

Technical Report 670

AD-A172 573

Learning Strategies Used by High School Students Learning English as a Second Language

J. Michael O'Malley, Rocco P. Russo, Anna U. Chamot, Gloria Stewner-Manzanares, and Lisa Kupper
InterAmerica Research Associates

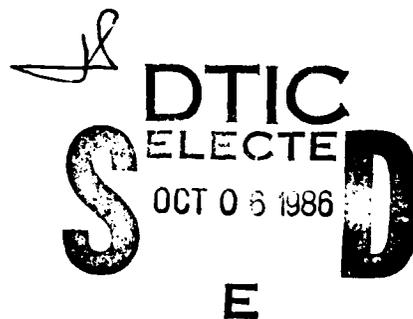
Instructional Technology Systems Technical Area
Training Research Laboratory



U. S. Army

Research Institute for the Behavioral and Social Sciences

February 1985



DTIC FILE COPY

Approved for public release; distribution unlimited.

U. S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES

A Field Operating Agency under the Jurisdiction of the
Deputy Chief of Staff for Personnel

EDGAR M. JOHNSON
Technical Director

L. NEALE COSBY
Colonel, IN
Commander

Research accomplished under contract
for the Department of the Army

InterAmerica Research Associates

Technical review by

Richard P. Kern
Susan Chipman

Approved For	
Prepared by	X
Checked by	
Reviewed by	
Per	
Approved	
Signature	
Date	
A-1	

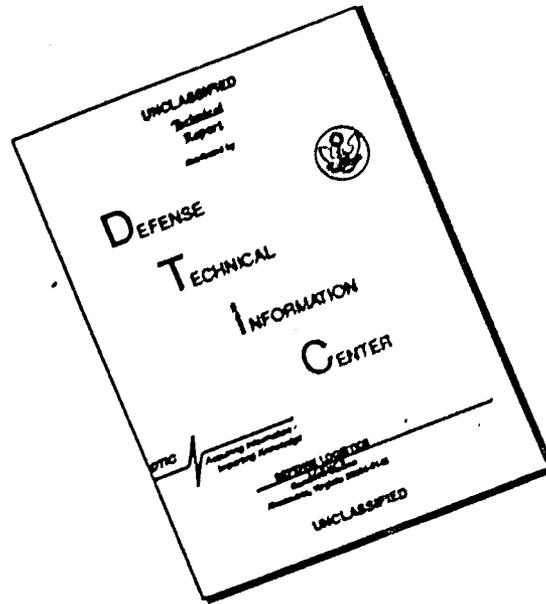
NOTICES

DISTRIBUTION: Primary distribution of this report has been made by ARI. Please address correspondence concerning distribution of reports to: U.S. Army Research Institute for the Behavioral and Social Sciences, ATTN: PERI-POT, 5001 Eisenhower Avenue, Alexandria, Virginia 22333.

FINAL DISPOSITION: This report may be destroyed when it is no longer needed. Please do not return it to the U.S. Army Research Institute for the Behavioral and Social Sciences.

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

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER ARI Technical Report 670		2. GOVT ACCESSION NO. AD-A172	3. RECIPIENT'S CATALOG NUMBER 573
4. TITLE (and Subtitle) Learning Strategies Used by High School Students Learning English as a Second Language		5. TYPE OF REPORT & PERIOD COVERED Feb 1982 - Sept 1984	
7. AUTHOR(s) O'Malley, J.M., Russo, R.P., Chamot, A.U., Stewner-Manzanares, G., and Kupper, I.		8. CONTRACT OR GRANT NUMBER(s) MDA 903-82-C-0169	
9. PERFORMING ORGANIZATION NAME AND ADDRESS InterAmerica Research Associates, Inc. 1555 Wilson Boulevard, Suite 508 Rosslyn, Virginia 22209		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 2Q263743A794 43112102	
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Research Institute 5001 Eisenhower Avenue Alexandria, VA 22333-5600		12. REPORT DATE February 1985	
		13. NUMBER OF PAGES 77	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) Unclassified	
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE	
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.			
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)			
18. SUPPLEMENTARY NOTES Dr. Richard Kern was the technical monitor of this project.			
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Learning Strategies English as a Second Language, Second Language Acquisition Basic Skills			
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) A part of the Basic Skills Resource Center research component, the research effort described in this report was designed to identify the range of learning strategies, used by high school students in ESL classrooms and determine if the strategies interact with the type of language task and English proficiency level of the students. Data collected through teacher and student interviews as well as classroom observations are synthesized and summarized.			

Technical Report 670

Learning Strategies Used by High School Students Learning English as a Second Language

**J. Michael O'Malley, Rocco P. Russo, Anna U. Chamot,
Gloria Stewner-Manzanares, and Lisa Kupper
InterAmerica Research Associates**

for

**Contracting Officer's Representative
Richard P. Kern**

**Instructional Technology Systems Technical Area
Zita M. Simutis, Chief**

**Training Research Laboratory
Harold F. O'Neill, Jr., Director**

U.S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES

5001 Eisenhower Avenue, Alexandria, Virginia 22333-5600

**Office, Deputy Chief of Staff for Personnel
Department of the Army**

February 1985

**Army Project Number
2Q263743A794**

Education and Training

Approved for public release; distribution unlimited.

FOREWORD

Developing ways to accelerate learning to higher levels of proficiency is an important goal for individual students and for organizations faced with time and money constraints. Recent research in cognitive psychology suggests that a major key to effective learning is found in the mental techniques or strategies high achievers have learned to use to direct and monitor their learning process. Most of the research on identifying and teaching these learning strategies has focused on learning academic or technical material. This report and others planned to follow focus on a different learning problem, that of learning English as a second language. Civilian students and soldiers whose primary language is not English are faced with the double task of learning English so they can learn and function effectively in the educational or military English-speaking environment.

The research reported in the following pages describes the types of learning strategies used to learn English by high school students enrolled in their school's English-as-a-second language program. These results suggest that the type and number of different strategies used varies with the students' level of proficiency in English language and with the type of language learning activity performed. These results provide a menu of candidate learning strategies and learning activities for the present as well as for future research on effectiveness of learning strategy instruction in improving learning of English as a second language.



EDGAR M. JOHNSON
Technical Director

EXECUTIVE SUMMARY

Learning Strategies Used by High School Students Learning English as a Second Language

InterAmerica Research Associates, Inc., has developed and operated the Basic Skills Resource Center (BSRC) under contract with the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI). The BSRC project has two interfacing components: the design, implementation and operation of an information service; and the implementation and monitoring of an applied research agenda related to the study of learning strategies. This report describes one of the five research efforts undertaken through the BSRC research component.

This study was designed to identify learning strategy approaches that students can use to improve language learning and retention particularly related to skills in speaking and understanding English as a second language (ESL). Interview data were collected from 70 high school students and 22 teachers regarding their use of learning strategies for nine language learning activities in ESL classrooms. Students participating in the study were either beginning or intermediate level for English proficiency placement and -- except for the one group of five Vietnamese -- were all from Spanish language countries in areas such as Central America, South America, and Puerto Rico. Interview data were supplemented by a set of classroom observations that focused on specific learning activities.

A wide range and variety of metacognitive and cognitive learning strategies were identified through the interviews and observations. Generally, intermediate level students tended to use metacognitive strategies more often than beginning level students who used more strategies overall. In addition, students indicated that few strategies were used with tasks that were cognitively more demanding, precisely where they should be most needed.

Interviews with teachers revealed that the teachers did not have a strong sense of the applications of learning strategies by their students; however, they did express a strong interest in knowing more about learning strategies and how they could help their students learn. In general, responses from teachers indicated uses of teaching strategies, demonstrating that teachers were generally unacquainted with how students studied, organized, or manipulated materials to learn more effectively.

The findings suggest that the extension of recent studies of learning strategies in second language acquisition is warranted. Future research and development efforts should focus on increasing teacher awareness of the possibilities for using learning strategies as part of their instruction, and identifying specific strategies experimentally that have demonstrated value for increasing student learning and retention of language.

TABLE OF CONTENTS

	<u>Page</u>
Background	2
Review of Literature	4
Objectives	12
Procedure	12
- Subjects	13
- Instruments	14
- Methodology	17
Results	20
- Range of Strategies	20
- Strategy Classification	20
- Productivity	23
- Interaction of Strategies with Student Proficiency	27
- Interaction of Strategies with Learning Activities	32
Discussion	34
REFERENCES	39
APPENDICES	41
A Teachers Interview Guide	43
B Student Interview Guide	55
C Classroom Observation Guide	67

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	Preliminary Learning Strategy Definitions	15
2	Extended Learning Strategy Definitions	21
3	Number of Learning Strategies per Data Collection Approach	24
4	Number of Metacognitive and Cognitive Strategies Used by Students in Acquiring English as a Second Language	28
5	Number of Metacognitive Learning Strategy Uses by Beginning and Intermediate Level Students in Acquiring English as a Second Language	29
6	Number of Cognitive Learning Strategy Uses by Beginning and Intermediate Level Students in Acquiring English as a Second Language	30
7	Number of Learning Strategy Uses Among Beginning and Intermediate Level Students for Different Learning Activities	33

Learning Strategies Used by High School Students

Learning English as a Second Language

The Study of Learning Strategies for Acquiring Skills in Speaking and Understanding English as a Second Language was designed to identify approaches that students can use to improve language learning and retention. The study was conducted by InterAmerica Research Associates for the Army Research Institute for the Behavioral and Social Sciences under Contract No. MDA-903-82-C-0169 for operation of a Basic Skills Resource Center. The Center consists of an information database and communications network on Army basic skills education, and a research component on learning strategies in basic skills education. The Study of Learning Strategies in English as a Second Language (ESL) was one of five studies performed by the Center within the research component.

This report is the second of four reports for the Study of Learning Strategies in ESL. The first report identified and analyzed related studies on the topic and was entitled "A Review of the Literature on Learning Strategies in the Acquisition of English as a Second Language: The Potential for Research Applications." The present draft report describes Phase 1 of the ESL study, in which information

was collected through interviews and observations on the varieties of learning strategies used for different language learning activities by students in secondary school and Army ESL classes. This draft report contains data on secondary school students only but will be modified in final form to show the military data when it becomes available. The third report, "A Teachers' Guide to Learning Strategies for Acquiring Skills in Speaking and Understanding English as a Second Language," is designed as a reference document for teachers interested in imparting learning strategies to ESL students. The fourth and final report, "The Effects of Learning Strategies on Speaking and Understanding Skills in Acquiring English as a Second Language," will describe Phase 2 of the ESL study, in which selected learning strategies will be used in an experiment to identify the effects of learning strategies for different language learning tasks.

Background

Learning strategies have considerable potential for enhancing speaking and understanding skills in the acquisition of English as a second language. Learning strategies are used by "good" language learners to assist them in gaining command over required skills (Naiman, Frolich, Stern, & Todesco, 1978), and are positively associated with language acquisition (Bialystok, 1979; Politzer & Mcgroarty, 1983). The strategies are applicable to a variety of language tasks (Bialystok, 1979; O'Malley, Russo & Chamot, 1983), and can be adapted to the language proficiencies of individual learners (Cohen & Aphek, 1980; 1981). Learning strategies for the most part are relatively easy to

use and can be taught with positive effects to learners unacquainted with their applications (Rubin & Thompson, 1982), although this has yet to be demonstrated in second language acquisition (Bialystok, 1979). Nevertheless, numerous efforts to train learning strategy use in reading have been relatively successful (e.g., Dansereau, in press; Wittrock, Marks, & Doctrow, 1975) and suggest that extensions to second language learning would be fruitful.

Despite the promise evident in the use of learning strategies, definitional and tactical problems presently impede progress in applying research in the area to second language acquisition. There is no consensus on what constitutes a learning strategy in language acquisition or how these differ from other types of learner activities (Bialystok, 1983; O'Malley et al., 1983). Learning, teaching, and communication strategies are often interlaced in discussions of language acquisition and are often applied to the same behavior. Further, even within the group of activities most often referred to as learning strategies, there is considerable confusion about definitions of specific strategies and about the hierarchic relationship among strategies.

At least part of the solution to these problems will emerge from careful inspection of the ways in which learning strategies are used in specific language tasks. The approach pursued in the present study is to identify distinct learning strategies used for different language learning activities by students with different levels of language proficiency. The learning strategies are identified through

interviews with ESL students and teachers as well as observations of ESL classrooms. We classify the reported learning strategies and determine whether the classification categories appear to interact with language learning activity or level of learner proficiency in English.

In the following discussion, we present current views on the definition of learning strategies, and identify some ways in which these strategies have been classified. We then present analyses of current efforts in the second language acquisition literature to collect information on the use of learning strategies for language learning activities. We then indicate more specifically the research approach used in the present study to extend our understanding of the ways in which the learning strategies are used by students and by teachers.

Review of Literature

Learning strategies have been broadly defined as any set of operations or steps used by a learner that will facilitate the acquisition, storage, retrieval, or use of information (Dansereau, in press; Rigney, 1978). In language acquisition, they pertain to "activities in which the learner may engage for the purpose of improving target language competence" (Bialystok, 1983, p. 101). Learning strategies are distinguished from teaching strategies, among other reasons, because the learner is able to exercise control over the strategy. As Politzer (1965) notes in describing the relationship between teaching

methods, and ... the successful language learner is essentially the pupil who has devised a successful self-teaching method" (p. 18). The learner may systematically apply strategies to different language learning activities such as comprehension, oral production, or vocabulary learning.

The key to the effectiveness of learning strategies is the special kind of mental activity the strategies promote. Wittrock's generative model of reading comprehension describes this activity and suggests a set of components that largely account for learning through text processing. Listening comprehension, a receptive process like reading, would follow similar rules as in Wittrock's model. Wittrock's first component, generative processing, suggests that learning is most effective when it involves processes that create meaning by building relations between the text and what we know (Wittrock, Marks, & Doctorow, 1975). Meaning is generated by relating parts of a narrative to each other or to information already stored in memory. Meaning is not just contained in the narrative or in memory, it is produced by the interaction between the person and the information received either through reading or listening. In addition to this generative process, Wittrock notes that effective comprehension also entails motivation or willingness to invest effort in reading or listening, and an ability to attribute success and failure to one's own effort. A final component in Wittrock's model is attention, which directs the generative process to relevant portions of the narrative and to stored information. "The generation of relations among the parts of the text and between text and one's memory of experience and one's knowledge enhances comprehension"

(Wittrock, 1983, p. 602). Insofar as learning strategies promote activities of this kind, they should facilitate learning, and the strategies that promote the greatest amount of mental activity should result in the most learning.

Learning strategies may describe either metacognitive or cognitive activities. Metacognitive learning strategies, as described by Brown (1982), are generally applicable to a variety of learning tasks and include (a) knowledge about cognition, or applying thoughts about the cognitive operations of one's self or others; and (b) regulation of cognition, or planning, monitoring, and evaluating a learning or problem solving activity. Cognitive learning strategies are often specific to distinct learning activities and would include using operations or steps in learning or problem solving that require direct analysis, transformation, or synthesis of learning materials (Brown, 1982; 1983; Rigney, 1978). Brown (1982) indicates that much of the reported failure of learning strategies to transfer to new tasks can be attributed to the failure to combine metacognitive information with a cognitive approach to learning strategies. Students without metacognitive approaches are essentially learners without direction and ability to review their progress, accomplishments, and future learning directions.

In language acquisition, Wenden's (1983a; 1983b) work on self-directed learning falls within the category of metacognitive strategies. Wenden interviewed adult language learners to identify self-directed language learning activities in a variety of social settings. Wenden

concluded that the self-directed activities could be characterized by eight questions learners might pose to themselves. Each question has a corresponding decision in Wenden's framework. These eight questions and decisions can be classified within three of the four designators Brown (1982) used to describe metacognitive strategies -- knowledge about cognition, planning, monitoring, and self-evaluation -- in the following manner:

o Knowledge about cognition

Question -- how does this language work?

Decision -- learners make judgments about the linguistic and sociolinguistic codes.

Question -- What's it like to learn a language?

Decision -- learners make judgments about how to learn a language and about what language learning is like.

o Planning

Question -- What should I learn and how?

Decision -- learners decide upon linguistic objectives, resources and use of resources.

Question -- What should I emphasize?

Decision -- learners decide to give priority to special linguistic items.

Question -- How should I change?

Decision -- learners decide to change their approach to language learning.

o Self-evaluation

Question -- How am I doing?

Decision -- learners determine how well they use the language and diagnose their needs.

Question -- What am I getting out of this?

Decision -- learners determine if an activity or strategy is useful.

Question -- How am I responsible for learning? How is language learning affecting me?

Decision -- learners make judgments about how to learn a language and about what language learning is like.

The eight questions characterizing self-directed learning presented by Wenden all fit conveniently within the categories identified by Brown for metacognitive strategies. However, Brown's monitoring category has no counterpart in Wenden's scheme, suggesting that the type of spontaneous evaluation and correction of production found in monitoring is not a critical component in learner awareness of self-directed language learning. This is consistent with Krashen's (1977) view of monitoring as being of limited value in language production. Krashen believes that monitoring occurs when individuals apply specific rules learned in formal instruction to their oral or written language. Students with more exposure to the second language would be expected to have acquired greater familiarity with spontaneous responses, but may also have learned formal rules that can be used to correct the response. The monitoring activities nevertheless occur infrequently, especially in speaking, because overuse interferes with communication.

A number of investigators have focused on the process of using cognitive strategies in language acquisition. Rubin (1981) has identified learning strategies through a variety of procedures. These include observations and videotapes of classrooms, observations of tutorial situations, student self-report, strip stories (a reasoning task in which students identify a complete story when each has been given only a single sentence out of context), self-report diaries (students write what they do to learn a language), and directed diaries (students are given explicit instructions on how to keep the diary). Rubin reports that (a) the observations were "not very productive" since teachers focused on getting correct answers, not on

the process by which students derive the answers; (b) some students were better able to describe strategies than others; and (c) most students needed to be tutored to report on their learning strategies. Most of Rubin's more productive reports were derived from diary accounts of sophisticated second language learners.

Rubin's finding that observations were not productive is consistent with findings by Cohen and Aphek (1981) in which observations in language classrooms failed to reveal much about strategies or about patterns of communication, such as communication success or error correction, that would signal that a strategy was being used. Cohen and Aphek also found greater success in interviewing students individually or in groups for retrospective analysis of strategies than in classroom observations for strategy use. Similarly, Hosenfeld (1976) found that at least some junior high school age students could describe their strategies while performing language learning tasks.

Based on her analyses, Rubin (1981) classified learning strategies in the following manner:

o Processes Which Contribute Directly to Learning

-Clarification/verification -- the learner asks for examples of how to use a word or expression, asks for the correct form to use, etc.

-Monitoring -- the learner corrects his/her own or other's pronunciation, vocabulary, grammar, style or usage with respect to appropriateness for the setting

-Memorization -- learner attempts to acquire words or other language elements through associations designed to assist storage and retrieval

-Guessing/inductive inferencing -- learner uses hunches derived from clues to guess meaning or to guess general rules as in using clues from the surrounding language context or from an item's repeated use in different contexts

-Deductive reasoning -- the learner looks for and uses general rules, such as looking for rules of co-occurrence or applying grammatical rules

-Practice -- learner experiments with new sounds, uses a mirror for practice, drills self on words in different forms, makes use of new words in speaking, etc.

o Processes Which Contribute Indirectly to Learning

-Creates opportunities for practice -- creates situation with native speakers to practice, spends extra time in the language lab, etc.

-Production tricks -- communication strategies, such as using circumlocution, a synonym, a cognate, gestures, or speaking more slowly.

Wenden (1983a) recommends using classification schemes like Rubin's in future research and proposes refining them based on the results of new data collection. At least one refinement of the Rubin classification scheme would be to add metacognitive components, since the strategies she identifies tend to deal with direct manipulations of the learning materials rather than reflections on the process of learning or strategy applications. Wenden's (1983a; 1983b) own work tends to be largely on metacognitive strategies, suggesting that the two approaches could be synthesized. Wenden also expresses concern that self-reported strategies fail to lend themselves to more rigorous analysis or classification due to subjectivity of self-report. At least one approach to this problem would be to provide more structure in the self-report, so that the student is required to be more specific about the learning tasks to which the strategies can be applied. This approach draws upon Weinstein's (1978) work on learning strategies in reading, in which students were asked to indicate the

application of strategies for specific reading tasks. Wenden further indicates there is a need for materials that would not only expand learners' repertoires of efficient strategies, but make them critically reflective of the language learning activities. Research that extends existing learning strategies to metacognitive strategies and that reduces ambiguity in data collection would seem to be a prerequisite to new materials development.

Objectives

The purposes of this study were (a) to identify the range of learning strategies used by high school students for language learning tasks found typically in English as a Second Language (ESL) classrooms and in the daily experience of high school students, (b) to determine if the strategies identified can be classified within existing learning strategy frameworks; and (c) to determine whether the strategies used interact with the type of task and the level of English proficiency of the students.

Procedure

The general strategy used in this study was to collect interview data from high school students and teachers on their use of learning strategies for language learning activities in ESL classrooms. The interviews focused on the following nine specific activities: pronunciation, oral drills, vocabulary, following directions, social interactions, operational language use, listening for main ideas and facts, making inferences while listening, and making an oral presentation. These activities were derived from an analysis of the contents of typical ESL curricula at the secondary level. One of the activities, inferencing, is also a learning strategy. Asking students and teachers to describe learning strategies associated with specific tasks was different from prior data collection approaches in second language acquisition research and was expected to yield a broader range and richer level of detail concerning learning strategies than had been obtained in the past. In addition to the interviews with

students and teachers, observations were conducted in classrooms for the purpose of identifying learning strategies associated with specific tasks that were identifiable in student and teacher communications. By focusing observations on specific learning activities it was expected that some of the prior difficulties with observations could be overcome.

Subjects. The subjects were 70 high school age students enrolled in ESL classes during the Spring 1983 semester, and 22 teachers providing instruction in these classes. The teachers and students were located in three high schools in an Eastern metropolitan area in the United States. Two of the schools were in a single school district and had common entry assessment and curriculum approaches, while one school was in another district with somewhat different assessment and instructional approaches. However, both districts identified students as beginning, intermediate, or advanced level for English proficiency placement. The students used in this study were either beginning or intermediate and -- except for one group of five students who were Vietnamese -- were all from Spanish language countries or areas such as Central America, South America, and Puerto Rico. A representative definition of beginning and intermediate level students drawn from the curriculum of one of the districts is as follows:

- o Beginning level -- students who have little or no proficiency in English and need intensive English instruction
- o Intermediate level -- students with limited proficiency in understanding and speaking English, and little or no skill in reading and writing English, who also need intensive instruction in English.

Students classified at the beginning level typically received ESL instruction exclusively for about one year, apart from physical education and related courses, whereas students at the intermediate level received lesser amounts of ESL instruction (e.g., 2 hours per day) and the balance in content area courses including social and natural sciences and math. Schools were asked to assign students with higher academic ability to the interviews, regardless of English proficiency level, with a smaller percentage of low ability students. It was expected that higher ability students would contribute a greater range of strategies. Although most of the teachers interviewed taught ESL classes, biology and English language arts teachers were included in the interviews to determine whether learning strategies used by students with greater proficiency differed in the content area courses.

Instruments. Three data collection instruments were used in the study: the Student Interview Guide (Appendix A), Teacher Interview Guide (Appendix B), and Observation Guide (Appendix C). The student and teacher interview guides were essentially comparable in (a) presenting an introduction explaining the purpose of the study, and (b) requesting information on learning strategy uses with the nine language learning activities described above. They were different in the wording of questions to suit the interviewee, i.e., students were asked about strategies they used, while teachers were asked about strategies they either observed students using or encouraged students to use. The interviewer had available a list of learning strategies drawn from the literature review (O'Malley et al., 1983) to use as prompts with both students and teachers. The list and their corresponding definitions are shown in Table 1. The definitions

Table 1

Preliminary Learning Strategy Definitions

<u>Learning Strategy</u>	<u>Description</u>
<u>Metacognitive Strategies</u>	
Advance organizers	Making a general but comprehensive preview of the organizing concept or principle in an anticipated learning activity.
Self-monitoring	Correcting one's own speech for accuracy in pronunciation, grammar, vocabulary, or for appropriateness related to the setting or to the people who are present
Self-evaluation	Checking the outcomes of one's own language learning against an internal measure of completeness and accuracy.
Introspection/ Retrospection	Inspecting the process of one's own language learning either concurrently or in the past.
Delayed Production	Consciously deciding to postpone speaking to learn initially through listening comprehension.
Self-Management	Understanding the conditions that help one learn and arranging for the presence of those conditions.
<u>Cognitive Strategies</u>	
Repetition	Imitating a language model, including overt practice and silent rehearsal.
Contextualization	Placing a word or phrase in a meaningful language sequence.
Cooperation	Working with one or more peers to obtain feedback, pool information, or model a language activity.
Question for Clarification	Asking a teacher or other native speaker for repetition, paraphrasing, explanation, and/ examples.

Transfer	Using previously acquired linguistic and/or conceptual knowledge to facilitate a new language learning task.
Inferencing	Using available information to guess meanings of new items, predict outcomes, or fill in missing information
Recombination	Constructing a meaningful sentence or larger language sequence by combining known elements in a new way.
Transformation	Reconstructing or adapting new information so it is easier to understand.
Elaboration	Relating new information to other concepts already in memory, using key words, imagery, or other representation processes.

indicate the process students follow in performing the strategy, but not the goal of the strategy use, which may vary from learning to retention or retrieval depending on the context. The prompts were used (a) to clarify a definition, and (b) to suggest optional strategies when the interview production was sparse.

The observation form was designed to detect learning strategy use in either ESL or content area classrooms. It was an event sampling approach in which observers were directed to scan the entire classroom (typically 15 students) for evidence of learning strategies identified in the literature review. For example, a student who spontaneously corrected his/her own pronunciation mid-sentence would be monitoring, and one who requested additional information from a teacher would be questioning for clarification. Categories of information noted about each strategy occurrence paralleled information extrapolated from interviews (see below).

Methodology. Data were collected over a span of roughly one month toward the end of the school year. Participation of districts and individual schools was secured following district guidelines. Interviews with both students and teachers required approximately 45 minutes. Students were interviewed in small groups of 3-5 after regular school hours, and teachers were interviewed individually also after school (on different days). Interviews with beginning level Hispanic students were conducted in Spanish. It was expected that interviews conducted in Spanish with Hispanic students who were less proficient in English would provide more opportunity for students to contribute meaningfully and to describe complicated strategies. Observations were conducted for one hour on each of four days in all

ESL classes (roughly 2 beginning and 2 intermediate classes per school) and in selected content area classes. Interviews and observations were conducted by four of the five authors of this paper. Cooperation of both students and teachers was exceptionally good.

All interviews were taped and rated afterwards by the person conducting the interview. In listening to the tape, the rater prepared an abbreviated transcript by noting only the learning strategy description (and name if it was obvious), the type of students (beginning or intermediate, and language background), and the learning activity (pronunciation, oral drill, etc.). Descriptions of the learning strategy and its use were thoroughly recorded to assure that later classification of the strategy would be accurate. Each new mention of a strategy or its application was noted, except that affirmation by students of the same strategy initially identified by another student for the same learning task was counted as a single occurrence. Use of the same strategy with a different learning activity was recorded as a new strategy application. In cases where the strategy name was not obvious, or when there was disagreement over a strategy name, a collective decision was made by all four interviewers. Where necessary, new strategy names were devised appropriate to unique strategies students had identified. Multiple strategies were recorded whenever no single strategy adequately described the approach used by students. Although the use of multiple strategies would tend to increase the overall number of strategies recorded, the alternative was to fail in representing the richness and imagination with which students combined strategies during language learning.

Reliability data on interviews were collected by having an independent rater listen to a tape, develop an abbreviated transcript, and compare results with the initial transcript. Interobserver agreement in classroom observations was determined through parallel observations.

Results

Range of Strategies. The range of learning strategies identified in the interviews and observations extended beyond the preliminary list presented in Table 1. Whereas overall in Table 1 there were 15 strategies identified, this number is augmented and refined to produce an additional 14 strategies in Table 2. However, because two strategies were dropped from Table 1 (introspection/retrospection and transformation), and one strategy in Table 2 (elaboration) is simply a redefinition of a strategy that already appeared in Table 1, the final list actually includes 26 strategies. Introspection/retrospection strategies were dropped because other terms such as monitoring and self-evaluation seemed to subsume them, while transformation was deleted because it seemed to represent a general category of strategies rather than a specific learning strategy approach. By almost doubling the number of strategies identified from the initial literature review, the data collection -- particularly the interviews with students -- proved to be a useful and informative approach for gaining information about the ways in which the students attack language learning.

Strategy Classification. The basic classification scheme proposed by Brown (1982) that was comprised of metacognitive and cognitive strategies proved useful for the 26 strategies identified in this study. These two broad categories subsumed the full list of strategies producing mutually exclusive categories in all cases as shown in Tables 1 and 2. Further, the subdivisions of metacognitive

Table 2

Extended Learning Strategy Definitions

<u>Learning Strategy</u>	<u>Description</u>
<u>Metacognitive Strategies</u>	
Directed attention	Deciding in advance to attend in general to a learning task and to ignore irrelevant distractors.
Selective attention	Deciding in advance to attend to specific aspects of language input or situational details that will cue the retention of language input.
Advance preparation	Planning for and rehearsing linguistic components necessary to carry out an upcoming activity.
Self-reinforcement	Arranging rewards for oneself when a language learning activity has been accomplished successfully.
<u>Cognitive Strategies</u>	
Resourcing	Using target language reference materials.
Directed physical response	Relating new information to physical actions, as with directives.
Translation	Using the first language as a base for understanding and/or producing the second language.
Grouping	Reordering or reclassifying and perhaps labelling the material to be learned based on common attributes.
Notetaking	Writing down the main idea, important points, outline, or summary of information presented orally or in writing.
Imagery	Relating new information to visual concepts in memory via familiar, easily retrievable visualizations, phrases, or locations.
Auditory representation	Retention of the sound or similar sound for a word, phrase, or longer language sequence.

Table 2 (cont.)

<u>Learning Strategy</u>	<u>Description</u>
Key word	Remembering a new word in the second language by (1) identifying a familiar word in the first language that sounds like or otherwise resembles the new word, and (2) generating easily recalled images of some relationship between the two words that cues the meaning of the new word.
Deduction	Consciously applying rules to produce or understand the second language.
Elaboration	Relating new information to other concepts in memory.

strategies -- planning, monitoring, and evaluating -- appeared capable of subsuming the individual metacognitive learning strategies identified, as will be shown later. Among the cognitive strategies, however, attempts to use Rubin's (1982) classification scheme failed to produce mutually exclusive categories, i.e., some strategies appeared in more than a single grouping. For example, repetition could be classified either as memorization or practice, and contextualization could be either practice or production tricks. Ruben (1983) confirmed this overlapping with the strategies produced in the present study, and suggested inspecting original student descriptions to clarify the classification if mutually exclusive categories are desired. Because overlapping classifications occurred in 253 out of the 638 strategies identified, a sizable number to reclassify, we did not pursue this recommendation for the present report. Quite possibly alternative classification schemes, perhaps based on the level of mental activity involved in use of the strategy, may also prove useful in future analyses of these or similar learning strategy data.

Productivity. Generally we had considerable success in identifying learning strategies through interviews with students, but less success in interviews with teachers, and negligible success in conducting observations. Students understood readily the request for information about approaches they used to assist their language learning, and provided numerous examples of the ways in which they applied the strategies to specific learning activities. As shown in Table 3 a total of 638 strategies emerged in the 19 student interviews for an average of 33.6 strategies per interview. These were individual

Table 3
 Number of Learning Strategies Per Data Collection Approach

Level of Student	Data Collection Approach								
	Student Interviews		Teacher Interviews		Observations				
	Number of Interviews	Number of Strategies Per Interview	Number of Interviews	Number of Strategies Per Interview	Number of Observations	Number of Strategies Per Obs.			
Beginning Level	11	409	37.2	12	332	27.7	27	109	4.0
Intermediate Level	8	229	28.6	6	122	20.3	23	71	3.1
Other	NA	NA	NA	4	104	26.0	3	17	5.7
Total	19	638	33.6	22	558	25.4	53	197	3.7

strategy applications averaged across successive interviews. There were 25.4 individual strategies per teacher interview, fewer than among students, in part due to the fact that student interviews were performed in small groups, and teacher interviews were performed individually. There were only 3.7 strategies per classroom observation. Because roughly equal amounts of time were expended for interviews and observations, about one hour, the return for effort in data collection clearly was not in conducting observations. Results presented in Table 3 also indicate that, irrespective of the data collection approach, more strategies tended to be identified for beginning level compared with intermediate level students.

Some of the prolific expression of strategy use by students was in part due to multiple strategies. As noted previously, in order to reflect accurately the richness of strategies used by students, we sometimes found it necessary to assign multiple strategy names to a single description provided by students. Two or more strategies were used in 20.9 percent of all strategies reported. There were virtually no differences between beginning and intermediate students in this regard. Further inspection of the multiple strategy uses revealed that metacognitive strategies were combined with cognitive strategies in 7 percent of all strategy applications by students, while metacognitive strategies alone were used in an additional 26.7 percent of all strategy applications, and 66.2 percent were cognitive strategies alone. The extensive use of metacognitive strategies by students suggested that considerable reflection on the acquisition and function of language was occurring.

Teacher interviews were actually less productive than is revealed by data in Table 3. One of the more important findings from the study was that teachers, with few exceptions, tended to show little understanding of learning strategies or their applications by students. The teachers were clear on what their responsibilities were in presenting curriculum but knew almost nothing about what students did to acquire and retain the information that was presented. Thus, most teachers responded to questions about learning strategies with information about teaching strategies. The teachers required almost continuous prompts to redirect their answers toward learning strategies. As a result, the difference between teaching and learning strategies was not clearly differentiated in the teacher interviews and was therefore obscured in the transcripts.

For a variety of reasons, we have decided to concentrate on data obtained from student interviews in reporting information from this study. The student interview data were more productive than information derived in either teacher interviews or observations. The interviews were easy to transcribe and led to interrater classifications of acceptable reliability. Teacher interviews were complicated by interweaving teaching strategies with the learning strategies, as was noted above. Despite continued prompts by interviewers, it proved extremely difficult to separate reliably the teacher strategies from learning strategies when the tapes were rated later. And finally, the observations were exceedingly nonproductive and, in part due to low frequencies, proved highly unreliable. Expectations that differentiating strategies by learning activity would lead to improved data on both interviews and observations proved valid only for interviews with students.

Interaction of Strategies with Student Proficiency. Results presented in Table 4 reveal that intermediate level students tended to use proportionately more metacognitive strategies than students with beginning level proficiency. Whereas intermediate level students used 34.9 percent metacognitive strategies, beginning level students used 27.4 percent metacognitive strategies. However, overall, both beginning and intermediate level students used more cognitive than metacognitive strategies.

Individual metacognitive strategies are displayed in Table 5, where the strategies are differentiated in terms of Brown's categories for regulation of learning -- planning, monitoring, and evaluation. The greatest differentiation and heaviest use of strategies appears in planning, regardless of English proficiency. Overall, 82.3 percent of the metacognitive strategies used were for planning learning activities, primarily in self-management, advance preparation, directed attention, and selective attention. Self-monitoring comprised 9.4 percent overall of all metacognitive strategies, while 8.3 percent involved self-evaluation. Self-reinforcement was not used by any of the students. Beginning and intermediate level students were comparable in the pattern of metacognitive strategy use, although self-monitoring was used somewhat more by intermediate than beginning level students, consistent with Krashen's view that monitoring is used more by individuals who have greater exposure to the new language.

Cognitive strategies used by students in acquiring speaking and understanding skills in English are presented in Table 6. The strategies are presented from least to most frequently occurring

Table 4

Number of Metacognitive and Cognitive Strategies
Used by Students in Acquiring English as a Second Language

Type of Learning Strategy	Level of English Proficiency				Total	
	Beginning Level		Intermediate Level			
	N	%	N	%	N	%
Metacognitive	112	27.4	80	34.9	192	30.0
Cognitive	297	72.6	149	65.1	446	69.9
Total	409	100.0	229	100.0	638	100.0

Table 5

Number of Metacognitive Learning Strategy Uses by Beginning and Intermediate Level Students in Acquiring English as a Second Language

Metacognitive Learning Strategies	English Proficiency					
	Beginning Level		Intermediate Level		Total	
	N	%	N	%	N	%
<u>Planning</u>						
Self-management	22	19.6	18	22.5	40	20.8
Advance preparation	24	21.4	20	25.0	44	22.9
Advance organizers	1	0.9	0	0.0	1	0.5
Directed attention	15	13.4	10	12.5	25	13.0
Selective attention	25	22.3	13	16.3	38	19.8
Delayed production	8	7.1	2	2.5	10	5.2
Subtotal	95	84.8	63	78.8	158	82.3
<u>Monitoring</u>						
Self-monitoring	8	7.1	10	12.5	18	9.4
<u>Evaluation</u>						
Self-evaluation	9	8.0	7	8.8	16	8.3
Self-reinforcement	0	0.0	0	0.0	0	0.0
Total	112	100.0	80	100.0	192	100.0

Table 6

Number of Cognitive Learning Strategy Uses by Beginning and Intermediate Level Students in Acquiring English as a Second Language

Cognitive Learning Strategies	English Proficiency				Total	
	Beginning Level		Intermediate Level			
	N	%	N	%	N	%
Directed physical resp.	0	0.0	0	0.0	0	0.0
Key word	0	0.0	1	0.7	1	0.2
Deduction	1	0.3	1	0.7	2	0.4
Recombination	1	0.3	1	0.7	2	0.4
Grouping	1	0.3	3	2.0	4	0.9
Auditory representation	3	1.0	2	1.3	5	1.1
Elaboration	9	3.0	2	1.3	11	2.5
Contextualization	7	2.4	11	7.4	18	4.0
Resourcing	11	3.7	7	4.7	18	4.0
Inferencing	21	7.1	11	7.4	32	7.2
Transfer	23	7.7	12	8.1	35	7.8
Translation	29	9.8	9	6.0	38	8.5
Imagery	31	10.4	11	7.4	42	9.4
Cooperation	34	11.4	18	12.1	52	11.7
Question for clarif.	38	12.8	19	12.8	57	12.8
Note-taking	43	14.5	20	13.4	63	14.1
Repetition	45	15.2	21	14.1	66	14.8
Total	297	100.0	149	100.0	446	100.0

strategies overall. As with metacognitive strategies, the pattern of use is similar for beginning and intermediate level students. The two most frequently used strategies overall were repetition and note-taking. The appearance of a rote strategy among the most frequently mentioned strategies is of considerable interest in that it indicates that students are not transforming or otherwise engaging the learning materials in an active manner. The next strategies in frequency were cooperation and questions for clarification, both of which involve contact with another person for additional source information and may not entail active manipulation of information. The next group of strategies in terms of frequency consisted of imagery, translation, transfer, and inferencing. All of these strategies entail active manipulation or reworking of the learning materials, although translation is generally accepted as a highly inefficient strategy for language learning. Among the lower frequency strategies cited by students were a number that entail a high level of active involvement with the learning materials, such as elaboration, the key word method, deduction, grouping, and recombination. In general, it seemed that some of the more active strategies that should lead to greater learning were infrequently used.

Although the pattern of strategy application was comparable for beginning and intermediate level students, some interesting differences occurred among strategies at the mid-ranges of use. Translation tended to be used slightly more by beginning level students than intermediate level students, as would be expected. Imagery was also used more by beginning level students, as was elaboration. On the other hand, contextualization was used more by intermediate level students. These findings are consistent with Cohen's report that contextualization is difficult for beginning level students to use because it presumes some level of proficiency (Cohen & Aphek, 1981). These results indicate that novice language learners may find some strategies more applicable to certain language tasks, while more experienced language learners will find other strategies useful for different language tasks.

Interaction of Strategies with Learning Activities. The proportion of learning strategies reported by students varied depending on the learning activity, as shown in Table 7. By far the most strategies were reported for vocabulary learning, virtually twice as many as for other activities such as making an oral presentation and drawing inferences from listening, and substantially more than for operational communication and analysis in listening comprehension. The other activity for which students reported numerous strategies was pronunciation. Thus, strategies were most frequently mentioned with relatively less conceptually complex language learning activities in comparison to the more complex activities such as analysis, inferencing, and making an oral presentation.

Table 7

Number of Learning Strategy Uses Among Beginning and Intermediate Level Students for Different Learning Activities

Learning Activity	English Proficiency				Total	
	Beginning Level		Intermediate Level			
	N	%	N	%	N	%
Listening Comp: Inference	34	8.3	12	5.2	46	7.2
Oral Presentation	22	5.4	30	13.1	52	8.2
Operational Communicat.	46	11.2	17	7.4	63	9.9
Instructions	42	10.3	25	10.9	67	10.5
Social Communication	42	10.3	28	12.2	70	11.0
Listening Comp: Analyzing	49	12.0	24	10.5	73	11.4
Oral Drills	52	12.7	21	9.2	73	11.4
Pronunciation	51	12.5	37	16.2	88	13.8
Vocabulary Learning	71	17.4	35	15.3	106	16.6
Total	409	100.0%	229	100.0%	638	100.0%

One of the reasons why a strategy might have appeared with low frequency with a particular language learning activity was that the activity itself occurred with low frequency in the student's experience. For example, many students did not regularly engage in more complex language activities such as social communication or classroom oral presentations. Further, the students were infrequently assigned communicative interactions outside the classroom, such as talking to a clerk in a store, which precluded extensive experience in activities such as social and operational communications. Teachers reported that they avoided encouraging oral classroom presentations in some cases because they were sympathetic with the students' embarrassment over inaccurate English pronunciation, and in other cases because the skills associated with the activity were not highly emphasized in the district's curriculum. (One of the reasons given for this was that oral production skills are difficult and time consuming to assess, and consequently could not be stressed in the curriculum).

Discussion

Principal findings from this investigation indicated that both beginning and intermediate English proficiency students identified and reported use of an extensive variety of learning strategies. Intermediate level students tended to use metacognitive strategies more often than beginning level students. A small percentage of the strategy uses reported by students combined metacognitive with cognitive strategies, while most involved metacognitive or cognitive strategies alone. Analysis of the cognitive strategies indicate that students tended to use strategies most frequently which entailed the

least amount of transformation or manipulation of the information to be learned and thus were relatively inefficient for learning and information storage. Further, analysis of the learning activities with which the strategies were used indicated that few strategies were used with more demanding cognitive tasks, precisely where they should be most needed. This could have resulted from the relatively infrequent incidence of higher level cognitive tasks, as noted above.

Although intermediate level students used metacognitive strategies more than beginning level students, the beginning level students used more strategies overall. Further, the pattern of strategy use within metacognitive and cognitive strategies appeared comparable for the beginning and intermediate level students. Thus, although sharp differences in frequency of strategy use have been reported between high and low ability students (e.g., Brown, 1983), students at different proficiency levels in English do not follow this pattern. One reason may be that students at both English language proficiency levels tended to be high in academic ability. The students at each level of proficiency were assigned largely from among the higher ability student pool, at researcher request, in order to capitalize on the likelihood of finding greater variety and richness in strategy descriptions. The researchers had requested inclusion of only a small proportion of lower ability students.

An additional finding of interest was the degree of metacognitive awareness of language acquisition exhibited by many of the students interviewed, suggesting a high level of metalinguistic awareness. Metalinguistic knowledge is the ability to reflect on the forms and structures of a language independently from its informational or

social functions (Ryan, 1975) and to analyze language structures overtly (Hernandez-Chavez, Burt, & Dulay, 1979). Studies of bilingualism have indicated that metalinguistic skills--such as flexibility in manipulating linguistic codes, auditory reorganization of language items, and separation of words from their physical referents--are more evident in bilinguals than in monolinguals (Lambert, 1981).

Even though the students interviewed in the present study were at the initial stages of second language acquisition and were not yet proficient bilinguals, some had already developed an awareness of a variety of metalinguistic features. Many students were aware of the degree of correctness of their own production, as shown by their use of self-monitoring as a strategy, and many not only realized their own strengths and weaknesses in English but deliberately capitalized on their strengths through such communicative strategies as choosing or changing the topic of conversation to include words and structures they knew. Students seemed aware of the importance of paralinguistic factors such as intonation, and of style and register differences between classroom language and the informal language of English speaking peers. Reflections on similarities and differences between Spanish and English appeared frequently in the course of the interviews, including semantic ambiguities and the limitations of translation. Some students perceived their knowledge of Spanish as an asset in learning English because they were able to transfer language skills deliberately, such as inferring meaning from context. Other students felt that deficiencies in their knowledge of the formal system of Spanish were having a deleterious effect on their ability to learn equivalent features in English.

Teachers expressed strong interest in knowing more about learning strategies and how they could help their students learn. One district encouraged a "learning strategies workshop" in which findings from this study would be discussed using another product of the study, the "Teachers' Guide to Learning Strategies." Nevertheless, findings from the study revealed that teachers did not have a strong sense of the applications of learning strategies by their students. When asked about learning strategies, they responded with teaching strategies and indicated, with a few notable exceptions, that they were generally unacquainted with how students studied, organized, or manipulated materials to learn most effectively. It seems likely that discussions of learning strategies were absent from the teacher training programs to which these teachers had been exposed.

The results confirmed the ineffectiveness of observations in providing useful data concerning learning strategies in classrooms. The strategies in many cases were unobservable, occurred infrequently, and were difficult to define operationally for reliable classification. Other investigators such as Cohen and Rubin have encountered similar problems, and attempts to ameliorate prior difficulties through precise definition of learning activities proved ineffective.

These findings suggest that the extension of recent studies of learning strategies in second language acquisition is warranted. If use of learning strategies proves as effective in second language acquisition as in reading comprehension, an extremely powerful learning tool that students presently use inefficiently could be made available, with proper direction and support. Two immediate

directions for further research and development in this area are to increase teacher awareness of the possibilities for using learning strategies as part of their instruction, and to identify specific strategies experimentally that have demonstrated value for increasing student learning and retention of language.

References

- Bialystok, E. The role of conscious strategies in second language proficiency. Canadian Modern Language Review, 1979, 35, 372-394.
- Bialystok, E. Some factors in the selection and implementation of communication strategies. In C. Faerch & G. Kasper (Eds.), Strategies in interlanguage communication. London: Longmans 1983.
- Brown, A. L. Inducing strategic learning from texts by means of informed, self-control training. Topics in Learning and Learning Disabilities, 1982, 2 (1), 1-17.
- Brown, A. L., Bransford, J. D., Ferrara, R. A., & Campione, J. C. Learning, remembering, and understanding. In J. H. Flavell & E. M. Markham (Eds.), Carmichael's manual of child psychology. Vol. 1. New York: Wiley, 1983.
- Cohen, A. D., & Aphek, E. Retention of second-language vocabulary over time: Investigating the role of mnemonic associations. System, 1980, 8 221-235.
- Cohen, A. D., & Aphek, E. Easifying second language learning. Studies in Second Language Acquisition, 1981, 3 (2), 221-235.
- Danserau, D.F. Learning strategy research. In J. Segal, S. Chipman, & R. Glaser (Eds.) Thinking and learning skills: Relating learning to basic research. (Vol. 1) Hillsdale, N.J.: Erlbaum, in press.
- Hernandez-Chavez, E., Burt, M., & Dulay, H. Language dominance test - Some general considerations. In J. E. Redden (Ed.), Proceedings of the Second International Conference on Frontiers in Language Proficiency and Dominance Testing. Occasional Papers on Linguistics, Number 3. Carbondale, IL: Department of Linguistics, Southern Illinois University, 1979.
- Hosenfeld, C. Learning about learning: Discovering our student's strategies. Foreign Language Annals, 1976, 9 (2), 117-129.
- Krashen, S. The Monitor Model for adult second language performance. In M. Burt, H. Dulay, & M. Finocchiaro (Eds.), Viewpoints on English as a second language. New York: Regents, 1977.
- Lambert, W. E. Biligualism and language acquisition. In H. Winitz (Ed.), Native language and foreign language acquisition. Annals of the New York Academy of Sciences, Volume 379, 1981.

- Naiman, N., Frohlich, M., Stern, H. H. & Todesco, A. The good language learner. Toronto: Modern Language Center, Ontario Institute for Studies in Education, 1978.
- O'Malley, J. M., Russo, R. P. & Chamot, A. U. A review of the literature on learning strategies in the acquisition of English as a second language: The potential for research applications. Rosslyn, VA: InterAmerica Research Associates, 1983.
- Politzer, R. Foreign language learning: A linguistic introduction. New Jersey: Prentice Hall, 1965.
- Politzer, R. L., & McGroarty, M. An exploratory study of learning behaviors and their relation to gains in linguistic and communicative competence. Manuscript. Palo Alto, CA: Stanford University, 1983.
- Rigney, J. W. Learning strategies: A theoretical perspective. In H. F. O'Neil (Ed.), Learning strategies. New York: Academic Press, 1978.
- Rubin, J. Study of cognitive processes in second language learning. Applied Linguistics, 1981, 11 (2), 117-131.
- Rubin, J., & Thompson, I. How to be a more successful language learner. Boston: Heinle & Heinle, 1982.
- Rubin, J. Personal communication, 1983.
- Ryan, E. B. Metalinguistic development and bilingualism. Paper presented at the Summer Conference on Language Learning, Queens College, Flushing, NY, 1975. ED 132 842.
- Weinstein, C. E. Elaboration skills as a learning strategy. In H. F. O'Neil (Ed.) Learning strategies. New York: Academic Press, 1978.
- Wenden, A. Literature review: the process of intervention. Language Learning, 1983a, 33 (1), 103-121.
- Wenden A. Learning training for L2 learners: A selected review of content and method. Paper presented at the annual meetings of the TESOL convention, Toronto, March 15-20, 1983b.
- Wittrock, M. C. Writing and the teaching of reading. Language Arts, 1983, 60 (5), 600-606.
- Wittrock, M. C., Marks, C. B. & Doctorow, M. J. Reading as a generative process. Journal of Educational Psychology, 1975, 67, 484-489.

APPENDICES

- A Teachers Interview Guide
- B Student Interview Guide
- C Classroom Observation Guide

APPENDIX A

LEARNING STRATEGIES
FOR SPEAKING
AND
UNDERSTANDING ENGLISH

Teacher Interview Guide for Learning Strategies (TIGLS)

LEARNING STRATEGIES FOR SPEAKING AND UNDERSTANDING ENGLISH

Teacher Name: _____

Date: _____

School: _____

Interviewer: _____

(READ OR PARAPHRASE.) My name is _____ and I am working with InterAmerica Research Associates. We wish to produce an inventory of learning strategies that can be used to help foreign language background students acquire skills in understanding and speaking in English. I am asking for your participation in suggesting some strategies you either teach students or have seen these students use in acquiring skills in understanding and speaking English. Your suggestions and the suggestions of other teachers will be incorporated into the inventory so that it represents the best knowledge on learning strategies available. We will make certain that you receive a copy when it is completed.

Learning strategies are approaches or techniques that students may use to help them learn or remember information. They are different from teaching strategies because they are intended to be used by the students, not the teacher. However, sometimes teachers give students tips on how to learn something the easiest or most effective way. These "tips" are learning strategies because students may use them in independent work. Other times the students develop learning strategies on their own without the teacher's assistance. Regardless of how the learning strategy was learned, our interest is in identifying learning strategies foreign language background students use to acquire skills in understanding and speaking English.

Do you have any questions so far?

Now I would like to ask you some questions about learning strategies or "tips" you have given students or that you have seen them use independently.

ACTIVITY ONE

Pronunciation Exercise

You would like your students to learn the correct pronunciation of several words. You model the correct oral production for them and then they are expected to reproduce or imitate this pronunciation.

My questions are:

- 1) Do you have this kind of activity in your classroom?
- 2) If so, what kind of suggestions or tips do you offer the students to help them learn how to pronounce the new words correctly?
- 3) Are you aware of any special tricks they might use on their own to remember the correct pronunciation of new words?

ACTIVITY TWO

Oral Drills / Exercises

~~Another activity that is fairly common~~ to ESL classes might be oral drills and exercises. You ask your students to:

- 1) Repeat a sentence
- 2) Memorize a dialogue
- 3) Change tenses from past to present: (Teacher: We go home at two.
Student: We went home at two.)
- 4) Change positive to negative: (Teacher: Mary studies every day.
Student: Mary does not study every day.)
- 5) Answer questions: (Teacher: What color is your shirt?
Student: My shirt is blue.)

My questions are:

- 1) Do you do this type of activity in your class?
- 2) If so, have you ever offered the students any tips or suggestions as to how they can help themselves remember the sentences in a dialogue or the correct tenses?
- 3) Have you ever observed any special methods the students might use on their own to help themselves with this type of activity?

ACTIVITY THREE

Vocabulary Learning

You have a list of ten new words that you have not previously introduced to your students. You would like them to learn the meanings of these words, remember the definitions, and eventually be able to say them aloud.

My questions are:

- 1) Do you conduct this type of activity in your classroom?
If not, how do you teach vocabulary to your students?
- 2) If so, have you ever told them special techniques that might help them learn the meanings of the new words, and remember those meanings?
- 3) Have you every seen a student use a method on his/her own that helps him/her recall the meanings of the new words?

ACTIVITY FOUR

Instructions / Directives

Perhaps you have planned a class on giving and following instructions. You give oral directions on how to perform a task. The student is now expected to comprehend and retain the meaning of each separate instruction in the sequence, and then perform the task correctly by following the directions.

My questions are:

- 1) Is this an activity that takes place in your classroom?
- 2) In what other classes besides your do your students have to follow a sequence of instructions?
- 3) Have you ever offered your students suggestions on how they can best approach this type of activity?
- 4) Have you ever observed strategies that students have used to help themselves comprehend the instructions they have been given and then perform the task correctly?

ACTIVITY FIVE

Communication in a Social Situation

Let's say that you would like to teach your students how to communicate in a social situation. You might ask them to role play meeting someone for the first time or going to a party with all English speakers. Or you might actually see one of your students trying to communicate with a native English speaker in the hall, on a field trip, or on a social occasion.

My questions are:

- 1) Is this an activity which is likely to take place in your classroom? or in which your students are likely to engage?
- 2) Is so, what suggestions have you given your students as to what to pay attention to? Have you ever offered them tips as to how to comprehend what is being said and how to learn how to use English in a social situation?
- 3) Have you ever seen students of yours use any particular tricks or methods to help themselves communicate in a social situation?

ACTIVITY SIX

Functional Communication

A student of yours is interviewing for a part-time job or needs to make an important telephone call that requires him/her to communicate using work, service or functional English. This also might be a role playing activity you would require the entire classroom to participate in.

My questions are:

- 1) Is this a realistic classroom activity for your students?
Is it a realistic activity with which they are faced outside of school?
- 2) If so, have you ever offered them tips or suggestions as to how they can best approach this task?
- 3) Are you aware of any special techniques students use on their own to function effectively in a situation such as this?

ACTIVITY SEVEN

Teacher Narrative (Low Level Oral Presentation)

You give an oral presentation of about 10 minutes on the early history of the United States. The students are expected to comprehend the meaning, analyze the main idea, and answer basic questions.

My questions are:

- 1) Is this a realistic activity for the students in your classroom? Is it an activity that actually takes place in your classroom?
- 2) Have you ever suggested a method or methods that might help them follow what you are reading aloud, retain the main idea, and answer questions afterwards?
- 3) Are you aware of any special tricks they might use on their own to help them perform this task?

ACTIVITY EIGHT

Teacher Narrative (High Level Oral Presentation)

You:

- A) Might say several sentences that have words your students do not know. You would like the students to figure out what the words mean.
- B) Might tell your students the first part of a story. You then want your students to give a good ending for the story.

My questions are:

- 1) Realistically, is this an activity that is likely to take place in your classroom?
- 2) If so, have you ever offered your students tips on how to go about guessing at information with which they are unfamiliar?
- 3) Have you ever observed or are you aware of techniques students use on their own that helps them to guess at information that is unknown to them?

ACTIVITY NINE

Classroom Academic Communication

Your students have to prepare a project or an oral report on a school-related topic, either alone or working with other students. They must answer questions from the class afterwards.

My questions are:

- 1) Do you have this kind of activity in your class?
- 2) If so, have you ever offered them tips about how to prepare for and make these kinds of presentations?
- 3) Are you aware of any techniques your students use on their own to make this kind of task easier?

APPENDIX B

LEARNING STRATEGIES
FOR SPEAKING
AND
UNDERSTANDING ENGLISH

Student Interview Guide for Learning Strategies (SIGLS)

STUDENT INTERVIEWS

Number of Students: _____

School: _____

Level: _____

Teacher: _____

Interviewer: _____

LEARNING STRATEGIES FOR SPEAKING AND UNDERSTANDING ENGLISH

Student Interview Guide

(READ OR PARAPHRASE.) My name is _____ and I work with InterAmerica Research Associates. We want to talk to students in English as a Second Language classes to find out how you learn English. We want to know how you study and practice learning English. We also want to know any tricks or special things you do that make learning English easier, or that help you remember what you learn.

We plan to make a list of these special things you do to learn English and share them with other students like yourselves. We hope that this will help them in learning to understand and speak English. We also plan to share these special things with teachers so they will understand how students like you go about learning to understand and speak English. WE WON'T TELL ANYONE YOUR NAME OR WHO SAID WHAT.

I am going to name some things that students learning English usually have to do. Then I will ask you how you learn these things, and if there is anything special you do to learn them. There are no right or wrong answers. I am interested in knowing what you do in these situations.

Do you have any questions?

ACTIVITY ONE

Pronunciation Exercise

Your teacher wants you to pronounce several words. She says them aloud. Then you must repeat them, using the same pronunciation as your teacher.

My questions are:

- 1) Do you do this activity in your class?
- 2) Do you do this outside of class?
- 3) What special ways do you have to make sure that you copy the teacher's pronunciation? (How do you remember the pronunciation?)

ACTIVITY TWO

Oral Drills / Exercises

Your teacher asks you to : (Pick the appropriate example)

- 1) Repeat a sentence
- 2) Memorize a dialogue
- 3) Change tenses from present to past (Teacher: We go home at two.
Student: We went home at two.)
- 4) Change positive to negative: (Teacher: Mary studies every day.
Student: Mary does not study every day.)
- 5) Answer questions: (Teacher: What color is your shirt?
Student: My shirt is blue.)

My questions are:

- 1) Do you do this in your class?
- 2) How do you make sure that you remember what the teacher says?
- 3) Do you use any special techniques or ways to help you understand teh sentences?

ACTIVITY THREE

Vocabulary Learning

You are asked to learn the meanings of ten new words in English.

My questions are:

- 1) Do you do this in your class?
- 2) Do you have any special tricks to help you learn and remember new vocabulary words?

ACTIVITY FOUR

Instructions / Directives

In this situation, your teacher asks you to understand directions on how to do something in (chemistry lab, phys ed class, driver's ed, home economics, or shop class). You must understand what the teacher says, remember the steps needed to do the activity, and then do it yourself.

My questions are:

- 1) Do you do this type of activity in your class?
- 2) Outside of class?
- 3) Do you use special tricks to help you understand or remember?
- 4) What do you do if you forget what to do next as you are doing the activity?

ACTIVITY FIVE

Communication in a Social Situation

You are talking to some people who only speak English. You must listen to what they say, understand the meaning, and speak yourself.

My questions are:

- 1) What do you do that helps you understand?
- 2) What do you do that helps you remember new words or sentences?
- 3) What do you do that helps you talk?

ACTIVITY SIX

Functional (Practical) Communication

You want to find a part-time job. Or you need to buy a present in a store. Or you need to make an important telephone call in English.

My questions are:

- 1) Do you do this type of activity outside of school?
- 2) Do you prepare beforehand? If so, how do you prepare?
- 3) How do you understand what is said to you?
- 4) How do you make yourself understood?

ACTIVITY SEVEN

Teacher Narrative (Low Level Oral Presentation)

The teacher talks for ten or fifteen minutes about the early history of the United States. You are expected to understand, get the main idea and then answer questions.

My questions are:

- 1) Do you do this in your class?
- 2) What do you do that helps you understand the teacher?
- 3) What do you do to remember the main idea?
- 4) What do you do that helps you answer questions?

ACTIVITY EIGHT

Teacher Narrative (High Level Oral Presentation)

Your teacher: (pick the appropriate example)

- a) Says several sentences that have words you do not know. You have to figure out what they mean. How do you do this? Do you have any special tricks to help you?

- b) Tells you the first part of a story. You then have to give a good ending. Do you have any special ways that help you to predict or guess the ending?

ACTIVITY NINE

Classroom Academic Communication

You have to give an oral presentation in class. For example, a book report, a history report, or a report on a science project. Afterwards you answer questions from the class.

My questions are:

- 1) Do you do this in any of your classes?
- 2) What helps you to prepare the report?
- 3) What helps you to present the report?
- 4) Do you have any special tricks that help you answer questions?

APPENDIX C

Classroom Observation Guide for
Learning Strategies (COGLS)

LEARNING STRATEGIES FOR SPEAKING AND UNDERSTANDING ENGLISH

Classroom Observation Guide

The purpose of this observation guide is to describe an approach for collecting data on classroom uses of learning strategies by either teachers or students. The intent is to identify the range and characteristics of learning strategies applications. Prior to the observation, the data collector will have conducted interviews with the teacher and selected students to discuss uses of learning strategies for different instructional activities. The procedures are provided in the Teacher Interview Guide and the Student Interview Guide. The discussion with teachers and students will indicate which strategies are likely to occur in the classroom, and the conditions under which the strategies tend to be used. This information provides clues for the strategies that can be observed.

The observation guide enables observers to record comprehensive information about each learning strategy as it is used in the classroom. Because learning strategies do not occur frequently in classrooms, and because the form in which the strategies appear may vary considerably, it is important to be specific about at least seven characteristics of each strategy recorded:

- o Strategy -- the name of the strategy identified.
- o Source -- the originator of the strategy, either a teacher or a student.
- o Activity -- the instructional activity on which the strategy is applied, e.g., vocabulary learning, listening to a lecture for main ideas, or speaking informally with friends.
- o Approach -- the behaviors undertaken by the teachers or students to implement the strategy, including relevant verbalizations or actions.
- o Materials -- the materials used by teachers or students in conducting the activity.
- o Setting -- the instructional context in which the learning strategy is used, i.e., whether the strategy is used individually with one student, in small groups, or in a large group.
- o Students -- a general rating of the English language proficiency level of students with (or by) whom the strategy is used (1au categories or other convenient school or LEA categories).

Many learning strategies are not observable unless the teacher vocalizes the strategy to be performed by the student or unless the student vocalizes the strategy performance while conducting an activity. This differentiates

learning strategies into two categories: those which are observable in performance, and those which can be observed only if verbalized. Observations in classrooms are limited to those learning strategies which are evident in overt behavior, either through verbalizations or other actions. Strategies that cannot be observed can be elicited through interviews.

To use the observation guide, the observations will occur during ESL instruction on the acquisition of skills in understanding and speaking English. Instruction specifically on reading or writing will not suffice to produce information on learning strategies that are applicable for understanding and speaking skills. The observations can be of the usual duration for an instruction activity concerned with understanding and speaking skills in an ESL classroom or up to 45-50 minutes at a time. It is suggested that a representative sample of activities in a single ESL classroom should be obtainable within four such observations. However, because learning strategies may differ depending upon the English proficiency level of the students, capturing the full range of learning strategies used would require either returning to the same classroom at a later time or observing other classrooms with students at different levels of proficiency. This assumes that students are grouped in relatively homogeneous levels by language proficiency within classrooms.

The observer can use a blank sheet of lined paper to record his or her observations and transcribe these to typed versions at a later time. The seven elements that must be recorded for each learning strategy observed are indicated on page one of this guide. The observer should provide elaborate descriptions of the way in which the strategy is used to assure that all relevant details are included. These can be reduced later when the typed version is produced. Another reason for providing elaborate descriptions of the strategy is that the observer may have mis-labeled the strategy, which might only be detected upon review by others at a later time.

This observation guide does not require identification of the individual teachers or students using the learning strategy because the purpose is to identify the range of strategies in use, not the relationship between strategies and characteristics other than those identified among the seven elements recorded during observations. Consequently, observers need not be burdened with remembering student names. The major focus should be on providing comprehensive descriptions of the use of learning strategies in classrooms.