is most suitable as a measure of listening comprehension.

Results from previous studies investigating the relationship between language ability and listening comprehension indicated that learners used their language ability in different degrees, for different needs. In one case, listeners relied on their language ability to negotiate meaning from the aural text when the topic was unfamiliar (Long, 1990). Findings from another study, however, indicated that language ability did not correlate positively with listening comprehension when the listener could not determine the topic of the passage (James, 1987). It is imperative to assess our assumptions of the role that listener internal factors, such as language ability, play in listening comprehension.
Summary of the Findings

In the following section, each research question will be stated and findings will be summarized.

**Question 1:** Does varying the procedure of the immediate recall protocol procedure affect recall measures of listening comprehension?

The results of the analysis of variance main effects model clearly show that procedure variation affected the recall scores. Post-hoc comparisons showed that scores of Procedure 3 (listen, recall #1 [collected], listen, recall #2) differed significantly from those of Procedure 1 (listen, recall). The means of these two procedures demonstrated higher comprehension scores for Procedure 3 ($\bar{x}=48.17$) than for Procedure 1 ($\bar{x}=33.33$).

In Chapter Four the descriptive information presented lends insight to comprehension in terms of the number and type of semantic units recalled by the subjects. Subjects in Procedure 3 recalled 19 more semantic units (Total = 78 semantic units recalled) of the 99 total units on their final recall protocol than did the subjects in Procedure 1 (Total = 59 semantic units recalled). Fifty percent or more of the subjects
from Procedure 3 recalled a total of 11 semantic units (six of which had a value of four), while 50% or more of the subjects in Procedure 1 recalled six units (four of which had a value of four). Semantic units assigned a value of four are of greatest importance to the overall message of the aural text.

An examination of descriptive information regarding Procedure 3 subjects' reaction to completing two recall protocols (instead of completing only one recall, as was the case in Procedure 1) indicated that 60% of the subjects in Procedure 3 believed that writing two recall protocols assisted their comprehension of the listening passage. Subjects' comments concerning the usefulness of the preliminary recall include:

- "Helps organize your thoughts as accurately as possible at that time."
- "It helped me remember some of the basic words..."
- "I tried to piece together what had happened from the bits I understood."
- "On the first time, I was able to get a few key items."
When asked about the effectiveness of the second recall exercise, subjects in Procedure 3 replied:

- "It helped, but I tended to be more creative when stuck."
- "What I remembered from the initial recording, I used and added more to it from the second recording."
- "I was able to correct my mistakes from the previous writing exercise."
- "I had a lot more to work with and understood most of it."

Subjects in Procedure 1 did not receive instructions to write more than one recall. When asked, however, what would have aided their comprehension ten of the 30 subjects mentioned note taking while 11 reported listening more than once. Clearly, subjects in Procedure 1 recognized that more exposure to the passage and opportunity for additional written response to the aural text were crucial factors that would have assisted their comprehension. Subjects in Procedure 3, on the other hand, were aware of the benefit that two listening exposures and two written recalls had on their comprehension.
Subjects in Procedure 4 completed two recall protocols just as those in Procedure 3. The main difference between these two procedures was that subjects in Procedure 4 had access to their preliminary protocol during the remainder of the procedure. Fifty-seven percent of the subjects in Procedure 4 agreed that writing two recall protocols facilitated their comprehension, while 43% reported that it did not help. The group mean for this procedure (\(\bar{x}=38.67\)), however, was lower than that of Procedure three (\(\bar{x}=48.17\)). Results showed that the difference between the mean scores for Procedures 3 (preliminary recall collected) and Procedure 4 (preliminary retained by subjects) was approaching significance (\(p<.06\)), although this difference was not statistically significant at the \(p<.05\) level.

When asked to explain why having access to the preliminary recall protocol was not helpful, subjects in Procedure 4 reported:

- "Didn't write anything down the first time."
- "It was all wrong. I tried to start over and pay more attention."
"[not helpful] because I was busy trying to understand more words."
"I could recall in my mind what I wrote."
"There was not enough information on my paper [from the first recall]."
"My first writing exercise contained nothing useful."

According to the comments of subjects' in Procedure 4, having access to the preliminary recall contributed little to their comprehension of the aural passage. The comments of these subjects concerning the preliminary recall, however, were not compatible with those of subjects in Procedure 3. Although the only difference between these two procedures was having or not having access to the preliminary recall, subjects in both procedures may have approached the listening/recall task differently from the very beginning. Perhaps the subjects in Procedure 4 did not view the two recall exercises as two separate tasks in which they were to report all that they could remember after each exposure to the listening passage.

Additional analyses of the preliminary and final recalls for Procedures 3 and 4 were conducted in an
effort to gain an understanding of why the group mean for Procedure 3 was higher than the group mean for Procedure 4. Differences between the preliminary and final recalls for each procedure group were investigated. First, mean gain scores (Recall #2 - Recall #1 = gain score) were calculated for each of the two procedures. Results indicated that the mean improvement of Recall #2 versus Recall #1 for Procedure 3 was 11.4, while the mean gain for Procedure 4 was 6.7. We can, therefore, conclude that the mean gain for Recall #2 versus Recall #1 was greater for subjects in Procedure 3 than for those in Procedure 4.

In a second analysis, composite scores for recall #1 and recall #2 were calculated for the two procedures. In other words, the recall scores were recalculated so that credit was awarded one time only for each semantic unit recalled whether the subject reported it on the first recall or the final recall. If a semantic unit was reported on the first recall, but not included on the final recall the subject still received credit for having reported it. If a semantic unit was included on the final recall protocol, but had not been reported on the preliminary recall credit for
recalling the unit was still granted on the composite score. Results indicated that subjects in Procedure 3 had a group mean composite score of 61.67, while subjects in Procedure 4 had a group mean composite score of 51.57. Based on the group mean composite scores, subjects who completed Procedure 3 still outscored subjects in Procedure 4.

Unfortunately, neither the empirical results nor the descriptive information provide clear explanation as to why the group mean recall score was higher for subjects in Procedure 3 than that of Procedure 4. Perhaps subjects in Procedure 4 used different listening or comprehension strategies (than those subjects in Procedure 3) knowing that they would have access to the preliminary recall during the remainder of the listening exercise. Two different approaches to a similar task may well contribute to contrasting results.

**Question 2:** Does language ability affect recall measures of listening comprehension?

The analysis of variance for main effects demonstrated that the language ability variable was significant. A post-hoc multiple comparisons test
showed that the scores of subjects with high language ability differed from those with medium ability and low ability. There was no significant difference between the scores of subjects with medium ability and low ability. The means of the language ability groups, however, demonstrated a consistent increase in recall scores across the three levels: high = 45.80, medium = 36.28, low = 35.00.

The descriptive information regarding the number of semantic units recalled at each language ability level showed that subjects of high ability level recalled 5 more semantic units compared to the number of units recalled by both subjects of low and medium ability levels.

These results are compatible with findings by Mueller (1979) and James (1987); language ability has a positive effect on learners' listening comprehension. Findings by Long, 1990, however, indicate that the positive effect of language ability on comprehension occurs when the listener's lacks familiarity with the passage topic.

**Question 3:** Do the effects of procedure variation vary with subjects' language ability?
The data analysis showed no interaction between procedure and language ability. Therefore, procedure was not influenced by language ability. No one procedure variation favored listeners of a particular language ability. We can conclude that regardless of subjects' language ability, those in Procedure 3 scored significantly higher than those subjects in Procedure 1.

Descriptive information shows that the range of language abilities was substantial (grades in last Spanish class ranged from 1.7 to 4.0, on a 4.0 scale). The group means for language ability by procedures, however, were similar (Procedure 4, $\bar{x}=3.05$; Procedure 3, $\bar{x}=3.08$; Procedure 2, $\bar{x}=3.16$; Procedure 1, $\bar{x}=3.12$). Perhaps the lack of interaction can be explained because the language ability levels within the procedure groups did not vary substantially.

**Question 4:** Do combined mean recall scores for Procedures 1 & 2 and Procedures 3 & 4 differ?

Based on the results of a Contrast Analysis of Procedures 1 and 2 (combined mean = 36.92) versus Procedures 3 and 4 (combined mean = 43.42), there was no significant difference between the combined mean
recall scores. There is a trend ($p < .09$), however, for
the combined mean recall scores for Procedures 3 and 4
to be numerically higher than combined mean recall
scores for Procedures 1 and 2.

An examination of descriptive information revealed
that subjects in Procedures 1 and 2 (combined) recalled
58% of the total semantic units, while the subjects in
Procedures 3 and 4 (combined) recalled 73%. The trend
indicated here suggests that completing two recall
protocols positively affects recall measures of
listening comprehension.

Limitations of the Study
1 **Subjects**: The subjects selected for this study were
taken from ten intact class sections of 103.01 randomly
chosen from morning and afternoon 103.01 classes. Each
intact class was randomly assigned two of the four
procedure variations. Each subject completed only one
procedure variation. The possibility remains that
differences could have existed between these four
treatment groups despite random selection and random
assignment of the treatments.
2 **Listening Passage**: The listening passage was
abstracted from a longer narrative created according to
Ur's criteria for "near authentic texts" (Ur, 1984, p. 24), i.e., the native speaker was given a theme, shown a list of vocabulary words presented in the 103.01 Spanish textbook, and asked to expound upon the theme. No script was provided. Both the passage word rate of 189 words per minute and the two minute four second length fit recommended criteria for aural passages to be employed in the immediate recall protocol procedure (Bernhardt and James, 1987).

The theme selection was based on key themes presented in the Spanish textbook utilized for 100-level Spanish classes at The Ohio State University as well as the results from a preliminary survey of third-quarter Spanish students' concerning their familiarity with the theme. (Students surveyed were not used in the experiment.) A vocabulary check demonstrated that 99% of the words used in the passage are included in vocabulary lists in the 103.01 Spanish textbook.

Listening material varies widely. In fact, there is a lack of consensus concerning which types of listening texts are best for research purposes (Long, 1990). Recently, both Lund (1991b)
Schmidt-Rinehart (1992) utilized passages more spontaneous in nature, like the passage employed in this study.

The findings of this study can be generalized only to other studies using a listening passage of a similar nature and difficulty level. Although the passage was checked for appropriateness to this level (familiar theme, rate of speech, length of passage, and vocabulary), it is possible that the format of the listening passage affected the outcome of the study.

3 Immediate Recall Protocol Procedure Variations: The selection of the four immediate recall protocol procedure variations was based on the variations that have been employed in recent studies of listening comprehension. Procedure 2 and Procedure 3, specifically, have been utilized frequently in studies of comprehension in listening. Procedure 1 was included as a means of gathering baseline data. Research in the area of encoding contributed to the development of Procedure 4.

The development of this investigation was based on the common practice of using the immediate recall protocol as a measure of listening comprehension in
research studies, and the assumption that some version of the procedure is an appropriate measure of listening comprehension. A caveat exists because no other measure of comprehension was employed in this study. The immediate recall protocol procedure does provide an integrated measure of comprehension, but it is only one measure and tends to tap general comprehension.

There is always the risk that even though instructions were reviewed clearly prior to the listening of the passage, subjects could have been unsure of the exact procedure, the recall exercise, or how much to write.

4 Language Ability: For this study language ability was defined according to the same operational definition used in other recent studies (James, 1987; Long, 1990; Mueller, 1979): grade in the previous target language class. It is conceivable, however, that a subject's language ability in the target language may not match his/her grade in the prior target language course. No other assessment was administered to gain an additional score related to language ability.
Recommendations for Further Research

Researchers have begun to suggest and implement variations in the immediate recall protocol procedure, indicating that the widely used version (listen, listen, recall) is not totally accepted in the area of listening comprehension research. This study provides evidence that varying the recall procedure does, in fact, affect recall measures of listening comprehension. Clearly, further investigation is needed to verify which variation of the immediate recall protocol procedure is an appropriate measure of listening comprehension.

The inclusion of two written recalls was an important factor of this study. In fact, recall scores for Procedure 3 (subjects listened twice and wrote two recall protocols) were significantly different than those for Procedure 1 (subjects listened once and wrote one recall). Future investigations need to verify the positive effect that writing two recalls has on listening comprehension.

A second key element in this study was allowing listeners to have access (Procedure 4) or not have access (Procedure 3) to the preliminary recall. A
trend existed for scores in Procedure 3 to be significantly different from scores in Procedure 4. Replication of this aspect of the study is recommended to investigate the contrasting results of recall scores for Procedures 3 and 4 and to determine why having access to the preliminary recall did not assist listeners with their comprehension. A qualitative analysis of the recalls generated by Procedures 3 and 4 would provide insight as to what type of information subjects from the two procedure groups recalled and consequently, if subjects utilized different listening strategies to complete the two tasks.

This study needs to be replicated using a different listening passage. There is a lack of consensus concerning which types of listening texts are best for research purposes. The aural text employed here fit the criteria of "deliberate free speech" (Byrnes, 1984, p. 319). Future research needs to directly compare the effects of utilizing aural passages of different types of speech: scripted, "natural", lecture, conversational, and interviews.

Selecting subjects by proficiency level (beginning, intermediate, advanced) in a follow-up
study would allow for a more widespread range of language abilities within the sample. Perhaps a particular version of the immediate recall protocol procedure is more appropriate for language learners of a specific language ability.

Based on the responses from subjects concerning the recall procedure in general, a likely factor to include in a replication study would be the allowance of note taking. Numerous subjects stated that they believed their comprehension would have increased had they been able to take notes while listening. Further study is required to investigate the effect of note taking on recall measures of listening comprehension.

The effect of native language writing ability is a crucial variable for future studies of listening comprehension as measured by written recall. Asking learners to relate what they understand from a listening passage by composing a recall in their native language, becomes a test of first language writing ability. How well listeners express themselves in written form may be influencing the final outcome of recall measures generated by the immediate recall protocol procedure.
Implications

Theoretical Implications

Research in second language listening currently recognizes the importance of factors internal to the listener and the interactive effect these factors have on second language listening comprehension. Questions remain, however, concerning how these internal factors affect listening comprehension. Findings of this study indicate that the internal factor, language ability, has a positive effect on listeners' recall measures of listening comprehension. This study contributes to the current knowledge base on the influence of language ability, though the generalizability is somewhat limited to studies using a similar population, procedure, and listening passage.

Because second language researchers have begun to recognize the interactive nature of listening, many of them have adopted the immediate recall protocol procedure as an integrative measure of listening comprehension. Although the procedure has become widely accepted, researchers lack agreement regarding the most appropriate version to be utilized as a measure of listening comprehension. Consequently, the
recall procedures employed in recent investigations of listening comprehension have varied substantially across studies.

Findings of this study provide strong evidence that varying the immediate recall protocol procedure does affect recall measures of listening comprehension. Procedure selection, therefore, clearly becomes an important consideration in data collection. It is crucial that researchers carefully consider the particular recall procedure used in investigations of listening comprehension. This study provides a point of departure for further research designed to verify the recall procedure that would be most appropriate as a measure of listening comprehension.

The procedure variation found to be significantly different in this study involved having subjects listen twice and write a recall after each listening (the first recall protocol was collected). Perhaps this particular procedure is the one best suited as a measure of listening comprehension. Further research is recommended to verify this assumption.

Findings of this study are instrumental when comparing the results of investigations in which
the immediate recall protocol procedure has been employed. Researchers have had a tendency to generalize empirical results across studies regardless of the particular recall procedure implemented in data collection. Results of this study indicate that if the recall procedures vary across investigations of listening comprehension, variation in the empirical findings of these studies may be related to the particular recall procedure employed. It is imperative that researchers investigate the specific recall procedure utilized in studies of listening comprehension before they attempt to generalize the empirical results of several studies.

The Johnson System (1970) has frequently been utilized as the scoring instrument of recall measures in studies of listening comprehension. Recent investigations (Deville & Chalhoub-Deville, 1993; Schmidt-Rinehart, 1992) have studied the effect of an alternate scoring system. Instead of weighting each semantic unit from one to four (according to the Johnson System), each correctly recalled unit was given a value of one while incorrectly recalled units were assigned a zero. The aforementioned studies showed no
significant difference in the results of statistical analyses applied to recall measures scored by the Johnson System (1970) and rescored by this alternative system.

Findings of this study lend support to the conclusions made by Deville and Chalhoub-Deville (1993) and Schmidt-Rinehart (1992). Results of statistical analyses remained constant for the recall scores generated by the Johnson System compared to scores generated by the alternate scoring system with one exception (a significant difference was noted between Procedures 1 and 2 with scores generated by the alternate scoring system). Opting to utilize the alternate system would greatly simplify the scoring process of recall measures as compared to the process using the original Johnson System.

**Pedagogical Implications**

Findings from one study alone cannot be the basis for instructional recommendations. Based on the results of this study; however, educators may assume that students of a second or foreign language who have
a strong language ability tend to recall more information from an aural text than students of a medium or low language ability level. These high ability students seem to know how to successfully apply their linguistic skills in order to interpret a listening passage. Students of a low or medium language ability level in this study, however, recalled less information from the listening passage. In the classroom, students of a low or medium language ability level may need suggestions and guidance from the teacher on how to decipher or "attack" the aural text.

Results of this study indicated that having students complete two sequences of a listen/recall exercise (without allowing students access to the first recall protocol) provided them with two related, yet unique opportunities to listen and report their comprehension of the aural passage. This listening procedure allowed listeners to use the preliminary recall exercise as a complete "trial run": reporting all the information from the passage that they possibly could. Information gathered during the first half of the procedure provided a basis for students as they listened and recalled a second time. Teachers who
structure listening/recall exercises like the aforementioned one are providing their students with dual consecutive opportunities to decipher an aural passage, and they are employing a recall measure of listening comprehension that is congruent with research results.

In the post-listening questionnaire subjects reported their reactions concerning what would have aided their comprehension of the aural passage. Many mentioned the ability to take notes while listening. Teachers may want to experiment with having listeners take notes as they listen. Perhaps this practice will facilitate listeners' comprehension.

Although the word rate of the aural passage employed in this study was within recommended criteria for word rate, subjects commented on the rapidity of the speech. Teachers need to consider that even acceptable word rates may seem too fast to language learners struggling with a new language. Teachers, however, do not want to overcompensate by addressing their students with unnaturally slow speech. Students need exposure to authentic speech (with a natural word
rate) in order to become comfortable with negotiating meaning in natural language situations.
References


Lund, R. J. (1991b). *The effects of listening tasks on comprehension*. Paper presented at the Annual Symposium of Research Perspectives in Adult Language Learning and Acquisition, October 11, Columbus, OH.


Appendix A

General Directions

and Specific Instructions of the Four

Procedure Variations
GENERAL INSTRUCTIONS

During this class session you are going to listen to a short recording of a native Spanish speaker. The recording is about an incident that happened to the speaker during a return trip to the U.S.A. from Mexico. As the speaker relays the story of this incident, you will have the opportunity to hear Spanish spoken in an authentic manner, just as if a friend were telling you about some event in his daily life.

Listen to the recording and try to understand as much as possible. While you listen try not to become frustrated as it is not necessary that you understand every word. Although your performance on this listening activity today will not affect your course grade in any way, please do the very best that you can.

As you listen to the recording, do not take any notes. After listening you will be asked to write, in English, as much of the passage as you can remember. Be sure to write in complete sentences, retaining as much detail and similar wording as possible. Be sure to write the last 4 digits of your social security number on each paper in your packet.

For specific directions concerning the listening passage and the follow-up writing task, please refer to page 2, the PINK paper, in your packet.

Read the directions on page 2.

Please raise your hand if you have any questions.

Once you have completed the listening, the writing exercise, return the papers to the packet, close the packet, and set it on your desk.
SPECIFIC DIRECTIONS

GROUP # ONE
1. Listen
2. Write

PLEASE READ THE DIRECTIONS CAREFULLY. RAISE YOUR HAND IF YOU HAVE ANY QUESTIONS ABOUT THE DIRECTIONS OR THE SEQUENCE.

1. You will listen to the passage one time. Do NOT take any notes as you listen and remember that it is not necessary for you to understand every word. Try to understand as much as you can.

2. After listening to the passage one time use the YELLOW paper included in your packet and write, in English, as much of the passage as you can remember. Be sure to write in complete sentences, retaining as much detail and similar wording as possible. Use the blank paper provided in your packet.

3. You will have 10 minutes to write your response. When you are done writing, put the writing exercise back in the packet.

PLEASE WRITE THE LAST 4 DIGITS OF YOUR SOCIAL SECURITY NUMBER ON EACH PAGE.

(Pink Paper)
GROUP # TWO
1. Listen
2. Listen
3. Write

PLEASE READ THE DIRECTIONS CAREFULLY. RAISE YOUR HAND IF YOU HAVE ANY QUESTIONS ABOUT THE DIRECTIONS OR THE SEQUENCE.

1. You will listen to the passage two times. Do NOT take any notes as you listen and remember that it is not necessary for you to understand every word. Try to understand as much as you can.

2. After listening to the passage two times, use the BLUE paper included in your packet and write, in English, as much of the passage as you can remember. Be sure to write in complete sentences, retaining as much detail and similar wording as possible.

3. You will have 10 minutes to write your response. After you have completed the writing task, put all papers back in the packet and lay it on your desk.

PLEASE WRITE THE LAST 4 DIGITS OF YOUR SOCIAL SECURITY NUMBER ON EACH PAGE.

(Pink Paper)
SPECIFIC DIRECTIONS

GROUP # THREE
1. Listen
2. Write (collected)
3. Listen
4. Write

PLEASE READ THE DIRECTIONS CAREFULLY. RAISE YOUR HAND IF YOU HAVE ANY QUESTIONS ABOUT THE DIRECTIONS OR THE SEQUENCE.

1. You will listen to the passage two times total. Do NOT take any notes as you listen and remember that it is not necessary for you to understand every word. Try to understand as much as you can.

2. After listening to the passage the first time, use the GREEN paper included in your packet and write, in English, as much of the passage as you can remember. Be sure to write in complete sentences, retaining as much detail and similar wording as possible.

3. You will have 10 minutes to write your response. After you have completed the writing task, RAISE YOUR HAND and the instructor will collect your task.

4. During the second listening, once again, do NOT take any notes as you listen. Try to understand as much as you can.

5. After the second listening, use the plain WHITE paper included in your packet and write, in English, as much of the passage as you can remember. Be sure to write in complete sentences, retaining as much detail and similar wording as possible. You will have 10 minutes to write your response.

6. After you have completed the writing task, put all papers back in the packet and lay it on your desk.

PLEASE WRITE THE LAST 4 DIGITS OF YOUR SOCIAL SECURITY NUMBER ON EACH PAGE.

(Pink Paper)
SPECIFIC DIRECTIONS

GROUP # FOUR
1. Listen
2. Write (Keep this)
3. Listen
4. Write

PLEASE READ THE DIRECTIONS CAREFULLY. RAISE YOUR HAND IF YOU HAVE ANY QUESTIONS ABOUT THE DIRECTIONS OR THE SEQUENCE.

1. You will listen to the passage two times total. Do NOT take any notes as you listen and remember that it is not necessary for you to understand every word. Try to understand as much as you can.

2. After listening to the passage the first time, use the YELLOW paper included in your packet and write, in English, as much of the passage as you can remember. Be sure to write in complete sentences, retaining as much detail and similar wording as possible.

3. You will have 10 minutes to write your response. After you have completed the writing task, LOOK UP AT THE INSTRUCTOR, to indicate that you are done.

4. You will listen to the passage a second time. Once again, do NOT take any notes as you listen, however; YOU CAN REFER TO YOUR FIRST WRITING TASK AS YOU LISTEN TO THE PASSAGE A SECOND TIME.

Do NOT write any additional notes on your first writing task as you refer to it during the second listening.

5. After listening to the passage the second time, draw a line under your first written recall. Write, in English, on the bottom half of the YELLOW paper as much of the passage as you can remember. Be sure to write in complete sentences, retaining as much detail and similar wording as possible.

ONCE AGAIN, YOU MAY REFER TO THE FIRST WRITING AS YOU COMPLETE THE SECOND WRITING TASK.

6. After you have completed the final writing task, put all papers back in the packet and lay it on your desk.

PLEASE WRITE THE LAST 4 DIGITS OF YOUR SOCIAL SECURITY NUMBER ON EACH PAGE.
Appendix B

Listening Passage
Supuestamente íbamos a llegar a Dallas, Texas y Fort Worth alrededor de las 5 de la tarde pero el problema fue que no pudimos entrar al aeropuerto porque había mal clima y no pudimos aterrizar así que nos mandaron a otra ciudad, Houston. Sin embargo en Houston American Airlines no tiene agencia de entrada no tiene agencia de entrada entonces no pudimos entrar al aeropuerto ni descender del avión. Pero veníamos de otro país, veníamos del extranjero, así que nos quedamos en el aeropuerto esperando hasta que el clima en Dallas-Fort Worth se compusiera. Pero no se compuso sino hasta varias horas después. Pasamos 3 horas en el avión en Houston...sin comer, sin beber, sin nada que hacer porque no podíamos bajar del aeropuerto. Cuando se resolvió el problema llegamos a Dallas, pero allí entones los aviones se habían ido...los dos únicos vuelos que nos podían traer a Columbus ya se habían marchado y el problema fue que nos tuvimos que quedar allí toda la noche en Dallas-Fort Worth...y eso no es todo... sino que a las 5 de la mañana del lunes nos tuvimos que despertar para venir a Columbus pero no había avión directo a Columbus tuvimos que ir a Nashville primero. Entonces fuimos a Nashville nos pasamos allí media hora más y después llegamos a Columbus y llegamos a Columbus hasta las 12 del día.

Supuestamente íbamos a salir de la ciudad de México a las 10 de la mañana y nos iban a recoger en Columbus a las 6 de la tarde para darnos de cenar a las 7 y terminamos saliendo a las 12 del día de la ciudad de México y llegamos a las 12 del día del día siguiente...¡24 horas después!
Appendix C

Postlistening Questionnaire
POST-LISTENING QUESTIONS

Last 4 digits of your social security number _______ _______ _______

1. GENDER Male Female

2. AGE ______

3. YOUR NATIVE LANGUAGE English Other? ______

4. HOW MANY YEARS OF HIGH SCHOOL SPANISH DID YOU COMPLETE?
   0 1 2 3 4 5

5. YEAR IN SCHOOL AT OSU
   Freshman/Sophomore/Junior/Senior/Grad other? ______

5. MAJOR ___________________________________________
   MINOR ___________________________________________

6. IS FOREIGN LANGUAGE A REQUIREMENT FOR YOUR MAJOR?
   YES  NO
   IF NOT, WHY ARE YOU TAKING THIS COURSE?

7. HAVE YOU EVER TRAVELED TO A SPANISH-SPEAKING COUNTRY?
   YES  NO
   IF YES, WHERE? ___________________________________
   WHEN? ___________________________________________
   FOR HOW LONG? ___________________________________

8. DO YOU USE SPANISH OUTSIDE OF CLASS?
   YES  NO
   IF YES, WITH WHOM DO YOU USE IT? ________________

9. COURSE GRADE IN YOUR MOST RECENT PREVIOUS SPANISH
   CLASS ______

   MOST RECENT PREVIOUS SPANISH COURSE # ___________
   (101.01, 101R, 102.01, Spanish 4/ high school...)

   QUARTER/YEAR IN WHICH YOU TOOK THIS COURSE
   AU ______ WI _____ SP ______ SU ______

10. WHAT SPANISH COURSES HAVE YOU COMPLETED AT THE
    OHIO STATE UNIVERSITY?
    101.01  102.01 none (this is my first Spanish
         course at OSU)
11. Have you ever been to an airport?  YES  NO
12. Have you ever traveled by airplane?  YES  NO
13. Have you ever experienced an incident similar to that which was described by the native Spanish speaker on the recording?

   YES  NO  DIDN'T UNDERSTAND CONTENT OF PASSAGE

14. Have you ever traveled to another country?  YES  NO
15. Have you ever been through customs (upon your return to the USA)?  YES  NO
16. When a plane enters or returns to the USA from abroad, its passengers must deplane at an international airport.  YES  NO
17. What particular characteristics did you notice about the Spanish dialect of the native speaker in the recording?

18. Indicate how difficult you thought the passage was by circling a number between 1 and 6.

   1  2  3  4  5  6

   not very difficult

   very difficult

19. What was the most difficult part of this listening activity for you?
POST-LISTENING QUESTIONS

Last 4 digits of your social security number __ __ __ __

1. GENDER  Male  Female

2. AGE _____

3. YOUR NATIVE LANGUAGE  English  Other? _______

4. HOW MANY YEARS OF HIGH SCHOOL SPANISH DID YOU COMPLETE?
   0  1  2  3  4  5

5. YEAR IN SCHOOL AT OSU
   Freshman/Sophomore/Junior/Senior/Grad
   other? _______________________________

   MAJOR_____________________________________________________
   MINOR_____________________________________________________

6. IS FOREIGN LANGUAGE A REQUIREMENT FOR YOUR MAJOR?
   YES    NO

   IF NOT, WHY ARE YOU TAKING THIS COURSE?

7. HAVE YOU EVER TRAVELED TO A SPANISH-SPEAKING COUNTRY?
   YES    NO

   IF YES, WHERE?_____________________________________________
   WHEN?_____________________________________________________
   FOR HOW LONG?____________________________________________

8. DO YOU USE SPANISH OUTSIDE OF CLASS?
   YES    NO

   IF YES, WITH WHOM DO YOU USE IT?___________________________

9. COURSE GRADE IN YOUR MOST RECENT PREVIOUS SPANISH CLASS
   ______

   MOST RECENT PREVIOUS SPANISH COURSE #______________________
   (101.01, 101R, 102.01, Spanish 4/ high school..)

   QUARTER/YEAR IN WHICH YOU TOOK THIS COURSE
   AU____  WI____  SP____  SU____

10. What Spanish courses have you COMPLETED at THE
    OHIO STATE UNIVERSITY?

    101.01  102.01  none (this is my first Spanish course at OSU)
11. Have you ever been to an airport?  YES  NO
12. Have you ever traveled by airplane?  YES  NO
13. Have you ever experienced an incident similar to that which was described by the native Spanish speaker on the recording?
   YES  NO  DIDN'T UNDERSTAND CONTENT OF PASSAGE
14. Have you ever traveled to another country?  YES  NO
15. Have you ever been through customs (upon your return to the USA?  YES  NO
16. When a plane enters or returns to the USA from abroad, its passengers must deplane at an international airport.  YES  NO
17. What particular characteristics did you notice about the Spanish dialect of the native speaker in the recording?
18. Indicate how difficult you thought the passage was by circling a number between 1 and 6.
   1  2  3  4  5  6
   not very difficult
   very difficult
19. What was the most difficult part of this listening activity for you?
20. Did the **WRITING EXERCISE** aid your understanding of
listening passage?

YES          NO

Explain briefly.

21. Did the second **WRITING EXERCISE** aid your
understanding of the listening passage?

YES          NO

Explain briefly.

22. Did you refer to your first **WRITING EXERCISE**
during;

- the second listening  YES          NO

Why/ why not?

- the second **writing exercise**  YES          NO

Why/ why not?
Appendix D

Vocabulary Check
### VOCABULARY INFORMATION

<table>
<thead>
<tr>
<th>Total number of words in passage</th>
<th>289</th>
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<tr>
<td>Running time in minutes</td>
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<td>Percentage of words appearing in the textbook</td>
<td>99%</td>
</tr>
<tr>
<td>Percentage of words appearing in the textbook vocabulary lists</td>
<td>94%</td>
</tr>
<tr>
<td>Percentage of words not appearing in the textbook vocabulary lists</td>
<td>6%</td>
</tr>
<tr>
<td>Percentage of cognates included in the list of words that do not appear in the vocabulary lists</td>
<td>50%</td>
</tr>
</tbody>
</table>

**Words appearing in the textbook vocabulary lists**  
(Chapter indicated in parentheses)

1. ir/íbamos (3) (imperfect-12)
2. llegar/llegamos (2)
3. pero (1)
4. tarde (1)
5. ir/fue/fuimos/ido (3) (preterite-10)
6. poder/pudimos (3) (preterite-10)
7. entrar (4)
8. aeropuerto (7)
9. porque (2)
10. haber (13)
11. mal (2)
12. clima (5)
13. entonces (11)
14. aterrizar (19)
15. así (10)
16. mandar (8)
17. otra (2)
18. ciudad (2)
19. tener (3)
20. entrada (15)
21. avión (7)
22. venir/veníamos (3) (imperfect-12)
23. país (4)
24. extranjero (19)
25. quedar (9)
26. esperar/esperando (6)
27. hasta que (17)
28. hora/media hora (Chapter-Ante Todo)
29. después (9)
30. pasar (4)
31. sin (4)
32. beber (3)
33. comer (3)
34. nada (6)
35. hacer (5)
36. poder/podíamos (3) (imperfect-12)
37. bajar de (7)
38. cuando (11)
39. resolver/resolvió (14) (preterite-10)
40. entonces (11)
41. allí (3)
42. dos (Chapter-Ante Todo)
43. vuelo (7)
44. traer (6)
45. eso (4)
46. cinco (Chapter-Ante Todo)
47. de la mañana (Chapter-Ante Todo)
48. lunes (4)
49. despertar (9)
50. para (1)
51. primero (13)
52. día (1)
53. salir (5)
54. de la tarde (Chapter-Ante Todo)
55. dar (7)
56. cenar (6)
57. terminar (4)
58. siguiente (5)
59. ser/es (2)
60. todo (2)
61. noche (1)
62. definite articles (Chapter-Ante todo)
63. direct object pronouns (6)
64. prepositions (4,14)

[Many of the above listed words were used more than once in the listening passage.]
GLOSSED VOCABULARY (used throughout the textbook, but not presented chapter vocabulary lists.)

1. supuestamente
2. alrededor
3. problema [cognate]
4. sin embargo
5. agencia [cognate]
6. descender [cognate]
7. varias [cognate]
8. unico
9. marcharse [cognate]
10. sino
11. directo [cognate]
12. recoger

VOCABULARY not presented in the textbook

1. componer
Appendix E

Semantic Units and Semantic Unit Values

for Listening Passage
Supuestamente, íbamos a llegar a Dallas y Fort Worth alrededor de las 5 de la tarde, pero el problema fue que no pudimos entrar al aeropuerto porque había mal clima, así que nos mandaron a otra ciudad, a Houston. Sin embargo, en Houston, American Airlines no tiene agencia de entrada, entonces no pudimos entrar al aeropuerto. Otra vez veníamos de otro país, así que nos quedamos en el aeropuerto esperando hasta que el clima en Dallas-Fort Worth se compusiera. Pero no se compuso, sino hasta varias horas después. Pasamos 3 horas en el avión sin comer.
44. sin beber
45. sin nada que hacer
46. porque no podíamos bajar
47. del aeropuerto
48. cuando se resolvió
49. el problema
50. llegamos a Dallas
51. pero allí entonces
52. los aviones
53. se habían ido
54. los dos únicos vuelos
55. que nos podían traer
56. a Columbus
57. ya se habían marchado
58. y el problema fue
59. que nos tuvimos que quedar
60. allí toda la noche
61. en Dallas-Fort Worth
62. y eso no es todo
63. sino que a las 5
64. de la mañana
65. del lunes
66. nos tuvimos que
67. despertar
68. para venir
69. a Columbus
70. pero no había avión directo
71. a Columbus
72. tuvimos que ir
73. a Nashville primero
74. entonces fuimos a Nashville
75. nos pasamos allí
76. media hora mas
77. y después
78. llegamos a Columbus
79. y llegamos a Columbus
80. hasta las 12 del día
81. Supuestamente
82. íbamos a salir
83. de la ciudad
84. de México
85. a las 10
86. de la mañana
87. y nos iban a recoger
88. en Columbus
89. a las 6
90. de la tarde
91. para darnos de cenar
a las 7 ____________________________________________2
y terminamos saliendo______________________________4
a los 12 del día__________________________________4
de la ciudad de México_____________________________2
y llegamos _____________________________________4
a las 12 del día __________________________________2
del día siguiente_________________________________2
24 horas después___________________________________4

total number of 1's: 24
total number of 2's: 25
total number of 3's: 25
total number of 4's: 25
Total number of units 99
Appendix F

ANOVA Summary Table for Interaction
ANALYSIS OF VARIANCE FOR RECALL BY PROCEDURE AND LANGUAGE ABILITY WITH INTERACTION

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<td>2120.31</td>
<td>2</td>
<td>1060.16</td>
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*p<.05

R-square = .15
Appendix G

ANOVA Summary Table for Main Effects
### Analysis of Variance for Main Effects of Procedure and Language Ability

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<tbody>
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<td>Procedure</td>
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<td>2299.01</td>
<td>2</td>
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*p < .05

R-square = .12
Appendix H

Least Squares Means of Recall Scores

and

Fisher's Least Significant Difference Test

Probability Tests
**Least Square Means and Standard Error of Least Square Means of Scores by Procedure**

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<td>1</td>
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<td>39.06</td>
<td>3.65</td>
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<td>3</td>
<td>46.31</td>
<td>3.61</td>
</tr>
<tr>
<td>4</td>
<td>37.12</td>
<td>3.70</td>
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**Least Square Means and Standard Error of Least Square Means of Scores by Language Ability**

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<th>Language Ability</th>
<th>Least Square Mean</th>
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<td>High</td>
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<td>Medium</td>
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<tr>
<td>Low</td>
<td>33.98</td>
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FISHER’S LEAST SIGNIFICANT DIFFERENCE
TEST OF PROCEDURE
PROBABILITY TABLES

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<th>4</th>
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<td>4</td>
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FISHER’S LEAST SIGNIFICANT DIFFERENCE
TEST OF LANGUAGE ABILITY
PROBABILITY TABLES

L. Ability | High | Medium | Low
---|-----|-------|----
High    | 0.0373* |       |
Medium  |       | 0.0493* |
Low     |       | 0.5693 |
Appendix I

ANOVA Summary Tables for

Alternate Scoring System
ANALYSIS OF VARIANCE FOR RECALL BY PROCEDURE AND LANGUAGE ABILITY WITH INTERACTION FOR ALTERNATIVE SCORING SYSTEM

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*p<.05

R-square = .17
### Analysis of Variance for Main Effects of Procedure and Language Ability for Alternative Scoring System

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*p < .02

R-square = .15
Appendix J
Least Square Means and Probability Tables for Alternate Scoring System
LEAST SQUARE MEANS AND STANDARD ERROR OF LEAST SQUARE MEANS OF SCORES BY PROCEDURE FOR ALTERNATE SCORING SYSTEM

<table>
<thead>
<tr>
<th>Procedure</th>
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<tr>
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LEAST SQUARE MEANS AND STANDARD ERROR OF LEAST SQUARE MEANS OF SCORES BY LANGUAGE ABILITY

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<tr>
<th>Language Ability</th>
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**FISHER'S LEAST SIGNIFICANT DIFFERENCE**

**TEST OF PROCEDURE FOR ALTERNATIVE SCORING SYSTEM**

**PROBABILITY TABLES**

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<tr>
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**FISHER'S LEAST SIGNIFICANT DIFFERENCE**

**TEST OF LANGUAGE ABILITY FOR ALTERNATIVE SCORING SYSTEM**

**PROBABILITY TABLES**

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<th>Low</th>
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Appendix K

Semantic Units Recalled by Procedure

Variation
Semantics and the Proportion of Subjects that Recalled Each Unit in Final Recall

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<tr>
<td>a Dallas (4)</td>
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<tr>
<td>y Fort Worth (1)</td>
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<tr>
<td>alrededor de las 5 (4)</td>
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<td>de la tarde (2)</td>
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<tr>
<td>pero el problema fue (4)</td>
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<tr>
<td>que no pudimos (2)</td>
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<tr>
<td>entrar al aeropuerto (3)</td>
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<tr>
<td>porque había mal clima (4)</td>
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<tr>
<td>entonces no pudimos</td>
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<tr>
<td>aterrizar (4)</td>
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<tr>
<td>así que nos mandaron (4)</td>
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<td>a otra ciudad (3)</td>
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<td>a Houston (4)</td>
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<td>sin embargo (1)</td>
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<td>en Houston (3)</td>
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<td>no tiene (3)</td>
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20. agencia de entrada (3)  
21. no tiene (1)  
22. agencia de entrada (1)  
23. entonces (1)  
24. no pudimos entrar (4)  
25. al aeropuerto (3)  
26. ni descender (3)  
27. del avión (1)  
28. pero veníamos (1)  
29. de otro país (1)  
30. veníamos del extranjero (4)  
31. así que nos quedamos (3)  
32. en el aeropuerto (1)  
33. esperando (3)  
34. hasta que el clima (4)  
35. en Dallas-Fort Worth (1)  
36. se compusiera (3)  
37. pero no se compuso (3)  
38. sino hasta varias horas (3)  
39. después (1)  
40. pasamos 3 horas (4)  
41. en el avión (3)  
42. en Houston (1)  
43. sin comer (2)
44. sin beber (2) .33 .50 .13 .10
45. sin nada que hacer (3) .13 .17 .13 .10
46. porque no podíamos bajar (3) .07 .17 .03 .0
47. del aeropuerto (1) .03 .17 .03 .0
48. cuando se resolvió (4) .0 .0 .03 .03
49. el problema (1) .0 .10 .03 .07
50. llegamos a Dallas (4) .0 .0 .20 .03
51. pero allí entonces (1) .0 .0 .0 .0
52. los aviones (2) .03 .0 .0 .13
53. se habían ido (2) .0 .0 .0 .07
54. los dos únicos vuelos (4) .0 .0 .0 .0
55. que nos podían traer (3) .03 .03 .0 .0
56. a Columbus (3) .50 .37 .23 .30
57. ya se habían marchado (4) .0 .0 .0 .0
58. y el problema fue (1) .0 .10 .0 .0
59. que nos tuvimos
que quedur (4) .03 .07 .17 .07
60. allí toda la noche (3) .0 .07 .17 .07
61. en Dallas-Fort Worth (3) .03 .0 .07 .0
62. y eso no es todo (2) .0 .0 .0 .0
63. sino que a las cinco (2) .13 .43 .37 .20
64. de la mañana (2) .17 .37 .30 .13
65. del lunes (1) .20 .30 .20 .33
66. nos tuvimos que (2) .0 .0 .03 .0
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Total number of 1's: 24
Total number of 2's: 25
Total number of 3's: 25
Total number of 4's: 25
Total number of units: 99
Appendix L
Subjects' Responses to
Post-listening Questionnaire
POSTLISTENING QUESTIONNAIRE

Response to questions:
1. What was the most difficult part of this listening activity for you?
2. What would have helped you in your comprehension and recall of this listening passage?

Subject / Task Procedures One and Two
001
1. Retaining the meanings of the words.
2. If I was interacting with him face-to-face.
Interpreting non-verbals.
002
1. The words.
2. If I knew how to speak Spanish.
003
1. How fast he talked.
2. If he would have slowed down and maybe taken a breath or two.
004
1. It was in Spanish.
2. Talking slower.
005
1. He spoke parts very quickly and slurred many words.
2. If he would have spoke slower I would have understood and remembered more.
006
1. Concentrating.
2. Taking notes.
007
1. Grammar and vocab.
2. Taking notes.
008
1. Trying to keep up.
2. Taking notes.
009
1. Understanding.
2. To listen to it again but, with the speaker talking more slowly.
010
1. Not understanding.
2. Being able to write notes.
011
1. I only got to hear it once.
2. To hear it again with my leisure of stopping, re-listening, and notetaking.

012
1. Keeping up with speed of speaker.
2. Had more listening experience.
013
1. Comprehension, he spoke too fast.
2. If the speaker would have spoke slower.
014
1. Keeping up with the speaker.
2. Note taking, or actually being with the speaker.
015
1. He spoke too fast and the words sounded different with his accent.
2. Hearing it more than once and the speaker talking slower.
016
1. The speed at which he spoke towards the end of the passage.
2. If the speaker spoke more slowly.
017
1. Comprehending too fast.
2. Hearing it more than once.
018
1. He spoke more quickly than I'm used to.
2. It would've helped if the speaking was slower and if I heard the passage again.
019
1. Comprehending without taking notes.
2. If I could have had the questions in front of me when I was listening and if I could have jotted down some notes.
020
1. Trying to dissect everything once I got behind in the passage. It was hard to catch up.
2. Listening to it a few times, taking notes, if the speaker talked somewhat slower.
021
1. The speed at which the speaker talked.
2. Taking notes and hearing the passage more than once.
022
1. Trying to piece everything together.
2. Taking notes, maybe listening once more.
023
1. I tried to remember things and then missed parts.
2. Slower and repeated.

1. Vocabulary.
2. Even slower.

I didn't know some of the words. Listen twice.

1. The details.
2. Listening to it a second or even third time.

Not having the time to think about what he was saying because he talked fast.

A little bit slower in the talking.

1. His accent.
2. If an English speaking accent was used instead of his native accent.

He spoke fast.

To hear is twice.

1. Understanding the important parts.
2. To hear it two more times.

Understanding main idea.

1. If I knew my vocabulary.
2. The speaker spoke too fast.

Getting past the speaker's accent and his rate of speaking.

Slower talking.

1. Picking out details.
2. I would have done better if I would have been able to write down facts as I went along.

If he talked slower, I would have understood more.

As above. Also, if I could have taken notes.

Trying to piece together a story from minute bits that I understood.

1. Being able to take notes and a slower pace.
Understanding what he was saying.
If he spoke slower.

Understanding him.
Knowing the words he was saying.

Vocabulary.
Taking notes.

Not catching vocabulary of the sentences because I was still on the first one.
Slower speaking or better vocabulary translation.

His talking ran together.
Talk slower.

The speaker speaking fast and trying to understand the vocabulary.
Hearing it again and the speaker speaking slower.

Keeping up with the speaker.
Taking notes while he spoke.

Keeping up with speaker.
Taking notes would have helped.

To comprehend.
Nothing.

Understanding him.
If I knew Spanish.

To keep up with the speed of his talking.
To write stuff down or if the passage was spoken slower.

Keeping up with the speaking pace.
Taking notes and a slower speaking pace.

The speed of his voice.
Enunciate better and to slow down.

Getting the small details.
Taking notes.
He spoke too fast.

If he slowed down and I got to see him speak it. I have trouble just listening to a Spanish paragraph on tape. It helps to see the person.

Keeping up with him better.
Knowing Spanish better.

Keeping up with the speaker.
Besides having the English translation in front of me? Not much other than taking notes.

His accent with the speed.
If someone else had spoken the message.

Keeping up.
If it were slower.

Not thoroughly pronounced.
Slower.

Listening to a native speaker.
Slower speed.

Getting the general idea of what he was talking about.
If I could have possibly taken notes during and/or slowed down the tape to break it apart in segments.

The speed. Trying to translate it as fast as possible.
More practice in listening comprehension with our teacher.

It was long and he talked quickly at times so it was hard to understand and remember everything.
If I could have taken notes or heard the passage in smaller parts.

Task Procedure Three

Response to questions, including additional questions for procedures 3 and 4:
1. What was the most difficult part of this listening activity for you?
2. What would have helped you in your comprehension and recall of this listening passage?
3. Did the first writing exercise aid your understanding or the listening passage? Yes/No Explain.
4. Did the second writing exercise aid your understanding of the listening passage? Yes/No Explain.

061
1. Comprehension.
2. Taking notes.
3. Yes.
4. Yes. It gave me a chance to re-evaluate it.

062
1. Pace.
2. Slower pace.
3. Yes. Let me reflect upon what I heard.
4. Yes. But, I tended to be more creative when stuck.

063
1. Understanding many of the words he used.
2. Listening to it several times.
3. Yes. I had to rethink it before writing anything down. The main ideas came out easier by writing it down.
4. Yes. I could remember more details and I could follow the story better.

064
1. The speed at which the speaker spoke.
2. Note taking and the speaker slowing down.
3. No. I would have understood more if they would have just played the passage over with no break.
4. Yes. From the mental notes I took in the first listening, it aided in writing the second time. This helped in comprehension.

065
1. Remembering and understanding everything.
2. To be able to stop the recording and listen again. To be able to write notes.
3. No.
4. No.

066
1. Speed.
2. Repetition.
3. Yes. Helps organize your thoughts (recall) as accurately as possible at that time.

1. Too fast. Paused in middle of sentence.
2. Slower.
3. Yes. Wrote down what we remembered in complete sentences.
4. Yes. Just reinforced what was written.

1. Understanding. Listening was easy.
2. Studying the vocabulary.
3. No. Recall wasn't the issue. Understanding was.
4. No.

1. Following the speed of his talking and trying to translate it at the same time.
2. A slower speaker or not as confusing of a passage.
3. No. I think it made it difficult because as I went to write everything down, it got all jumbled. As I listened to the passage, I could follow it somewhat, but I lost it when I went to write it.
4. Yes. I understood more the second time through, but I still didn't understand certain part of the context.

1. The end.
2. To be able to take notes.
3. Yes. I was able to concentrate more on specifics.
4. Yes. Everything helps with a foreign language.

2. More information about what was to be discussed.
3. No.
4. No.

1. Remembering afterwards.
2. Taking notes.
3. Yes. I could remember what I'd written and work on translating what I didn't know.
4. Yes. It helped organize what I thought was said.

1. The native speaker talked quickly.
2. If the speaker talked slower.
3. Yes. What I remembered from the initial recording I used and added more to it from the second recording.
4. Yes. Certain things I didn't understand in the initial recording became clear in the second recording.
1. Trying to remember as much information, from such a long dialogue.
2. Shorter passage.
3. Yes. It helped me to get used to his voice, as well as preparing me for the next exercise which used his same voice.
4. Yes. Because I was able to pick up more of what he said, and since I had heard his voice, it made it easier.

1. Trying to translate and keep up with what he was saying. When I figured out part of what he was saying, I'd miss big sections of the passage.
2. Taking notes the first couple of times and writing it on the third or fourth time of listening.
3. Yes. It helped me to remember some of the basic words and realize what some of the things were I had misunderstood.
4. No. It was redundant to what I knew. It might help me communicate it to someone else.

1. Making out individual words.
2. Hearing Spanish more often.
3. No.
4. No.

1. I just couldn't understand.
2. Speaking slower and more distinctly.
3. No. I didn't understand any better the second time.
4. No. Same as before.

1. Understanding him.
2. No idea.
3. Yes. I knew some already and could focus on details later.
4. No. Still could not understand some things.

1. Following.
2. Slower dialogue.
3. Yes.
4. No. I wasn't expecting the same one.

081
1. Remembering.
2.
3. No.
4. Yes.

082
1. Understanding.
2. Slower.
3. Yes. It helped to do it twice.
4. No.

083
1. Listening.
2. Slower pace. More familiar words.
3. Yes. I can only recall to much of what happened. When I translated some to the parts in my head, I would miss other parts.
4. Yes. I could now concentrate on what I had missed the first time.

084
1. A few areas through the conversation, I lost the speaker.
2. A video tape of the speaker, his body movements and hand movements.
3. Yes. It helped me organize my thoughts.
4. Yes. I was able to correct my mistakes from the previous writing exercise.

085
1. Trying to remember things while still listening.
2. His talking slower.
3. Yes. I tried to piece together what had happened from the bits I understood.
4. Yes. I had a lot more to work with and understood most of it.

086
1. Remembering all of the parts. By the time I figured the first part out, I had missed another.
2. Slower speaker.
3. Yes. On the first, I was able to get a few key items.
4. Yes. Because I was able to clarify meanings.

087
1. The constant buzz made it hard to hear.
2. Taking notes.
3. No. I couldn't hear the passage very well, so I didn't understand it as well as I would have if he were speaking to me.
4. No. I caught a bit more information, but not much.

088
1. Pay attention.
2. If I focused on it.
3. No.
4. No.

089
1. Knowing vocabulary—what he was saying.
2. Knowing vocabulary.
3. Yes.
4. Yes. Because it was the second time.

090
1. Not knowing enough of the words he used.
2. Knowing more vocabulary.
3. Yes.
4. No. Hearing it a second time, made me a little more confused.

Task Procedure Four

Response to questions, including additional question for group four only.
1. What was the most difficult part of this listening activity for you?
2. What would have helped you in your comprehension and recall of this listening passage?
3. Did the first writing exercise aid your understanding of the listening passage?
4. Did the second writing exercise aid your understanding of the listening passage?
5. Did you refer to your first writing exercise during:
   a. the second listening? Yes/No Why/why not?
   b. the second writing exercise? Yes/No Why/why not?

091
1. The speed at which he spoke.
2. If I had a quicker processing of the Spanish language.
3. Yes. It placed ideas, phrases, and passages in my mind. These seemed to help my comprehension the second time.
4. Yes. It made me think back to what he said, rather than jotting it down haphazardly.
5. a. No.

1. Increased vocabulary.
2. Yes. I was able to extrapolate upon my general ideas in the first writing exercise.
3. Yes. I was able to extrapolate upon my general ideas in the first writing exercise.
4. No. I was only able to remember certain details of the whole passage.
5. a. Yes. Because it helped me remember the basic format of the story.
   c. Yes. Same reason.

1. All.
2. Notes during the listening.
3. No.
4. Yes. I understood maybe another sentence.
5. a. Yes. To aid me.
   b. No.

1. Unfamiliar with vocabulary.
2. Knowing more vocabulary.
3. No. I wrote what I understood. Have to understand it orally, before you can write it.
4. Yes. I could reflect to the original passage, then check my statements.
5. a. Yes. I could reflect to the original passage.
   b. Yes. I could reflect to the original passage.

1. Too fast.
2. If it was slower.
3. Yes. It was hard to translate and comprehend.
4. Yes. Same as before.
5. a. No.
   b. No.

1. The phrases.
2. Being around native speakers.
3. No.
4. Yes. It helped to hear it again.
5. a. Yes. To help me understand better.
   b. 

1. Didn't understand the man because I didn't know vocabulary. But, I knew some of it.
2. Write down while I listen.
3. Yes. If I would have written it down.
4. Yes. It confirmed what I did and didn't know.
5. a. No. Didn't write anything down the first time.
    b. No.

098
1. Remembering everything he said without notes.
2. Notetaking.
3. No. It hindered it because I kept referring to it and stopped listening.
4. No.
5. a. Yes.
    b. Yes. To pick up the core words and maintain the format.

099
1. The speed he was talking.
2. Slowing it down.
3. Yes. When I heard it after I'd written it, I could see my mistakes.
4. No. I understood what was wrong, but I still couldn't get most of it right.
5. a. Yes. To see what was wrong.
    b. Yes. To see what was wrong.

100
1. Comprehending Spanish as such a rapid speed.
2. If the man would have talked slower.
3. No. I only listened for the main details.
4. No. I still couldn't remember everything he said.
5. a. Yes. Because I knew I already had some of the basic information, and could now listen for the details.
    b. Yes. Same as in 5.a.

101
1. Not taking notes, trying to remember it.
2. To listen to it more than twice. Taking notes may have helped some.
3. Yes. I got the basic idea down and then I could pay attention to details.
4. Yes. There were more blanks filled in.
5. a. Yes. To see what I missed.
    b. No. Because I remembered what I wrote.

102
1. Understanding the spoken language.
2. I guess to listen to it over and over. Better yet, see it in writing.
3. Yes. I caught a lot of words I knew, I just wasn't able to remember many because I was trying to continue to concentrate on what was ahead.
4. Yes. I picked up only bits and pieces.
5. a. No. I was concentrating on the speaker. In addition, my writing was in English which further put a gap in the concentration of the Spanish speaker.
   b.
103
1. Hearing him because he talked quickly.
2. Spoke slower and at a slower pace.
3. Yes. It helped me pick out the main points the first time, then I tried to get the details surrounding the events.
4. Yes. I understood more than I did the first time.
5. a. Yes. Helped with the main idea.
   b. Yes. Helped give more details.
104
1. He spoke too fast. I understood the words, but not long enough to put in context.
3. No. I started all over because I was confused, but still couldn't grasp the main point.
4. Yes. More time to listen to the information I couldn't understand before.
5. a. No. It was all wrong.
   b. No. I tried to start over and pay more attention.
105
1. The speed in which he spoke.
2. If he should talk slowly.
3. Yes. It just gave me a point to start from.
4. No. Still didn't understand it.
5. a. Yes. Even though there wasn't much information I thought it helped.
   b. No. There was not enough information on my paper.
106
1. Everything.
2. The speaker speaking slower and more clearly.
3. No.
4. Yes. When I understood it again, I could understand more words.
5. a. No. Because I was busy trying to understand what he was saying.
   b. No.
107
1. The speed.
2. To have been able to jot down notes along the way.
3. Yes. It aided me for the second writing exercise.
4. Yes. I was able to understand more of the passage.
5. a. Yes. To see if I had correctly recalled things.
   b. Yes. To pick up facts that I recalled the first time, but not the second time.

108
1. When he spoke fast or paused in the middle of the sentence.
2. Using Spanish outside of class.
3. No.
4. No.
5. a. Yes. Helped me follow along.
   b. No. Knew what I wanted to write.

109
1. The quickness of the passage.
2. If the passage would have been given more slowly.
3. Yes. I was able to pick out more precise examples after I had completed the first exercise.
4. Yes. I was able to refer to first written exercise and pick out more specific points.
5. a. Yes. Same as in #3.
   b. Yes. Same as in #3.

110
1. Trying to figure out what was being said before he moved on to the next thing.
2. If he would have spoken at a slower pace.
3. No. Because it is different than what I recalled the second time.
4. No. Because I just picked out different details than the first time. Both time I missed understanding. I just heard places.
5. a. No. Because I was listening intently.
   b. No. Because I recalled either the same or different things.

111
1. Understanding and picking out familiar words.
2. If he spoke slower I think I would have been able to understand much more.
3. Yes. I already knew things I wrote the first time, so I could concentrate on picking up new words and ideas.
4. No. I didn't understand very much more of the passage the second time.
5. a. No. I could recall in my mind what I wrote.
   b. No.
1. Trying to figure out what words he was using to see if I knew their meaning.
2. Taking notes.
3. No. Writing down what I heard didn't help me understand it better.
4. No. Writing down what I had already heard didn't aid my understanding.
5. a. No. Because there really wasn't much to go on.
   b. No. Same as #5.a.

1. Speed of delivery.
2. Slower delivery and better enunciation.
3. Yes. You could write down the main points.
4. Yes. You could fill in other details that you missed the first time.
5. a. Yes.
   b. Yes.

1. Trying to concentrate
2. Reading it while he spoke it.
3. No. The second time it was like I was hearing it for the first time because I did not catch much the first time it was played.
4. No.
5. a. No. I was trying to concentrate on what he was saying.
   b. Yes. I had to think of something to say for the second writing exercise.

1. Understanding everything.
2. Taking notes.
3. No.
4. No.
5. a. No. I didn't get anything new.
   b.

1. He talked very fast in some parts.
2. Slow down.
3. Yes. I knew what to expect and listened more intently to those parts.
4. Yes. It filled in the gaps.
5. a.
   b.

1. Too fast and didn't understand vocabulary.
2. If it were slower.
3. No. Because I didn't really understand.
4. No.
5. a. No.  
   b. No. Because the first time I wrote it, I really didn't understand and the same with the second time.

118
1. He talked fast at the end.
2. More concentration.
3. Yes. I had written references.
4. Yes. It was more complete.
5. a. Yes. I needed help.
   b. Yes. I needed written references.

119
1. Speed.
2. Better understanding of the vocabulary.
3. Yes. I had a basic idea about where he was going.
4. No.
5. a. No.
   b. No.

120
1. All.
2. If I knew Spanish.
3. Yes. It forced me to write down a few things.
4. Yes.
5. a. No. I was concentrating on the passage.
   b. No. My first written exercise contained nothing useful.