DOCUMENT RESUME

ED 352 823 FL 020 850

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TITLE A Study of Learning Strategies in Foreign Language Instruction: Findings of the Longitudinal Study.
INSTITUTION Interstate Research Associates, Inc., Rosslyn, VA.
SPONS AGENCY Office of International Education (ED), Washington, DC.
PUB DATE Mar 88
NOTE 237p.; For related documents, see FL 020 851-852.
PUB TYPE Reports - Research/Technical (143) -- Information Analyses (070)

EDRS PRICE MF01/PC10 Plus Postage.
DESCRIPTORS *Academic Achievement; *Cognitive Processes; College Students; Comparative Analysis; Higher Education; High Schools; High School Students; Language Processing; *Learning Strategies; Longitudinal Studies; Metacognition; Russian; *Second Language Learning; Skill Development; Spanish; *Study Skills; Tables (Data); Teacher Effectiveness; Thinking Skills

ABSTRACT

Part of a larger research project, this longitudinal study analyzed differences between effective and ineffective high school and college language learners and changes in strategy uses over time. Related studies include a descriptive study, which identified learning strategies used in studying foreign languages, and a course development study, in which foreign language instructors teach their students to apply learning strategies. The longitudinal study was conducted during years 2 and 3 of the project with 55 high school students enrolled in Spanish and 25 college students enrolled in Russian. Findings to date indicate that effective students (50) and ineffective students (30) Spanish or Russian tend to use similar strategies to perform language tasks but that effective students are likely to use a wider range of strategies, as well as a greater number of strategies. Examples of metacognitive strategies include self-monitoring, self-evaluation, selective attention, problem identification, and planning; cognitive strategies include using resources, elaboration, note-taking, making inferences, summarizing, translation, deduction, and substitution. However, qualitative differences were found in the way that effective versus ineffective students applied learning strategies, with the effective learners appearing to use more "on-target" strategies and seeming to be more purposeful in their strategy use and in matching strategies to tasks. Appendices present samples of student workbook pages, tables of frequency of strategy use by Spanish students, and reading proficiency guidelines. Contains 41 references and 33 exhibits. (LB)

A STUDY OF LEARNING STRATEGIES IN FOREIGN LANGUAGE INSTRUCTION:

Findings of the Longitudinal Study

by
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March 1988

This study is funded by the U.S. Department of Education, International Research and Studies Program in Washington, D.C. The views, opinions, and findings contained in this report are those of the authors and should not be construed as an official Department of Education position, policy, or decision unless so designated by other official documentation.

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A STUDY OF LEARNING STRATEGIES IN FOREIGN LANGUAGE INSTRUCTION

Introduction

This paper reports on the project "A Study of Learning Strategies in Foreign Language Instruction" conducted by Interstate Research Associates under a grant awarded by the International Research and Studies Program of the U.S. Department of Education. The project consists of three major studies: (a) a Descriptive Study, which identified learning strategies used in studying foreign languages; (b) a Longitudinal Study, which is analyzing differences between effective and ineffective language learners and changes in strategy uses over time; and (c) a Course Development Study, in which foreign language instructors are teaching their students to apply learning strategies. The Descriptive Study was completed in the first year of the project, and the Longitudinal Study was initiated during this period. The Longitudinal Study continues throughout the second and third years of the project, and is the subject of this paper. The Course Description Study was initiated in the second year of the project and will be completed in the third year.

Research and theory in second language learning strongly suggest that good language learners use a variety of strategies to assist them in gaining command over new language skills. Learning strategies are conscious operations or steps used by a learner to facilitate the comprehension, learning, or recall of information (Weinstein & Mayer, 1986). Second language learners who use active and varied strategies to assist their learning tend to be more effective learners than those who do not use strategies or who rely upon simple rote repetition (O'Malley, Chamot, Stewner-Manzanares, Kupper, & Russo, 1985a; Politzer & McGroarty, 1985; Rubin, 1975; Wenden, 1985).

Although some learners are adept at devising strategies to assist second language acquisition, many others tend to be ineffective at developing strategies and consequently may encounter difficulties in learning the new language.

Research in Learning Strategies

Research in learning strategies in the second language acquisition literature has focused for the most part on describing strategies used by successful language learners. Research efforts concentrating on the "good language learner" by O'Malley et al. (1985a; 1987) and others (Naiman, Frohlich, Stern, & Todesco, 1978; Rubin, 1975; Wenden, 1983) have identified strategies, either reported by students or observed in language learning situations, that appear to contribute to learning. These efforts demonstrate that students do apply learning strategies while learning a second language and that these strategies can be described and classified.

A classification scheme proposed by Rubin (1975) subsumes learning strategies under two broad groupings: strategies that directly affect learning (clarification/verification, monitoring, memorization, guessing/inductive reasoning, deductive reasoning, and practice), and those which contribute indirectly to learning (creating practice opportunities and using production tricks such as communication strategies). An alternative scheme proposed by Naiman, Frohlich, Stern, and Todesco (1978) contains five broad categories of learning strategies: an active task approach, realization of a language as a system, realization of language as a means of communication and interaction, management of affective demands, and monitoring of second language performance. O'Malley et al. (1985a) investigated the types of learning

strategies reported by effective learners of English as a second language, and found that the strategies could be described in terms of metacognitive, cognitive, or social-affective processes. These findings were confirmed in the Descriptive Study of the current project, which focused upon learners of Russian and Spanish (O'Malley, Chamot, Kupper, & Impink-Hernandez, 1987). Oxford (1985) has identified similar strategy groupings under the categories of indirect strategies (metacognitive) and direct strategies (cognitive), following Rubin's (1975) classification scheme.

Metacognitive strategies can be conceptualized as serving an executive function for the learner; they involve thinking about the learning process, planning for learning, monitoring of comprehension or production while it is taking place, and self-evaluation of learning after the language activity is completed. Cognitive strategies are more directly related to individual learning tasks and entail direct manipulation or transformation of the learning materials (Brown & Palincsar, 1982). A third type of learning strategy suggested in the literature on cognitive psychology indicates that social and affective processes can also contribute to learning, which are most clearly evidenced in cooperative learning (Brown, Bransford, Ferrara, & Campione, 1983; Slavin, 1980). Learners who ask questions for clarification and interact with each other to assist learning, as well as those who are able to exercise a degree of affective control, are also conscious of using strategies which contribute to learning. Cooperative strategies have been shown to enhance learning on a variety of reading comprehension tasks (Dansereau & Larson, 1983) and other areas of the curriculum, such as langauge arts, mathematics, and social studies (Slavin, 1980).

Another recently completed descriptive study compared strategies used by ineffective and effective second language learners in various types of listening comprehension tasks (O'Malley, Chamot, & Kupper, 1986). Both groups of students used metacognitive, cognitive, and social-affective strategies to assist comprehension and recall of the material listened to. The pattern of strategy use was quite different, however, for the effective listeners. Not only did effective listeners use strategies more frequently than did the less effective students, but they differed in the types of strategies they preferred. Effective listeners made frequent and successful use of self-monitoring, elaboration, and inferencing, whereas ineffective listeners used these strategies infrequently.

Studies of learning strategy applications in the literature on cognitive psychology concentrate on determining the effects of strategy training for different kinds of tasks and learners. Findings from these studies generally indicate that strategy training is effective in improving the performance of students on a wide range of reading and problem-solving tasks (e.g., Brown, Bransford, Ferrara, & Campione, 1983; Chipman, Siegel, & Glaser, 1985; Dansereau, 1985; Weinstein & Mayer, 1986; Wittrock, Marks, & Doctorow, 1975).

Research on training second language learners to use learning strategies has emphasized applications with vocabulary tasks. Dramatic improvements in individually presented vocabulary learning tasks have been reported in these studies. The typical approach in this research has been either to encourage students to develop their own associations for linking a vocabulary word with its equivalent in the second language (Cohen & Aphek, 1980; 1981), or to train students to use specific types of linking associations to cue the target word, such as the keyword method (e.g., Atkinson & Raugh, 1975; Pressley, Levin,

Nakamura, Hope, Bisbo, & Toye, 1980). Generally, the strategy training is given individually or is provided by special instructional presentations to a group. Recently, a classroom-oriented approach to learning strategy training was studied (O'Malley et al., 1985b). In this approach, intact classes of second language students were taught to use learning strategies for three different tasks, including two integrative language tasks (listening comprehension and oral presentation). Results indicated that learning strategy instruction was associated with greater proficiency in the speaking task, and that learning strategy instruction also improved listening comprehension for tasks that were not beyond the students' range of competence.

Research in metacognitive and cognitive learning strategies also suggests that transfer of strategy training to new tasks can be maximized by pairing metacognitive strategies with appropriate cognitive strategies. Students without metacognitive approaches are essentially learners without direction or opportunity to plan their learning, monitor their progress, or review their accomplishments and future learning directions.

Studies of learning strategies with second language learners have naturally been influenced by theories in second language acquisition (as well as by current information processing theories in cognitive psychology). Some of these theories of second language acquisition are briefly discussed below to identify cognitive processes that relate to learning strategies and how they are used by second language learners.

Second Language Acquisition Theory

Theories of second language learning and proficiency often include a cognitive component, but the role of learning strategies has remained vague. In Cummins' (1984) model of language proficiency, tasks vary along a continuum from cognitively undemanding to cognitively demanding, while language varies along a continuum from context-embedded to context-reduced. Academic tasks, for example, are cognitively demanding and usually require language in which contextual cues for meaning are reduced. Tasks outside the classroom, on the other hand, are relatively undemanding cognitively and are characterized by language that either has rich contextual clues or is formulaic. The role of learning strategies, although potentially located in the cognitive component of this proficiency model, has never been expressly identified.

Other models of language competence also contain cognitive components but leave the role of learning strategies ambiguous. For example, Canale and Swain's (1980) model of communicative competence includes grammatical, sociolinguistic, discourse, and strategic competence. In this model, the strategic component refers to communication strategies, which can be differentiated from learning strategies by the intent of the strategy use. Wong Fillmore and Swain's (1984) model of second language competence includes a cognitive component as well as linguistic and affective components. Unlike prior conceptual models, Wong Fillmore and Swain reserve an important role for learning strategies in the cognitive component. Learning strategies are said to be the principal influence on learning a second language for children, whereas inherent developmental and experiential factors are primarily responsible for first language learning, in their view. The types of strategies described by Wong Fillmore and Swain appear to be more global than those usually described in cognitive psychology, however, and the role they

play with regard to the other model components has not been identified.

While most second language models either fail to acknowledge learning strategies at all or mention them only in passing, Bialystok (1978) includes four categories of learning strategies in her model of second language learning: inferencing, monitoring, formal practicing, and functional practicing. In this model, learning strategies are defined as "optimal means for exploiting available information to improve competence in a second language" (71). The type of strategy used by the learner will depend on the type of knowledge required for a given task. Bialystok discusses three types of knowledge: explicit linguistic knowledge, implicit linguistic knowledge, and general knowledge of the world. She hypothesizes that inferencing may be used with implicit linguistic knowledge and knowledge of the world. Monitoring, formal practicing (such as verbal drills found in a second language class), and functional practicing (such as completing a transaction at a store) contribute both to explicit and implicit linguistic knowledge. That is, strategies introduced explicitly in a formal setting can contribute to implicit linguistic knowledge and therefore to students' ability to comprehend and produce spontaneous language.

Bialystok's model can be contrasted to Krashen's Monitor Model (1982), which does not allow for contributions of explicit linguistic knowledge (learning) to implicit linguistic knowledge (acquisition). The Monitor Model includes two types of language processes: "acquisition" and "learning." "Acquisition" is described as occurring in spontaneous language contexts, is subsonscious, and leads to conversational fluency. "Learning," on the other hand, Krashen equates with conscious knowledge of the rules of language that is derived from

formal and traditional instruction in grammar. The "monitor" is a conscious process which involves analyzing language production (either oral or written) for correspondence to learned grammatical rules, which means that it is a highly deliberate form of processing. In Krashen's view, "learning" does not lead to "acquisition." Therefore, the conclusion is inescapable that conscious use of learning strategies to develop language competence has no role in this model.

McLaughlin, Rossman, and McLeod (1983) propose an information processing approach to second language learning. In this theory, the learner is viewed as an active organizer of incoming information with processing limitations and capabilities. While motivation is considered to be an important element in language learning, the learner's cognitive system is central to processing. Thus, the learner is able to store and retrieve information according to the degree to which the information was processed. Evidence for aspects of the information processing model comes from studies of language processing and memory. One implication of information processing for second language acquisition is that learners actively impose cognitive schemata on incoming data in an effort to organize that data. McLaughlin et al. (1983) proposed that the learner uses a top-down approach (or knowledge-governed system) which makes use of internal schemata as well as a bottom-up approach (or an input-governed system) which processes external input to achieve automaticity. In both cases, cognition is involved and the degree of cognitive involvement required is set by the task itself. McLaughlin (1987) points out that both controlled and automatic processing can be either explicit and conscious or implicit and unconscious. Processing that occurs very quickly, whether controlled or automatic, is generally not accessible to conscious thought, whereas slower processing of either kind is available for conscious monitoring

and reflection.

Spolsky (1985) proposes a model of second language acquisition based on preference rules. In his view, three types of conditions apply to second language learning, one of which is a necessary condition and the other two of which depend on the learner's preference, which could be cognitive or affective in origin. A necessary condition is one without which learning cannot take place. Examples of necessary conditions in second langauge learning are target language input, motivation, and practice opportunities. A second type of condition is a gradient condition, in which the greater the degree of the condition's occurrence, the more learning is likely to take place. An example of a gradient condition might be the greater or lesser degree to which a learner actively seeks out interactions with native speakers of the target language, or the greater or lesser degree to which a learner can fine tune a learning strategy to a specific task. The third type of condition is one which typically, but not necessarily always, assists learning. An example of a typicality condition might be that risk-taking. Outgoing personalities tend to be good language learners as a rule, though in some cases quiet and reflective learners can be equally or more effective (Saville-Troike, 1984). This model is useful in accounting for such differences in strategy use between effective and ineffective learners. Frequency of strategy use can be seen as a gradient condition in which greater instances of strategy use are likely to be associated with effective learning. Type of strategies used can be seen as a typicality condition in which effective learners typically use particular strategies that assist comprehension and recall. This model accounts for variability in second language learning outcomes through differing degrees of or preferences for application of

gradient and typicality conditions. In Spolsky's model, learning strategies, while not specifically identified as such, would be part of the capabilities and prior learning experiences that the learner brings to the task.

In conclusion, second language acquisition theories in which conscious cognitive processes play an important role are the most useful in identifying and explaining the role of learning strategies in second language learning. In the next section we identify the research questions guiding the Longitudinal Study and its methodology and results.

CHAPTER II

METHODOLOGY OF THE LONGITUDINAL STUDY

Overview

Three major studies comprise "A Study of Learning Strategies in Foreign Language Instruction." These are: (1) the Descriptive Study (completed), where data were gathered by interviewing students in small groups concerning the learning strategies they use in performing various language learning tasks; (2) the Longitudinal Study (on-going), where data are being gathered by interviewing students individually and presenting them with representative language tasks to perform, during which they "think aloud"; and (3) the Course Development Study (on-going), where teachers are identifying promising learning strategies students report using and are providing their classes with explicit instruction in and opportunities to practice these learning strategies.

The Descriptive Study was completed during the first year of the project; results were presented in Chamot, O'Malley, Küpper, & Impink-Hernandez (1987). The Longitudinal Study is on-going; its methodology is reported in this chapter and Year 2 results are presented in Chapter III. The Course Development Study is also on-going. Its methodology and preliminary results will be presented in subsequent reports.

As previously stated, the Longitudinal Study focuses on the learning of two languages, Spanish and Russian. The intent of the study has been to follow students across four semesters of language study (Spring 1986, Fall 1986, Spring 1987, and Fall 1987). Once a semester, students meet individually with

an interviewer who presents them with representative language tasks to perform. The students are asked to "think aloud" as they work to a solution. Each sub-study (Russian and Spanish) has followed the same basic procedures in terms of selecting and training the students, and similar questions are asked during data collection. Differences between the sub-studies will be noted where relevant.

Subjects

At the beginning of the Descriptive Study, teachers were asked to classify their students as being effective, average, or ineffective language learners. Those students designated as effective and ineffective were invited to participate in the longitudinal sessions. Exhibit II-1 shows the number of effective and ineffective students available in each language group, as well as the number from whom Spring 1986 think aloud data were actually collected.

Spring 1986 marked the first longitudinal session and the largest group of students to cooperate in the study. For this reason, comparisons between effective and ineffective students will be made using the Spring 1986 data (see Chapter III). Subsequent semesters show attrition shrinking the number of students available to participate; Exhibit II-2 presents the number of effective and ineffective students who participated in the think aloud session one year later (Spring 1987), and a categorization of why students dropped out of the study (i.e., they graduated).

In both sub-studies, participation was strictly voluntary. However, the university Russian students completed the think alouds in their free time,

EXHIBIT II-1

Precentage of Available Effective and Ineffective
Students of Spanish and Russian Participating in Spring 1986
Think Aloud Sessions

CLASS	Effective Students			Ineffective Students			Total Students		
	Available*	Participating+	% Cooperation	Available*	Participating+	% Cooperation	Available*	Participating+	% Cooperation
Spanish 1	22	15	63.6	14	6	42.9	36	21	58.3
Spanish 3	8	8	100.0	4	4	100.0	12	12	100.0
Spanish 5	4	4	100.0	3	3	100.0	7	7	100.0
Subtotal	34	27	79.4	21	13	61.9	55	40	72.7
Russian 1	10	6	60.0	4	2	50.0	14	8	57.1
Russian 3/4	6	2	33.3	5	3	60.0	11	5	45.5
Subtotal	16	8	50.0	9	5	55.6	25	13	52.0
TOTAL	50	35	70.0	30	18	60.0	80	53	66.3

* Students enrolled in class and designated by the instructor as being effective or ineffective language learners

\+ Students who completed a Think Aloud Session

EXHIBIT II-2

Number of Effective and Ineffective Students
Completing Think Aloud Sessions
in Spring 1986 and Spring 1987

Language Group	Effective		Ineffective		Total	
	Sp86	Sp87	Sp86	Sp87	Sp86	Sp87
Spanish 1	15	10	6	3	21	13
Spanish 3	8	5	4	1	12	6
Spanish 5	4	3	3	0	7	3
TOTAL, SPANISH	27	17	13	4	40	22
Russian 1	6	4	2	0	8	4
Russian 3/4	2	2	3	0	5	2
TOTAL, RUSSIAN	8	6	5	0	13	6

Reasons for Attrition

Language Group		# of Students	Graduated	Dropped study	Not good at TA	Transferred	Other	Unknown
Spanish 1	Effective	5	-	-	1	-	1	3
	Ineffective	3	-	3	-	-	-	-
Spanish 3	Effective	3	1	1	1	-	-	-
	Ineffective	3	1	2	-	-	-	-
Spanish 5	Effective	1	1	-	-	-	-	-
	Ineffective	3	2	1	-	-	-	-
Russian 1	Effective	3	1	-	-	1	1	-
	Ineffective	1	-	1	-	-	-	-
Russian 3	Effective	0	-	-	-	-	-	-
	Ineffective	3	1	1	-	1	-	-
TOTALS	Effective	12	4	1	2	1	2	3
	Ineffective	13	4	8	0	1	0	0

while the Spanish students completed the interviews during their normal class period, instead of attending class.

Instruments

The instruments used in the two sub-studies were quite different, so they will be discussed separately.

The Spanish Instruments. Five basic instruments were used to collect data from the high school students studying Spanish: two proficiency tests; and three student workbooks and interviewer guides.

Spanish Proficiency Tests. Two proficiency tests (each with an alternate, equivalent form) were developed in order to collect information regarding each student's proficiency in the language. The test was first administered in Spring 1986, the starting point of the Longitudinal Study. The first proficiency test (Level 1-3) was used with those students who began the study enrolled in Spanish 1. The second (Level 3-5) was used with those students who began the study enrolled in Spanish 3 and 5. The material included in each test was designed to increase in difficulty so that items initially beyond a student would be within his capability by the time the Longitudinal Study was completed and the test was administered again. In this way, increases in student proficiency over time could be captured.

It was originally planned that students would take the proficiency test every semester, but classroom and scheduling constraints made this impossible. As a result, the test was administered only twice, once in Spring 1986 and again in Spring 1987. (Results of the proficiency testing are provided in Chapter III.)

As mentioned above, an alternate form of each test was developed so that students would not have to take the same test repeatedly. The alternate form (Form B) of both proficiency tests was designed to be equivalent in difficulty to Form A. Both forms addressed the same concepts and points of knowledge a student of Spanish in the participating school would typically be required to learn. Each test at each level (Level 1-3 and Level 3-5) had the following sub-parts: grammar, reading, fill-in-the-blank (cloze), listening, and a dictation. All sub-parts except the cloze section were multiple-choice, providing the students with four options from which to choose. Each test took roughly 45 minutes to administer and came with a Test Administrator's Guide. Students worked from a test booklet and marked their answers on a separate Student Answer Sheet.

Spanish Interviewer Guides and Student Workbooks. These instruments were designed to elicit "think aloud" information from students on the mental processes they used during performance of a Spanish language learning task. The student's task was to perform the language learning activity and to report aloud what went through his or her mind while working with the materials. Three separate interviewer guides and student workbooks (Spanish 1, 3, and 5) were developed for each semester's data collection. Students received the workbook targeted especially for the level of Spanish they were studying. Each workbook contained separate language learning activities designed to match the curriculum of the high school involved in the study. The companion Interviewer Guide provided the interviewer with a script with which to introduce each activity, copies of what the student received in his or her workbook, and probing questions the interviewer was expected to ask to gather data from the student. The

probing questions were the same, regardless of the level of the student (i.e., What are you thinking? or How did you figure that out?).

In Spring 1986, students were presented with the following five activities:

(1) Fill-in-the-blank (5 sentences missing a word of vocabulary emphasized at the student's particular level - the family for Spanish 1, going to the doctor for Spanish 3, and the post office for Spanish 5);

(2) Writing in Spanish (for Spanish 1, writing 3-5 sentences about a family tree provided in their workbook; for Spanish 3 and 5, writing a paragraph about a picture);

(3) Speaking in Spanish (for Spanish 1, speaking about the student's own family; for Spanish 3, speaking about an interesting trip; for Spanish 5, role playing mailing a package);

(4) Listening (for Spanish 1, a 9-line dialogue; for Spanish 3, an extended monologue; for Spanish 5, a narrative story); and

(5) Reading and Grammar Cloze (a different cloze passage for all levels, appropriate in difficulty to the level of the student).

The five Spring 1986 activities were designed to take approximately 50 minutes to complete, the length of one class period. However, the data yielded were so complicated and multi-faceted that it was decided that more time was needed for each activity. Therefore, workbooks developed for subsequent semesters contained only four activities: reading (without cloze), listening, writing, and reading cloze.

Russian Instruments. Five basic instruments were used to collect data from the university students studying Russian: two reading proficiency tests and three student workbooks and interviewer guides.

Russian Reading Proficiency Tests. Two reading proficiency tests (each with an alternate, equivalent form) were developed in order to collect

information regarding each student's reading proficiency in the language. The tests were first administered in Spring 1986, the starting point of the Longitudinal Study. The first proficiency test was intended for use with those students enrolled in Russian 1 and contained 23 items; the second was intended for those enrolled in Russian 3 and 4 and contained 22 items. The tests were specifically designed to determine proficiency as described in the ACTFL proficiency guidelines (see Appendix A). Test 1 contained items ranging from 0-level proficiency to 2-level proficiency. Test 2 contained items ranging from 1-level proficiency to 3-level proficiency. The goals of the university program are that graduates of the Russian program should achieve at least a 2-level proficiency in reading. In keeping with the goals of the program (giving the student functional proficiency in Russian), all items on these tests were developed around authentic Russian materials (excerpts from Russian newspapers and other publications).

As mentioned above, an alternate form of each test was developed so that students would not have to take the same test in each year of the Longitudinal Study. Due to scheduling constraints, however, the tests were only administered twice, once in Spring 1986 and again in Spring 1987. The alternate forms (Form B) of both reading tests contained items testing at the same difficulty level of the ACTFL scale. All items were multiple choice, providing students with four options from which to choose, and were stated in English. Students were given 30 minutes to complete the test designated for their class level; they worked from a test booklet and marked their answers on a separate Student Answer Sheet.

Russian Interviewer Guides and Student Workbooks. Three separate interviewer guides and student workbooks (Russian 1, 3, and 4) were developed for each semester's data collection. As in the Spanish study, these instruments were designed to elicit "think aloud" information from students on the mental processes they used during performance of language learning tasks. The student's task was to perform the language learning activity and to report aloud what went through his or her mind while working with the materials.

Students received the workbook targeted for the level of Russian they were studying. Each workbook contained a variety of language learning activities such as grammar, fill in the blank, listening, reading, and writing. The companion Interviewer Guide provided the interviewer with a script from which to introduce each activity, copies of what the student received in his or her workbook, and probing questions the interviewer was expected to ask to gather data from the student. The probing questions were the same, regardless of the level of the student (i.e., "Were there any words you didn't understand? Could you figure them out? How did you figure them out?").

The activities presented to the Russian students in Spring 1986 were:

(1) Grammar (2 skeleton sentences presenting subject, verb in its infinitive form, and any direct or indirect objects. The student had to form these "dehydrated" sentences into complete sentences);

(2) Fill in the Blank (2 sentences where a certain aspect of the sentence was missing; four options were presented below and the student had to choose which option would appropriately complete the sentence);

(3) Listening: Monologue (for Russian 1, a monologue about the Pushkin Russian Language Institute; for Russian 3 and 4, a summary of an interview with a famous Russian actress);

(4) Listening: Dialogue (for Russian 1, an excerpt entitled "Eva meets Claus' friends"; for Russian 3 and 4, an excerpt from a story by Korneichuk);

(5) Writing (the same for all levels; students were given a list of 10 topics from which to choose);

(6) Speaking (used only for Russian 3 and 5 students; topic was a role play where student was interviewed on Radio Moscow as an American studying in the Soviet Union); and

(7) Reading (used only as an optional activity for Russian 1 students; Russian 5 students received 2 separate reading passages, one that corresponded to their level and a second that was purposefully beyond their level).

The Spring 1986 workbooks contained more activities than most students could complete within the hour allotted for the Think Aloud Sessions. The optional activities (such as reading for Russian 1 students) were included at the end of the workbook, in the event that some students were able to rapidly complete prior activities. As with the Spanish study, data collection in subsequent semesters limited the number of activities in a think aloud session, so that more time could be given to each activity.

Procedures

Procedures were divided into two stages: student training and actual data collection.

Student Training. Because data were to be collected by asking student to "think aloud" about how they performed various language learning tasks, it was essential to give students: (a) a good understanding of what "think aloud" meant, and (b) extensive practice in "think aloud" prior to actual data collection. An hour-long training session was designed to train both Russian and Spanish students in the think aloud technique; all students participating in the study received this training in Spring 1986. Complete details of the

session are provided in the study's First Year Report (Chamot, O'Malley, Küpper, & Impink-Hernández, 1987).

The training sessions with the Russian students ended with students making appointments to participate in a data collection session. Students in the Spanish study were to be drawn from class at the teacher's discretion; scheduling appointments was not necessary.

Data Collection Sessions. Data collection sessions were conducted with students individually and were tape recorded for ease of later analysis. Sessions in the Spanish study were roughly 50 minutes long. The Russian think aloud sessions averaged from one hour in length to one and a half hours. A typical data collection session contained three stages: warm-up, transition, and verbal report. Each step is described below.

- Warm-up. The warm-up was designed to break the ice between student and interviewer, as well as to gather general background data about the student (i.e., whether the student had ever studied another foreign language). The warm-up took only 2-3 minutes.

- Transition. The transition stage of each session was designed to reacquaint the student with the think aloud technique and to give him or her an opportunity to practice it prior to working with the target language materials. The transition typically involved a math or logic problem stated in English. The student read the problem and "thought aloud" while working to its solution. The interviewer then asked the student to evaluate his or her own think aloud for completeness. In other words, did the student feel that what they had said aloud captured the thoughts they had had while solving the problem?

- Verbal Report Stage. Once the student had had the opportunity to practice thinking aloud, actual work with target language materials began. Students were guided through the workbook activities by the interviewer and encouraged to relate what they were thinking as they engaged themselves with the materials. General probing questions were: "What are you thinking? Were there words you didn't know?" There were also probing questions

specific to certain activities, such as "Are you listening word by word or to groups of words or to whole sentences?" for the listening activities. Interviewers were alert to nonverbal student behaviors such as looking back over work. These behaviors elicited specific probes, such as "I see you're checking your work. What are you looking for?"

Because students in the Spanish study were taken from class in order to complete a think aloud session, there was little incidence of students backing out of the study. However, because participation in the Russian study required students to use their free time to complete a think aloud session, there were more incidences of missed appointments and student withdrawal. Exhibit II-1 shows the number of students available to participate in the Spring 1986 sessions and the actual number who did. Exhibit II-2 shows the number of students who participated in the Spring 1987 data collection as well.

Data Analysis Plan

The data analysis plan initially proposed was similar to that used with interviews in a prior ESL study conducted by O'Malley et al. (1985a). In that study, each data collection session was tape recorded for ease of later analysis, which involved listening to the tapes and extracting incidences of strategy use described by students. Verbatim transcripts were not necessary.

However, the think aloud data generated by students in the present study was so complex and subtle that the original abbreviated method of extracting incidences of strategy use was not possible. Instead, verbatim transcripts of the data collection sessions were made, excluding only those comments made by either the student or the interviewer that were not directly relevant to

the task at hand. These comments, many of which were conversational in nature, were merely summarized on the transcript (i.e., "student talked about how he learns vocabulary").

Because of the additional time required to prepare and analyze verbatim transcripts, only selected activities at each level of language study were analyzed. Decisions were made based upon interviewer and transcriber impression as to the richness of the emerging data. For example, Spanish 1 students were asked to listen to a short dialogue between two friends. Although the passage had not been developed to be excessively difficult, even the most effective students understood very little of it. A decision was made, then, not to analyze the listening data at the Spanish 1 level because it seemed to consist largely of "I didn't understand any of that." The converse was true at the Spanish 5 data, where the students were so proficient at listening that the passage was too simple. Students had little to say about the strategies they used to understand, so the decision was made not to analyze these data either. Attention was directed instead to activities such as reading and writing, where the think alouds showed complex strategies in use. Exhibit II-3 lists the activities for which data analysis was conducted for each level of study for both Spanish and Russian students.

Developing an Approach to Coding. Selected activities in the verbatim transcripts were coded for incidences of strategy use by students. As a basis for coding, the three members of the research team independently coded one "test" transcript from a Spanish 3 student, then compared and discussed the results of their coding. Although agreement as to how the student's think aloud reflected strategy use was quite high, there were also many areas

EXHIBIT II - 3
Spring 1986 Think Aloud Activities That Were Analyzed

Language Group	Activities That Were Analyzed
Spanish 1	Vocabulary (of the Family) Writing (about the Family Tree) Reading/Grammar Cloze (A Typical Day)
Spanish 3	Listening (Monologue about a Miner) Writing (about a busy city street intersection) Reading/Grammar Cloze (Juanita's Trip to Madrid)
Spanish 5	Writing (about a busy city street intersection) Reading/Grammar Cloze (Los desaparecidos)
Russian 1	Dehydrated Sentences (Victor doesn't speak Russian poorly...) (Boris corresponds with these girls...) Listening (Monologue: Pushkin Institute) (Dialogue: Eva meets Claus' Friends) Writing (on a choice of topics)

where extensive discussion was needed in order to clarify the working definitions of the strategies.

This initial review of a think aloud protocol revealed, too, that the data required predominately qualitative rather than quantitative treatment. As will be seen repeatedly throughout this report, the incidence of a strategy use may not be nearly so important as how the strategy is used. Further, although each interview followed the structure and order of the workbook designed for data collection, each student reacted in unique ways to the language stimuli and to the interview situation itself. This is particularly true for the Russian students who participated in the interviews during their free time; as a result, academic and social demands at the time of the interview often influenced their performance. When these students were relatively free of competing time demands, they generally spent more than an hour in the interview session, working slowly and meticulously through the various tasks. But when these students were plagued by other commitments, their level of task engagement declined. Another example of external factors impacting upon the interview situation is one Russian student who was interviewed just after failing a Russian test. Her level of concentration throughout the interview was understandably low, although she did not want to reschedule. Thus, such uncontrollable influences of context yielded Russian data that could be compared across interviews only with great caution.

Another factor which discouraged using a predominantly quantitative approach to analyzing the Russian data in particular was that the nature of coursework offered by the university made comparisons between effective

and ineffective students difficult. The university offers two Russian language programs, one of which is highly intensive. In the intensive program, classes meet four days each week for two hours each day. Upon completing the first year of the intensive program, students move to an intensive "level three" program. In the other "regular" program, students meet only one hour per day and, upon completion of two semesters of study, move to a non-intensive, "level two" program. The sample of students includes small numbers of participants in both types of programs. Thus, the subsample of students, for example, in the second semester of Russian study includes both students enrolled in the intensive and non-intensive programs. Ranking these students as more or less effective in language learning, as compared with each other, must be handled carefully given that only students judged to be relatively effective learners are allowed to continue in the intensive program and that intensive students' exposure to Russian study doubles that of non-intensive students in their first year in the university programs.

The strongest justification, however, for using a predominately qualitative approach to data analysis comes from the data itself. The transcripts produced extremely rich and multi-faceted data of a somewhat unexpected nature. Categories of analysis developed during the Descriptive Study (reported in Chamot et al., 1987) were inadequate to capture the extent of variation in applying task performance strategies to activities undertaken by subjects in the interviews. The descriptive study categories of analysis were developed from retrospective, self-reports of techniques used to perform tasks in foreign language study. In contrast, the think aloud protocols produced data that reflected what subjects actually did while processing

language tasks. Analytic categories appropriate for the retrospective data were not sufficiently detailed to capture performance data.

Therefore, a collaborative and qualitative coding approach evolved as a means of dealing with and resolving some of the very intricate problems of analyzing such complicated data. Each member of the research team coded transcripts individually, marking sections where applications of strategies were particularly involved for later, joint discussion. Coding consisted of underlining the key phrases in the students' think aloud transcripts that indicated use of a strategy, and writing the strategy name alongside the text. This method is illustrated in Exhibit II-4, which presents a portion of one transcript and the coding it received.

Frequent meetings to discuss coding difficulties and discoveries served to make the coding as consistent as possible across transcripts and sub-studies. Interestingly, although each coder worked initially in isolation, the types of problems and interesting strategy applications that each marked for later discussion tended to be similar in nature, leading to fresh insights into how students actually use strategies when working with the foreign language, as well as the nature of the strategies themselves.

Following are the revised categories of analysis used to code the think aloud transcript data. Examples of data excerpts and explanations of modifications to the original categories are included where appropriate.

EXHIBIT II - 4
Method of Coding Student Think Aloud Transcripts

Student is beginning to write the first sentence in her paragraph, working from a picture of a crowded hotel lobby. She has already briefly analyzed the picture for what she knows in Spanish and has decided that she is going to write about the man on the phone.

St: Hm. (1a) I can just make up a story? It can be as crazy as I want it to be?

Int: Absolutely.

St: Hm...Mister...hm...(almost inaudibly, to self) (1b) I forget Spanish last names. Mister...hm...

Int: What are you thinking?

St: I was trying to think of people that I know that are Spanish and that have last names. (pause) (c) Señor Cardenas.

Int: After Señora Cardenas? (a Spanish teacher at the student's school*)

St: Yeah. (laughs) That's who I was thinking of. Hm. (d) talks on the telephone... (writes "Señor Cardenas llama por teléfono.")

Int: (observing student finishing sentence) Was that hard or did it come naturally?

St: It came naturally. Hm... (2a) He is talking to... (writing) (2b) I think - is this right? I don't know.

Int: (reading what student has written) Está llamando...

St: To... (writes "a")

Int: (reading) A... what did you just think there? You took a long time.

St: (2c) Cos I was trying to think if I had to have the "a" or not. (2d) Señora Ortega's* always "you have to have the personal 'a', you have to have it, you have to have it." She yells at us when we don't. Hm (g) ..to...his... wife (finishes writing sentence).

Int: You weren't sure about está llamando. What was the problem?

St: Yeah. (e) If I was saying, like, "he is talking to." Right now. If I was doing that right. But well, like, the present, the past, the future, and the present participle. And she always, he is, he is like talking with someone or he is studying or something, so I figure, (f) that must be right.

Int: And esposa - you just knew it?

St: Yeah. (g) I was just, like, trying to think of who he could be talking to. Trying to get somebody in my mind.

1a) Q (task)
1b) Plan (PL)
S-eval
Elab (acad)
1c) Elab (world)
1d) Plan (PL)

2a) Elab (BP)
Plan (PL)
b) Tr (PL)
S-monitr
Q for Verif
c) S-monitr
Deduction
d) Elab (acad)
e) Deduction
Elab (acad)
f) S-eval
g) Plan (PL)
Elab (creative)

* Names of the teachers have been changed.

(Sp2*18, Spring 1987 Writing Think Aloud)

Categories of Analysis: Learning Strategies and Their Definitions

METACOGNITIVE CATEGORIES

Metacognitive strategies involve thinking about the learning process, planning for learning, monitoring the learning task, and evaluating how well one has learned.

1. Planning: Previewing the organizing concept or principle of an anticipated language task; proposing strategies for handling an upcoming task; generating a plan for the parts, sequence, main ideas, or language functions to be used in handling a task.

This category collapses the previous categories of Advance Organization and Organizational Planning, which had been applied exclusively the comprehension and production tasks, respectively. The think aloud data revealed that students use both general and specific types of planning strategies for both comprehension and production tasks. In listening tasks, for example, some students would first seek a general sense of the topic they would be hearing about, then would generate phrases, words, and ideas associated with the topic that were likely to be included in the upcoming passage.

For instance, one Russian student (#01), enrolled in the first year intensive program, began preparing to listen to a passage about the Pushkin Language Institute as follows:

> [Reading the introduction and questions] Who studies at the institute? Where do the students live? Um... OK, OK, I just thought, where do the students live? The thing that came into my head was obshchezhitie. [Student starts noting vocabulary items in workbook.] Ok, now matemati-, I'm just thinking of things like that. [Student notes title.] OK, Pushkin LANGUAGE Institute? So it's gonna be easy, yazjk, whatever...

This student's preparation includes both general preview, gaining a sense of the topic, and a specific generation of language that could occur in the upcoming passage.

In the same way, productive tasks, like writing, reveal uses of both general and specific planning strategies. Students planned their approaches to writing (planning to compose) (e.g., "... just make myself a little outline of what I'm gonna talk about, you know...", Rus1*2), the general content of their essays (planning at the discourse level) in terms of what they hoped to accomplish (to do) (e.g., "I would want to get into the philosophy of what the play was about...", Rus1*3) and what they would say (to say) (e.g., "Um, we've been working a lot with getting tickets, ah, I could use the fact that, uh, didn't have a ticket, I can write about that", Rus1*3). In writing, students also planned at a more specific level, sentence by sentence (e.g., "I'm just trying to think of a good way to start it. I'm thinking if I should say u menya how many brothers and sisters...", Rus1*1).

2. Directed Attention: Deciding to attend (or attending) in general to a learning task and to ignore irrelevant distractors.

Previously, this strategy was limited to pre-task enactment. The think aloud data revealed that students occasionally, consciously, force themselves to pay attention to a task in progress. As an example, presented below are one Russian student's pre-task and "on-line" decisions to direct his attention to a listening activity:

PRE-TASK:
Int: Are you thinking about anything in particular?
St: I'm telling myself to be sure to listen to, you know, the words.

DISCUSSION OF "ON-LINE" TASK:
St: ...what I was focusing on Pushkin Institute and what goes on there, and I think I understood, you know, I just, mentally, kept my mind about it. (Rus1*6)

3. Selective Attention: Deciding to attend (or attending) to specific aspects of language input or situational details that assist performance of a task.

Again, the notion of "deciding in advance" has been deleted from the definition of selective attention. In listening, students would decide in advance to listen for specific words, content, or grammar points, and then, in fact, attend to those selected features while the passage was playing.

PRE-TASK:
St: So I'm going to listen to how many speakers there are gonna be ...

DISCUSSION OF "ONLINE" TASK:
St: The voices, you know, I'm milling through which voice belonged to which character, more or less, and, um, I didn't try to get every single word ...

4. Self-management: Understanding the conditions that help one successfully accomplish language tasks and arranging for the presence of those conditions; controlling one's language performance to make maximum use of what is already known.

An example of self-management, occurring frequently among both the Russian and Spanish students as they wrote, is when a student deliberately uses only words and phrases in his or her active vocabulary and avoids the use of dictionaries for translation purposes. Another example of the way a student might use self-management is: "I'll write about the guys playing the radio first, cos that's most familiar" (Sp3#09).

5. Self-monitoring: Checking, verifying, or correcting one's comprehension or performance in the course of a language task.

This category has been modified to account:

(a) for what students are monitoring, i.e., comprehension in listening and reading tasks, and for their language production and style and plans in writing; and their choice of strategies for doing a task (Rus1#7, in writing refers to a textbook (resourcing) and exclaims, "Oh, this isn't helping me at all ... well, I'll just stick with that ... ");

(b) for their styles of monitoring - students monitor visually ("Now that doesn't look right", Rus1*1) and auditorially ("Yeah, I guess that sounds right, okay", Rus1*1);

(c) for their level of concern in monitoring - word, phrase, or sentence levels; and

(d) of acts previously undertaken or possibilities considered (double check) (while listening, "All right, I just, at first, assumed, I guess, that he teaches there and then I all of a sudden remembered the uchitsya or some form of uchit'sya and I thought, so, no, he studies there ... ", Rus1*4).

Previous research (O'Malley et al., 1986) showed that self-monitoring strategies discriminate between effective and ineffective language learners. As will be discussed later, the fact of self-monitoring may not be as important as the type of monitoring employed by more and less effective students with respect to various tasks.

6. Problem Identification. Explicitly identifying the central point needing resolution in a task, or identifying an aspect of the task that hinders successful accomplishment of that task.

This is a new coding category of an exploratory nature. While recognizing its importance, we postpone discussion of problem identification until further data analysis is conducted.

7. Self-evaluation: Checking the outcomes of one's own language performance against an internal measure of completeness and accuracy; checking one's language repertoire, strategy use or ability to perform the task at hand.

This category has been broadened from the original "checking one's work" type of self-evaluation to account for other ways in which students also evaluate themselves. These include evaluation of:

(a) production, as when students finish the task at hand and return to check their work;

(b) performance, as when students finish the task at hand and offer judgments about how they felt they did ("I'm surprised I got stuck on some verbs", Sp3#02);

(c) ability, as in "I'm the worst with verbs" (Sp3#08) or "See, we haven't learned the irregulars... I still think I can guess, though" (Sp3#03);

(d) their strategy use, as in "I should have read through the whole sentence, and I didn't" (Sp3#01); and

(e) language repertoire, operating at the word, phrase, sentence, or concept level, as in "I don't know the subjunctive of poder" (Sp3#05).

One particular type of self-evaluative comment was not coded as self-evaluation, but rather as elaboration/self-evaluation (and tallied as elaboration). This type of remark seemed to be more a casual self-observation or expression of emotion than a seriously intended self-evaluation, as in these examples from the writing activity, "See, I always get screwed up with sem'ya, plural... " (Rus1#7) and "This is awful!" (Sp3#06).

COGNITIVE STRATEGIES

Cognitive strategies involve interacting with the material to be learned, manipulating the material mentally or physically, or applying a specific technique to a learning task.

1. Repetition: Repeating a chunk of language (a word or phrase) in the course of performing a language task.

The simplest form of repetition seen in the think aloud data was when the interviewer supplied the student with a missing word and the student repeated it. Certain students were also observed to use repetition in conjunction with resourcing, monitoring and, occasionally, planning. With resourcing and planning, the repetition behaviors appeared to act largely as techniques for holding a thought in mind, while accomplishing some other activity. With monitoring, the repetition appeared to be an integral part of sorting through linguistic accuracies, by playing the language sequence off an

"ear." For instance, Rus1*1, writing: "OK, so uchutsya, uchut-sya. Um. V institute. Right? Yeah. We're at school. Right. Institut-e, v institute, My s bratom uchutsya v institute. Okay."

2. Rehearsal: Rehearsing language presumed to be needed for a task, with attention to meaning.

3. Resourcing: Using available reference sources of information about the target language, including dictionaries, textbooks, and prior work of the student.

4. Grouping: Ordering, classifying, or labelling material used in a language task based on common attributes.

This category had previously been conceptualized as an activity students engaged in while learning (i.e., upon hearing that the root of querer in the preterite is "quis-", this Spanish 3 student (*01) remarks, "Oh, so it is like quisiera"). The think aloud data clearly revealed that grouping functions at the time of recall as well, as in this student trying to think of the word prima (cousin): "It's like grab one and say, that doesn't sound right, say well maybe that means something like father and then put it away and get another one and say, this one means mother, so that's not it either. You've got a big group of words from the page and I just visualize the page and the words on it. I think it begins with a P" (Sp1*14). It is unclear at this point whether this type of cognitive processing represents the strategy of grouping being applied or evidence that the strategy was effectively applied at an earlier moment in time.

5. Note-taking: Writing down key words and concepts in abbreviated verbal, graphic, or numerical form to assist performance of a language task.

6. Deduction/Induction: Consciously applying learned or self-developed rules to produce or understand the target language.

7. Substitution: Selecting alternative approaches, revised plans, or different words or phrases to accomplish a language task, as in Rus1*7, writing, "I don't know the word for lobby, so I'll use zal."

8. Contextualization: Placing a word or phrase in a meaningful language sequence.

9. Elaboration: Relating new information to prior knowledge; relating different parts of new information to each other; making meaningful personal associations to information presented.

Elaboration has emerged through prior research (Weinstein & Mayer, 1986; O'Malley et al., 1986) and in the present data as an important area for exploration, with many forms of realization. The current data show that elaboration co-occurs with previously discrete coding categories, most notably:

(a) Imagery (e.g., "And I was picturing in my mind Moscow University, you know, one of the seven sisters. One of those ugly seven sisters buildings. So I had a visual context of where Moscow State, but you see, that's not even the same thing, really ... ", Rus1*2, while listening);

(b) Inferencing (e.g., Rus1*1, grammar: [looking in dictionary] "OK Prinyat' [...] Ah, to receive maybe, ah, to take, yeah, to take medication, but kotorij prinyat, oh. Boris perepisivat', Boris is, I got to translate this so I can understand what I'm saying. Boris is, um, corresponding with these girls who something at the medetsinskij institute, where are we? It's not here, is it [in dictionary]? It's take or something like that, or are admitted to, are enrolled in? Yeah, enrolled in. [Int: How did that come to you?] I, it's the only thing. I just thought about what it could be and that's about the only thing it could be.");

(c) Transfer (e.g., Sp3#05, while writing: "Now: If I were one of the robbers, si estis, I guess this'd have to be preterite... in French, it'd probably be conditional, but I don't know conditional in Spanish.");

(d) Auditory Representation (e.g., "...it was just this split second, going back to that stage and remembering where in that setting I had ever heard this verb", Rus1#3, during grammar activity).

Elaboration also occurs in a number of forms, among them:

(a) Personal: drawing upon prior non-academic experiences or feelings. Frequently, this form of elaboration is emotional, e.g., WOW! or ARGH! and can take negative forms (e.g., Rus1#7, prior to writing: "I hate writing!");

(b) World: drawing from previous academic experience (Rus1#3, writing: "...we've been working a lot with getting tickets") or non-academic knowledge of the world (Sp1#16, filling in the blank about Juan's typical day: "...a typical day...I don't know, if it's summer, you don't have to go to school");

(c) Between Parts of a given task (e.g., Sp1#15, working on the cloze: "We do something juntos to the ... to the house, I don't know. [Int: How did you figure that out?] Cos I looked over here and it said their mother doesn't permit them to watch TV... I just glanced at it real quick and I just figured they must go home at 3.");

(d) by Questioning: realized most frequently in listening, but also in writing and cloze, students brainstorm possible solutions to a given language problem (Rus1#3, listening: "I mean, if you're gonna introduce me to a friend, what is the first thing you think to do? What's their name, where do they live, what do they do?");

(e) Self-evaluative: discovered in analyzing writing data, students realize that they "should" know, or passively recognize some word, phrase, or concept in the target language and cannot use actively at the time of working through the task (e.g., Rus1*7, writing: "See, I always get screwed up with sem'ya, plural..."; and

(f) Creative: also discovered in analyzed writing data, and appearing only infrequently in listening and cloze, students "invent" a perspective, pulling from their own creativity, such as the student who asks, before beginning writing, "Can I just give him [the policeman in the picture] a name?" and then picks the name Alberto because "it just came into my head" (Sp3*03).

In the findings to be presented in Chapter III, the coding of elaboration by subcategory is not always consistent, given the difficulty in teasing apart the threads that weave together to form "prior knowledge." However, the very fact that such categories have been identified and can be used to differentially characterize student behaviors in working through the tasks suggests that the subcategories are worthy of further exploration.

10. Summarization: Making a mental or written summary of language and information presented in a task.

This definition provides for behaviors where students maintain an ongoing iteration of information received or produced in the course of a language task. In listening, most frequently, the Russian students would verbalize chunks of language they heard as the passage was playing, a summarization strategy combined with monitoring for comprehension. In writing, both Russian and Spanish students tended to re-read some portion of text they had written, often in conjunction with planning the next part. Although these

reiterations were rarely verbatim of the previously processed text, the strategy of translation appears to be closely associated with summarization.

11. Translation: Rendering ideas from one language to another in a relatively verbatim manner.

Translation proved a very problemmatic strategy to code in the transcripts. For one, the interviews were in English, and most of the students spoke English as their mother tongue, so it was difficult to know with certainty whether the student was not translating but simply choosing to speak in English or actually translating the material he or she was working with. For a student behavior to be coded as translation, then, he or she had to be moving between languages "in a relatively verbatim manner." This definition assists in distinguishing the somewhat elaborative qualities of summarization (see above) from the act of seeking thought equivalents across languages.

It should be noted that coding of this strategy in the Russian study often differed from how it was coded in the Spanish study, and in many regards reflects the way in which the two programs of study vary. Most of the students in Russian would actively avoid translation in performing tasks, although they would occasionally use dictionaries or request information from the researcher to find word equivalencies across languages. Only these instances have been coded in the Russian study as translation. The language rendering of the Spanish students, on the other hand, appeared nearly verbatim and so the results presented in the next chapter indicate that the Spanish students appear to rely heavily upon translation. Most students agreed that they did. But the translation figures reported in the tables for the Spanish students may very well be overly inflated, given the difficulty in

reliably and consistently distinguishing translation from summarization in an interview being conducted in English.

12. Transfer: Using previously acquired linguistic knowledge to facilitate a language task.

This strategy was most frequently associated with cognates and/or syntactic structures. It should be noted that most of the Russian subjects had native or high levels of proficiency in languages other than English and Russian. Using transfer strategies, they most frequently tap languages other than English to assist in Russian comprehension or production. Some of the Spanish students did this too, referring to French or Latin they had studied, or to English, but these students, generally speaking, had not had nearly as much exposure to other languages as the Russian subjects.

13. Inferencing: Using available information: to guess the meanings or usage of unfamiliar language items associated with a language task; to predict outcomes; or to fill in missing information.

SOCIAL AFFECTIVE STRATEGIES

1. Questioning for Clarification: Asking for explanation, rephrasing, examples or verification.

Previously, the definition of this strategy was limited to queries a student might ask about the target language. The think aloud data showed that students also ask for clarification/verification about the Task. An additional, exploratory category of Questioning for Clarification is Questions to the Self. This behavior is frequently associated with self-monitoring and at present is used merely to capture whether a student occasionally thinks in the form of

a question. Two examples of this are: Sp3*01 (while writing, examining the picture), "I'm thinking, is that a mailbox or construction?" and Sp1*06, "El nombre... now I'm thinking, what is nombre? Oh, name."

2. Self-talk: Reducing anxiety by using mental techniques that make one feel competent to do that language task.

As data analysis proceed, further discoveries are being made regarding the characteristics, variations, and parameters of how students use the above strategies. Findings presented in Chapter III reflect unique types of learner behaviors identified to date and, as such, should be interpreted as suggestive of fruitful areas for further investigation of the data.

CHAPTER III. RESULTS OF THE LONGITUDINAL STUDY

This chapter presents results from analyses of the data collected in the think aloud sessions with students of Russian and of Spanish. Given the volume of data analyzed, findings are presented in four sections, as follows:

(a) results of the Russian study, specifically: comparisons of how more effective and less effective students used the various learner strategies in the Spring 86 think alouds, followed by longitudinal comparisons of the strategy use of one more effective and one less effective student in Spring 86 and Spring 87;

(b) results of the Spanish study, focusing upon how effective and ineffective students used learner strategies in the Spring 86 think alouds;

(c) longitudinal results of the Spanish study, comparing how effective students used learner strategies in Spring 86 with their use the following year (Spring 87); and

(d) discussion, where the results presented in the prior three sections are examined more globally.

As described in the methodology section of this report, data in the Longitudinal Study were collected through an innovative interviewing technique that elicits "think aloud" protocols. All think aloud sessions were taped and subsequently transcribed for analysis. Guiding the analyses were the following research questions:

- How do students work through various types of foreign language tasks?
- What are the range and variety of strategies used by students in performing different types of language tasks?
- What differences exist, if any, in strategy usage exhibited by more effective language learners as compared with less effective or ineffective language learners?
- Does strategy use change over time for individual students?

A. RESULTS FROM ANALYSES OF RUSSIAN LONGITUDINAL DATA

This section of the report presents findings from analyses of the data collected from students of Russian in Spring 1986, their first year in the university Russian language program, and from Spring 1987, their second year in the Russian program.

Categories for Comparing Students

For the purposes of data analysis, subjects have been grouped as "More Effective" (3 students), "Less Effective" (4 students), and "Ineffective" (1 student). These categories are based on the student's performance of tasks during the think aloud interviews, with consideration given to accuracy and sophistication in Russian, and on discussions with the students' professors about the students' aptitude for learning Russian. It is notable that the one subject classified as "Ineffective" in this presentation of data analysis left the university after his first year and therefore could not be followed longitudinally. As previously mentioned, students are counselled out of the Russian language programs if they are judged to be ineffective learners. The students sampled were performing at above "passing" levels in their programs, with the majority achieving "above average" grades.

(Although Russian proficiency tests were administered with the intention of gathering information both upon individual students' proficiency in Russian and upon proficiency differences between the effective and less effective students, the tests proved unuseable within the context of this study. Designed to measure reading proficiency on the FSI gross scale (in other

words, dealing with whole levels rather than sublevel (± scale) ratings), the tests did not yield ratings sufficiently refined to discriminate between learners at the beginning levels involved in this study. Moreover, the university intensive program emphasizes oral/aural proficiency, not reading; it is the non-intensive program that deals most with printed text. As a result of these two factors, most students taking the test in Spring 1986 received a score of "0" or "1" and less effective students in the non-intensive program tended to perform as well or better than more effective students in the intensive program, seemingly an artifact of instructional exposure.)

Findings from Partial Analyses of the Data Collected from Students of Russian

This section summarizes and discusses preliminary findings from analyses of student think aloud protocols for the Russian language grammar, listening, and writing tasks. For grammar and listening skills, tasks were presented to students at two levels of difficulty. Thus, the effect of task complexity on student use of strategies can be compared for grammar and listening skills with reference to levels of effectiveness in language learning and across these skill areas. For writing, the final skill area included in the think aloud session in Spring 1986, time constraints prevented two of the three highly effective learners from actually producing written text. Therefore, only gross comparisons of range and variety of strategy usage will be presented for the writing data. Longitudinal data for two students' writing protocols will also be discussed.

Findings from Grammar Tasks. The grammar tasks presented during the interviews asked students to produce complete, grammatically accurate sentences from "dehydrated sentences" (strings of grammatically unanalyzed Russian words). For example, the first such "sentence" provided to first year Russian students was:

> Viktor/neplokho/govorit'/russkij yazyk/no/on/mat'/
> khorosho/znat'/russkij yazyk.

This was to be converted to:

> Viktor neplokho govorit po-russki, no ego mat' khorosho
> znaet russkij yazyk.
>
> (Victor doesn't speak Russian poorly, but his mother speaks
> Russian well.)

The task involves recognition of various parts of speech, some familiarity with word or phrase meaning, and a working knowledge of corresponding grammatical structures. Each of the eight first year students worked through two dehydrated sentences, the first, at a relatively low level of difficulty, the second requiring more sophisticated facility in Russian. Exhibit III-1 summarizes the variety of strategies used by students to complete the two grammar tasks, and indicates mean frequencies of strategy usage for more effective students versus less effective students at the two levels of difficulty.

As shown in Exhibit III-1, both more and less effective students use approximately the same variety of metacognitive and cognitive strategies to handle the two sentences. More effective students used a total of 9 unique strategies for the less difficult and 10 unique strategies for the more

EXHIBIT III-1

Spring 1986 Grammar Tasks: Dehydrated Sentences
Mean Uses of Strategies
More Effective Versus Less Effective First Year Students of Russian

STRATEGIES	Sentence #1 (Low Level of Difficulty)		Sentence #2 (Higher Level of Difficulty)	
	More Effec.	Less Effec.	More Effec.	Less Effec.
METACOGNITIVE				
Planning	.67	1.60	1.67	1.40
Selective Attention	.33	-	-	-
Directed Attention	-	-	.33	.20
Self-Management	-	-	.33	.20
Self-Monitoring	**1.67**	**4.00**	**4.00**	**4.80**
Of Comprehension	-	.20	1.33	1.80
Visual	-	-	.33	-
Auditory	.33	1.60	1.00	.40
Self-Evaluation	1.67	.60	.67	2.20
COGNITIVE				
Deduction	7.00	2.20	7.33	4.60
Elaboration	1.00	1.80	2.67	2.20
with Inferencing	-	-	.67	-
with Imagery	.33	.20	.67	1.20
with Transfer	-	-	.33	.60
with Auditory Rep.	-	-	.33	.20
Inference	.33	.40	1.33	.40
Notes	.33	.20	.67	.60
Repetition	-	.60	.67	2.60
Resourcing	-	-	.67	-
Transfer	-	.20	1.67	.40
Translation	.67	1.20	3.00	2.40
SOCIAL AFFECTIVE				
Questioning for Clarification	.33	1.40	2.67	.60

N of More Effective Students = 3
N of Less Effective Students = 5

difficult sentence, while less effective students employed a total of 14 unique strategies for the former sentence and 13 for the latter.

More interesting, perhaps, is the variation in frequency of specific strategy usage for more and less effective learners at the two difficulty levels, particularly with regard to: self-monitoring, deduction, translation, and questioning for clarification.

Effective students averageed only 1.7 uses of self-monitoring for the first sentence, but 4.0 uses of this strategy on the second sentence. In contrast, the less effective students monitored their performance at about the same level for both sentences (4.0 and 4.8 average uses of self-monitoring, respectively). Based on accuracy and expediency in completing the two grammar tasks, effective students apparently did not need to self-monitor to generate fairly grammatical solutions to the less difficult dehydrated sentence, whereas less effective students found the first grammar problem somewhat challenging and used self-monitoring frequently as a result. When faced with a grammar task of greater complexity (the solution in English would translate roughly, "Boris corresponds with these girls, who were accepted to the medical institute"), more effective students relied more heavily on self-monitoring. Less effective students only slightly increased their self-monitoring behaviors in handling a task far more complex from a teaching perspective, but only slightly more challenging from a students' perspective. Of interest, also, is the increased monitoring of comprehension exhibited by both more and less effective students in processing the second grammar task. None of the more effective students monitored for

comprehension in the first sentence, while one of the less effective students did. For the more complex task, more effective students averaged 1.3 uses of monitoring for comprehension. The less effective students averaged 1.8 uses of this strategy. Again, to complete the task, students must recognize the target meaning, in a general sense at least, in order to exercise their metalinguistic knowledge of grammatical relationships. All students recognized that they had to consciously attend to the intended meaning of the more complex sentence to derive an acceptable grammatical solution to the task. The more effective students' average use of translation for the first task (0.7) versus the second task (3.0) supports this interpretation of the self-monitoring findings. (The same holds true for less effective students who averaged 1.2 uses of translation for the first task and 2.4 for the second.)

Comparison of deduction behaviors of the two groups on the two tasks contrasts the self-monitoring results. The more effective students used deduction at about the same level for both the less and more complex grammar tasks (7.0 and 7.3 uses, respectively). The less effective students approximately doubled their usage of deduction in performing the second task (2.2 uses for the first sentence, 4.6 for the second). It would appear that the more effective students, while regularly tapping metalinguistic knowledge for grammar tasks, turned to alternative strategies when faced with a grammar challenge. Less effective students, less facile with metalinguistic rules, tended to rely on other strategies until the use of deduction became clearly necessary.

The third variation in strategy usage worthy of note involves questioning for clarification. Only one of the more effective students requested clarification in working through the less difficult grammar task, while less effective students averaged 1.4 questions for clarification apiece for this task. Conversely, more effective students averaged 2.7 questions for clarification regarding the same task -- all but one of which were posed in discussions following their attempts to solve the grammar problem. For the second task, only one of the five less effective students requested explanation of the solution during the debriefing period.

Findings from Listening Tasks. As with the "grammar" think alouds, listening tasks were presented to first year Russian students at two levels of difficulty. The first was a relatively straightforward monologue about foreign students attending a university program in the U.S.S.R. The second passage involved a conversation among five speakers with relatively few clues as to the relationships among them. Exhibit III-2 summarizes strategy usage by more and less effective students in processing the monologue and conversation passages.

Somewhat surprisingly, the students used slightly fewer strategies in processing the more difficult task (with more effective learners using 16 unique straetgies for the first and 15 unique strategies for the second passage, and less effective learners using 18 unique strategies for the first and 13 unique strategies for the second). This finding may be explained to some extent by students' differential usage of prominent strategies during the first and second listening activities. Of particular interest are uses of

EXHIBIT III-2

Spring 1986 Listening Tasks
Mean Uses of Strategies
More Effective Versus Less Effective First Year Students of Russian

STRATEGIES	Listening Task #1 (Low Level of Difficulty)		Listening Task #2 (Higher Level of Difficulty)	
	More Effec.	Less Effec.	More Effec.	Less Effec.
METACOGNITIVE				
Planning	1.67	1.25	1.33	1.50
Problem Identification	5.00	1.25	1.00	.75
Selective Attention	3.33	2.25	3.00	1.75
Directed Attention	.67	1.00	.67	.50
Self-Management	.67	1.00	1.33	.75
Self-Monitor	**14.33**	**4.25**	**10.00**	**6.75**
Of Inference/Hypothesis	-	-	.67	.50
Of Comprehension	**13.67**	**2.75**	**9.00**	**5.25**
Auditory	-	.25	-	-
Of Production	-	-	-	.25
"Double Check"	-	-	-	.50
Of Strategies	-	-	-	.25
Self-Evaluation	4.33	2.75	4.33	2.25
COGNITIVE				
Contextualization	-	.50	-	-
Elaboration	**9.67**	**6.50**	**8.00**	**6.00**
with Auditory Rep.	1.00	.75	.33	.25
with Imagery	.67	.25	.67	1.25
with Inferencing	1.00	1.25	**4.00**	**1.50**
by Questioning	1.67	-	-	.50
with Transfer	-	-	.33	.25
Between Parts	*	*	2.67	1.50
Personal	*	*	.33	1.25
Grouping	-	.25	-	-
Inference	**.33**	**1.75**	**3.33**	**3.25**
Notes	2.67	1.00	1.33	.50
Rehearsal/Review	-	-	.67	-
Repetition	2.00	1.25	.33	-
Resourcing	.33	-	-	-
Summarization	**8.00**	**1.00**	**2.00**	**4.00**
Transfer	.33	1.00	-	.25
Translation	-	1.25	1.00	-
SOCIAL AFFECTIVE				
Questioning for Clarification	.33	1.75	.67	2.00
Self-Talk	.67	.25	-	-

N of More Effective Students = 3
N of Less Effective Students = 4
* Not coded for this task

problem identification, self-monitoring, summarization, elaboration, and inferencing, and the interactions of the latter four.

Problem identification appeared to be an important straetgy for more effective students in preparing for and listening to the first passage. They directed attention to specific areas where problems might or did occur, averaging about five times per student. Less effective students identified problem areas only about once each for the monologue. With regard to the more difficult, second passage, the students specifically identified problem areas less frequently, with the more effective students using problem identification on an average of one time per student, and only three of the four less effective students identifying problems. These results suggest that, in listening, students must have skills relatively equal to the task to pinpoint problem areas. If only moderately challenged, the student can identify particular weaknesses in understanding spoken text. If severely challenged, the student must attend to meaning in general, rather than to specific difficulties. The less effective students, having trouble understanding the monologue overall, could not localize comprehension difficulties for either the simple or difficult listening passage.

Results for self-monitoring, particularly of comprehension, and summarization strategies for listening clearly mark differences among more and less effective student behaviors in listening. In working through the monologue, the more effective students used self-monitoring with over three times the frequency of less effective learners (more effective students: 14.3; less effective students: 4.3). On this first task, more

effective students held a running "dialogue" with the taped passage, (monitoring comprehension), by summarizing what they heard as they listened, which accounts for their much more frequent uses of both strategies, relative to less effective students. (More effective students monitored for comprehension on an average of 13.7 times per students; less effective students monitored for comprehension 2.8 times per student. More effective students summarized incoming information 8 times per student; less effective students, 1 time per student).

On the more difficult, second passage, more effective students continued to use self-monitoring (10 uses per student), specifically monitoring of comprehension (9 uses per student), more frequently than less effective students (6.8 uses per student, and 5.3 uses per student, respectively), although the contrast is less striking. It is possible that the difference in documented uses of self-monitoring is an artifact of the data collection technique; that is, students working with listening material pitched to their proficiency level could monitor comprehension and verbalize their thoughts simultaneously. With more challenging material, the students may have continued to monitor comprehension with equal frequency, but not have been able to verbalize their thoughts concurrently, because the act of thinking aloud interfered with processing incoming information. This interpretation would explain the substantial drop in the more effective students' use of summarizing for the second listening passage (they summarized 8 times a piece for the first listening and only 2 times each for the second). The less effective students' increased usage of summarizing for the second listening passage (1 time each for the first, 4 times for the

second) actually reflects behaviors that occurred when the tape was not playing, as these students worked through questions that accompanied the task and retrospectively reported thoughts that had struck them while listening. The less effective students did not maintain a "dialogue" with either passage while listening, the way the more effective students had with the first, more simple passage.

A third area of interest involves usage of inferencing, elaboration, and elaboration with inferencing. The data clearly indicated that inferencing and elaboration could not be considered entirely discrete categories. In some instances, students integrated prior knowledge with information provided in a task to solve problems or generate hypotheses, such that no clear distinction between the elaboration and the inference could be drawn for coding purposes. With this in mind, the results for elaboration and inferencing elicit attention. First, more effective students used elaboration overall more frequently than less effective students for both listening passages (more effective: first task--9.7 uses each, second task--8.0 uses each; less effective: first task--6.5 uses each, second task--6.0 uses each). But the specific type of elaboration used by effective students changed notably from the first to the second passage. For the monologue, more effective student combined elaboration with inferencing only one time each (on the average). For the conversation passage, more effective students combined these strategies an average of 4 times each. In contrast, less effective students combined elaboration and inferencing at about equal levels for both listening passages (1.25 average uses for the first passage and 1.5 average uses for the second).

Furthermore, both more and less effective learners markedly increased their use of inferencing, in its more pure sense, for the more difficult passage (more effective: first passage--0.3 times each, second passage--3.3 times each; less effective: first passage--1.8 times each, second passage--3.3 times each), and, as indicated, both groups increased the use of this strategy to about the same level for the second passage. Obviously, the more difficult second passage required students to infer meaning more extensively. It is notable, however, that the more effective students not only increased their use of simple inferencing for the second passage, they also combined their prior knowledge (elaboration) with task-available information (inferencing) in order to process the more difficult task, suggesting that more effective students have acquired greater sophistication in strategy application than their less effective peers.

Findings from Comparing Grammar and Listening Tasks. Exhibit III-3 compares aggregate results for metacognitive, cognitive, and social/affective strategy use for grammar and listening tasks at two levels of difficulty. Exhibit III-3 further compares the minimum and maximum incidences of strategy use for more and less effective learners on the tasks and mean numbers of strategy uses for these groups.

Exhibit III-3 offers a number of interesting contrasts. First, regarding the variety of strategy use, all types of students used metacognitive strategies for all types of tasks reported, but the same does not hold true for cognitive strategies. One less effective student used no cognitive strategies for the less difficult grammar task, and, similarly, the minimum and maximum

EXHIBIT III-3

Summary of Strategy Usage for Grammar and Listening Tasks of Varying Levels of Difficulty: More Effective Versus Less Effective First Year Students of Russian

STRATEGIES	Grammar Task #1 (Low Level of Difficulty)				Grammar Task #2 (Higher Level of Difficulty)			
	More Effective		Less Effective		More Effective		Less Effective	
	Range	Mean	Range	Mean	Range	Mean	Range	Mean
METACOGNITIVE	3- 6	4.33	4-10	6.40	5-15	9.00	6-14	9.20
COGNITIVE	7-12	9.33	0-10	6.40	9-24	17.67	6-17	13.20
SOCIAL AFFECTIVE	0- 1	.33	0- 3	1.40	1-4	2.67	0-2	.60

N of More Effective Students = 3
N of Less Effective Students = 5

STRATEGIES	Listening Task #1 (Low Level of Difficulty)				Listening Task #2 (Higher Level of Difficulty)			
	More Effective		Less Effective		More Effective		Less Effective	
	Range	Mean	Range	Mean	Range	Mean	Range	Mean
METACOGNITIVE	19-36	25.00	6-17	13.00	17-30	21.67	8-22	14.50
COGNITIVE	22-40	28.00	9-26	19.50	14-22	17.00	5-19	14.25
SOCIAL AFFECTIVE	0- 1	.33	1- 5	2.00	0-02	0.67	1- 3	2.00

N of More Effective Students = 3
N of Less Effective Students = 4

number of strategy uses for less effective students are consistently lower than for more effective students.

Secondly, task difficulty and task type clearly influence mean strategy use for more and less effective groups. Students use strategies more often for listening than for grammar tasks--an intuitively acceptable finding, considering the integrative nature of listening tasks as opposed to the discrete nature of grammar tasks. What is striking, however, is the degree to which more effective students increase use of strategies as compared to less effective students. For instance, more effective learners increase their mean uses of metacognitive strategies more than six-fold, comparing their performance on the less difficult grammar task (4.3) and listening task (25.0), while less effective students only double their use of metacognitive strategies across the two less difficult tasks (6.4 for grammar, 13.0 for listening). It is surprising, however, that these increases are present for cognitive strategies when comparing grammar and listening tasks of a lower difficulty level, but not for those of greater difficulty levels. In fact, while more effective students used more cognitive strategies than less effective students on both the more difficult grammar and listening tasks, the mean group usages of cognitive strategies remained fairly consistent for both the more difficult grammar and listening tasks (more effective: grammar--17.7, listening--17.0; less effective: grammar--13.2, listening--14.3). Furthermore, looking within skill areas, both groups increased cognitive strategy use for the more difficult grammar task; but they both decreased cognitive strategy use for the more difficult listening task (more effective: grammar*1--9.3, grammar *2--17.7,

listening #1--28.0, listening #2--17.0; less effective: grammar #1--6.4, grammar #2--13.2, listening #1--19.5, listening #2--14.3).

These findings clearly suggest that the interaction of the skill area tapped by the task and the level of task difficulty influences strategy usage. For tasks associated with discrete aspects of language learning (e.g., grammar tasks), both more and less effective students cope with the challenge by drawing more heavily upon strategies. For integrative language tasks, like listening, first year students may not have a sufficient repertoire of alternative strategies or, perhaps, sufficient sophistication in strategy usage, to bring greater levels of strategy use to bear on tasks above their proficiency level. Longitudinal comparisons of student behaviors on discrete and integrative language tasks may shed further insight into the interaction of tasks with strategy behavior.

Findings from Writing Tasks. As mentioned previously, the writing task included in the interviews produced large non-comparable data across students--in part because in the first series of interviews, the writing task was the last to be presented, so time constraints prevented some students from fully engaging in the task, and in part because students reacted radically differently to the task. The first interviews provided (1) pre-planning data for three more effective and four less effective students; and (2) planning/writing data for one ineffective, four less effective, and three more effective students, although two only planned what they would write, never producing written text. Longitudinal data for one more effective and one less effective student over a one-year period were also

available. Therefore, analyses of the data generated by the writing stimuli will be treated in three ways. First, results from the first interviews will be presented focusing on the variety of strategies used by the various groups of students in the pre-planning and planning/writing phases of writing. Second, extracting from the data provided from the first interview, strategy applications of one more effective, one less effective, and one ineffective student will be compared. Thirdly, longitudinal writing data for one more ffective and one less effective student will be presented.

Exhibit III-4A summarizes the variety of strategies used by more and less effective students prior to selecting a composition topic. Notable in this table is the limited repertoire of strategies used by students in pre-planning phases of writing. Three metacognitive strategies, one cognitive strategy, and one social affective strategy are employed by at least one member each of the more and less effective learner groups. Furthermore, all students employed elaboration in approaching the task of writing, with one student from the less and one from the more effective group using this strategy rather extensively, in comparison to level of usage of any other strategy (the highest level of usage of any metacognitive or social affective strategy was one incidence; the highest level of usage of elaboration for both more and less effective students was eight incidences). Clearly, elaboration plays an important role in planning to write and may, in fact, have metacognitive attributes, as a strategy. Hence, the practice of recognizing metacognitive and cognitive strategies as discrete categories may not accurately represent task processing behaviors.

EXHIBIT III-4A

**Summary of Strategy Usage for Writing Task:
Comparison of More Effective, Less Effective, and Ineffective
First Year Students of Russian**

PRE-PLANNING STRATEGIES	More Effective N=3		Less Effective N=4	
	N of Students Using Strategy	Highest* Level of Usage	N of Students Using Strategy	Highest* Level of Usage
METACOGNITIVE				
Self-Management	1	1	1	1
Self-Monitor	1	1	1	1
Evaluation	1	1	1	1
COGNITIVE				
Elaboration	3	8	4	8
Between Parts	2	1	1	1
Personal	2	6	3	3
Personal Emotive	-	-	1	1
Self-Evaluative	1	1	3	5
On Strategies	-	-	1	1
Academic	1	1	1	2
SOCIAL AFFECTIVE				
Questioning for Clarification	1	1	2	1

* Maximum number of incidences of a single student's use of the strategy

Similarly, Exhibit III-4B shows that more effective, less effective, and ineffective students all use essentially the same repertoire of strategies for writing. They use metacognitive strategies to plan, monitor, and evaluate their performance; they use the cognitive strategies of deduction, elaboration, repetition, resourcing, and substitution at fairly comparable levels. (The more effective students' use of repetition involved, for the most part, one student's concern over the spelling of one troublesome word.) In addition, more, less, and in-effective students all questioned for clarification. Variations in usage levels of other strategies reported appear to be highly idiosyncratic, or a matter of personal writing style. Exhibit III-5 presents data that may elucidate contrasts between levels of effectiveness and personal style in investigating strategy usage.

As shown in Exhibit III-5, contrasts between the more, less, and in-effective students, for the most part, reflect only differences in writing style. Only two contrasts emerge that suggest differential use of strategies according to degree of effectiveness that cannot be otherwise explained in the raw data. First, while the more, less, and in-effective students all monitor their writing, they attend to their performance at different levels. The more effective student directs 8 of his 19 uses of self-monitoring to the discourse level (7 times towards style and once to his plan). In contrast, the less and in-effective students direct an overwhelming majority of their uses of self-monitoring to the word level (16 of 21 for the less effective student, and 18 of 23 for the ineffective student). The more effective student, then, appears to have sufficient control over Russian language production to attend to his style in writing, more so that the less effective students, who

EXHIBIT III-4B

Writing Strategies Summary (Continued)

PLANNING/WRITING STRATEGIES	More Effective N=3*		Less Effective N=4		Ineffective N=1
	N of Students Using Strategy	Highest** Level of Usage	N of Students Using Strategy	Highest** Level of Usage	Level of Usage
METACOGNITIVE					
Planning	3	8	4	11	12
To Compose	1	1	1	2	1
Discourse Level	2	3	4	4	-
--To Do	1	2	1	1	-
--To Say	2	2	4	4	-
Sentence Level	3	8	4	10	11
Directed Attention	-	-	1	1	-
Selective Attention	1	2	-	-	-
Self-Management	2	2	4	3	1
Self-Monitor	2	21	4	21	26
Word Level	2	8	4	18	20
Phrase Level	-	-	1	1	1
Sentence Level	1	1	1	5	1
Punctuation	-	-	1	1	-
Auditory	1	1	3	6	9
for Style	2	7	3	2	2
of Strategies	-	-	2	1	-
of Plan	1	1	2	2	-
"Double Check"	1	3	-	-	-
Self-Evaluation	1	2	4	6	6
COGNITIVE					
Deduction	2	2	4	13	12
Elaboration	3	14	4	17	11
Personal	3	4	4	5	2
--Personal-Emotive	1	1	1	1	-
Academic	2	8	4	4	3
Self-Evaluative	2	2	4	6	5
Between Parts	-	-	2	4	-
with Transfer	-	-	1	1	1
with Imagery	-	-	1	1	-
Grouping	-	-	1	2	-
Notes	1	3	-	-	5
Repetition	1	12	2	2	4
Resourcing	2	2	1	1	4
Substitution	1	1	3	3	3
Summarization	1	6	3	10	10
Translation	-	-	1	2	5
Transfer	-	-	-	-	4
SOCIAL AFFECTIVE					
Questioning for Clarification	2	1	2	5	4
Self-Talk	-	-	1	1	-

* Two Highly Effective students spent all of the task time planning.

** Maximum number of incidences of a single student's use of the strategy

EXHIBIT III-5

Spr 86 Planning and Writing Data for Selected Students

LEVEL OF EFFECTIVENESS STUDENT ID	HIGH Spr 86 #1	MEDIUM Spr 86 #4	LOW Spr 86 #8
METACOGNITIVE STRATEGIES			
Planning	8	9	12
--To Compose (Strategies)	-	2	1
--Discourse Level (To Say)	-	3	-
--Sentence Level (To Say)	8	4	11
Self-Management	1	-	1
Self-Monitor	19	21	23
--Discourse Level (Style)	7	2	2
--Sentence Level	1	-	1
--Word Level	8	16	18
--Punctuation	-	1	-
--Auditory	1	4	7
--Plan	1	2	-
--Double Check	1	-	-
Self-Evaluation	-	5	5
COGNTIVE STRATEGIES			
Deduction	2	11	9
Elaboration	5	12	10
--Personal	3	4	2
---Personal-Emotive	1	1	-
--Academic	2	3	2
--Self-Evaluative	-	2	5
--Between Parts	-	3	-
--On a Linguistic Transfer	-	-	1
Notes	-	-	5
Repetition	12	-	-
Resourcing	1	-	4
Substitution	1	3	3
Summarization	6	10	8
--Translation	-	-	3
Transfer	-	-	2
SOCIAL/AFFECTIVE STRATEGIES	-	-	-

must concentrate on accuracy in second language production. The second contrast confirms, to some extent, this interpretation. The more effective student uses deduction only twice in the course of planning and writing his composition, while the less and in-effective students use deduction eleven and nine times, respectively.

Longitudinal Results: Spring 1986 and 1987 Writing

The final analysis, summarized in Exhibit III-6, presents longitudinal results for strategy use for one more and one less effective learner. Exhibit III-6 shows that both students remain fairly consistent in their use of strategies across the first and third interview sessions (Spring 1986 at the end of one year of Russian study at the university, and Spring 1987 at the end of two years of Russian study at the university). The strategies that both students used most often in Srping 1986, namely, planning and elaboration, appear with relatively equal frequency in the Spring 1987 data. In fact, the more effective learner uses exactly the same number of elaborations in both observations.

An interesting difference over the year period for the less effective student is apparent. She greatly increases her usage of strategies for writing from one year to the next. The less effective student, who had been ranked as fairly effective in Spring 1986 but decided to repeat first year intensive Russian in Spring 1987, increased her use of planning by slightly more than 50 percent, her use of self-monitoring by more than 50 percent, her use of elaboration by about 50 percent, her use of deduction eight-fold, and her use of questioning for clarification six-fold in the Spring 1987 observation. What

EXHIBIT III-6

Summary of Strategy Usage for Writing Task: Comparison of Spring 1986 and Spring 1987 Data for Two Students

STRATEGIES	Student #3		Student #7	
	86	87	86	87
METACOGNITIVE	11	16	23	40
COGNITIVE	26	29	15	44
SOCIAL AFFECTIVE	1	2	3	13
METACOGNITIVE				
Planning	6	9	8	13
To Compose	-	1	-	2
Discourse Level	3	7	4	4
--To Do	2	4	1	4
--To Say	1	3	3	3
Sentence Level	3	1	4	7
Directed Attention	-	2	-	-
Self-Management	1	3	3	2
Self-Monitor	2	2	9	24
Word Level	1	1	2	17
Sentence Level	-	-	5	1
Punctuation	-	-	-	1
Auditory	-	-	4	1
for Style	1	-	1	-
of Strategies	-	-	1	-
of Plan	-	2	-	5
"Double Check"	-	-	-	1
Self-Evaluation	2	-	3	1
COGNITIVE				
Deduction	2	-	1	8
Elaboration	22	22	10	26
Personal	10	8	2	6
--Personal-Emotive	-	2	-	-
Academic	8	4	4	10
Self-Evaluative	2	1	5	2
Questioning	-	-	-	2
Between Parts	1	1	-	-
with Transfer	-	-	-	2
with Imagery	-	2	-	2
with Inferencing	-	2	-	-
about Strategies	-	4	-	1
Grouping	-	-	-	1
Repetition	-	-	1	1
Resourcing	2	6	1	2
Substitution	-	1	1	1
Summarization	-	-	1	4
Translation	-	-	-	1
SOCIAL AFFECTIVE				
Questioning for Clarification	1	2	2	13
for Verification	-	-	-	2
about the Task	1	2	1	2
Self-Talk	-	-	1	-

makes these contrasts particularly interesting is that the more effective student flatly refused to produce written text throughout the three observation periods, while the less effective student produced only two sentences in Spring 1986, then rather extensive text (four complex sentences) in Spring 1987. The less effective student's approach to the task had entirely changed in that, in Spring 1986, she could not get started. She spent the majority of the time appropriated for the writing task trying to generate an opening sentence. In the second year, this student disregarded concern for style and began writing almost spontaneously. Her confidence in writing had increased substantially.

The writing data, then, offer suggestive rather than conclusive findings. Consistently, self-monitoring and elaboration appear to be strategies necessary for writing. The levels of monitoring and styles or types of elaboration appear to be aspects of strategy usage worthy of further investigation. Also, the uses of summarization in conjunction with invention (or text generating techniques) elicit interest, as students at all levels of effectiveness use the strategy frequently. Further exploration of both cross-sectional data for students at various levels of proficiency and longitudinal data may offer more insights into patterns of strategy usage for writing.

Summary Discussion of Russian Data

The data analysis in process indicates that strategy use can discriminate among better and weaker language learners for, at least, grammar and listening activities. Furthermore, the data show that the nature of tasks

(in terms of difficulty and type) influence the strategic behaviors evidenced in student think aloud protocols. The analyses presented above respond to greater and lesser degrees to the research questions posed:

- How do students work through various types of foreign language tasks?

Through these data analyses, some understanding of strategies relevant to various types of skill areas have been identified. For grammar tasks, self-monitoring and deduction seem to play important roles. For listening, self-monitoring, problem identification, elaboration, inferencing, and summarization appear as prominent aides to successful task completion. For writing, elaboration, self-monitoring, and summarization appear to figure influentially into students' approach and processing of the task. Further investigation of the uses of these strategies and combinations of these strategies should be undertaken in analyzing the remaining data.

- What are the range and variety of strategies used by students in performing different types of language tasks?

As discussed above, the type of task substantially influences strategy usage. These differences lie not so much in the category of strategy used, but in how the strategy is applied to the task. For instance, in listening self-monitoring for comprehension played a role that discriminated between more and less effective students. In writing, self-monitoring for style at the discourse level distinguished between more and less effective students. While simple counts of specific strategy use may offer some insight into learner behaviors, it appears that analyses from a qualitative perspective

may more completely reveal strategic behaviors that characterize more effective as opposed to less effectivce language learners.

- What differences exist, if any, in strategy usage exhibited by effective learners as compared with less effective learners?

Apparent throughout the analyses were differences that contrasted strategy usage by more and less effective language learners. The differences, however, were not necessarily in what strategies were used, but how those strategies were applied-- the level, the manner, the interaction with other strategies. With sensitivity to task demands, further analysis of additional data may offer avenues for translating good learner strategies into teachable learning skills.

- Does strategy usage change over time for individual students?

While longitudinal data presented addressed only writing skills, and only with reference to two students, the results suggest that the more effective student did not radically alter patterns of strategy usage over time, but that the less effective student did. These data are insufficient to draw any stable conclusions, but offer ample grounds for further investigation.

The subjects studied in the Russian as a Foreign Language component of this project should be recognized as relatively effective learners, in general. They were admitted to a competitive university and enrolled in and survived two semesters of study in a language perceived to be challenging. It is not surprising, therefore, that even the least effective learner brings a

broad range of strategies to Russian language tasks. Nonetheless, the more effective, or more talented language learners in this group appear to use strategies with greater efficiency and sophistication. When, how, and where the more effective language learners use strategic behaviors in processing language tasks should be investigated further in future data analyses of the longitudinal data and of cross-sectional data for students of higher levels of study.

B. RESULTS OF THE SPANISH THINK ALOUD DATA: Spring 1986

Results of think aloud data collected from students of Spanish 1, 3, and 5 are presented in this section of the report. Differences between strategy use of effective and ineffective language learners at each of these levels are examined using the data collected in Spring 1986, the first semester of the longitudinal study. (Analysis of how student strategy use changed over time is presented in the next section of this chapter.)

Before presenting comparisons between effective and ineffective students, several points need to be made regarding the relativity of learner effectiveness and about the criteria used to select think aloud transcripts for inclusion in data analysis.

Effectiveness of Students

As described in the methodology section of this report, students were identified by their classroom teacher as being either effective or ineffective language learners. Generally speaking, categorizing the students in this way held more validity for the Spanish sample than for the Russian sample (see previous section) because the Spanish students were enrolled in a high school system that requires them to study a foreign language (as opposed to self-selecting foreign language study). Differences in the two effectiveness groups were most apparent in Spanish 1 students. Effective students at this level generally showed enthusiasm for studying Spanish and engaged themselves in the think aloud activities. In contrast, most students deemed ineffective declared that they hated Spanish and did not know anything about the

language. As Exhibit III-7 shows, large differences also existed between the two effective groups in terms of proficiency in Spanish (an average testing score of 55.6 for effective students, versus 33.5 for the ineffectives).

As self-selected study became more of an option (as with the Spanish 3 and 5 students), the dichotomy between effectiveness and ineffectiveness was not so marked. Students in both categories engaged themselves in the think aloud sessions and demonstrated at least a basic interest in the language. These latter observations mirror findings of the Russian sample, where effectiveness proved a relative term; at these advanced levels, even ineffective students have learned a fair amount of the language and have persisted in their study beyond what is required. Results of the proficiency testing show that differences do exist between the proficiency of effective and ineffective students at the more advanced levels of study, but these differences are not so extreme as at the beginning level.

It is interesting to note that, consistent with the Russian students, within each effectiveness category relative degrees of effectiveness and ineffectiveness were apparent. For example, two types of ineffectiveness were noted among the Spanish 1 students. The first type of ineffective student can be described as hating studying the language; this student has internalized so little of "the basics" that to read or write even the simplest sentence in Spanish is an onerous task. The second type of ineffective student does not dislike studying the language per se but shows evidence of additional learning difficulties, such as problems in reading or in remembering information just presented.

EXHIBIT III - 7

Mean and Standard Deviation of Effective and Ineffective Spanish Students on the Spanish Proficiency Test (Spring 1986, Form A)

Language Group	Data Type	Test Subpart					
		Grammar	Reading	Cloze	Listening	Dictation	TOTAL
Tests, Items Possible							
Test, Levels 1-3		15.0	17.0	10.0	15.0	39.0	96.0
Test, Levels 3-5		16.0	16.0	13.0	15.0	40.0	100.0
Spanish 1: Test 1-3*							
Effectives	Mean	6.3	8.0	4.0	5.8	31.4	55.6
	SD	1.7	2.9	2.5	1.8	4.7	8.6
Ineffectives	Mean	5.1	4.1	0.4	4.0	19.9	33.5
	SD	1.2	1.1	0.6	1.1	4.1	5.3
Spanish 3: Test 3-5*							
Effectives	Mean	5.75	9.6	5.8	5.5	31.8	57.5
	SD	1.4	2.2	1.6	0.9	3.3	3.4
Ineffectives	Mean	5.3	7.5	3.2	4.7	24.3	44.5
	SD	0.4	2.7	0.5	1.3	4.1	1.4
Spanish 5: Test 3-5*							
Effectives	Mean	10.0	15.0	10.8	14.0	38.8	88.5
	SD	0.7	1.2	1.4	1.0	0.4	1.6
Ineffectives	Mean	7.5	13.0	7.8	8.5	37.0	73.8
	SD	0.5	3.0	2.3	1.5	2.0	5.3

* Problems during testing resulted in some students not completing all test subparts. In Spanish 1, for example, one ineffective student could not complete the dictation due to a broken arm. Four students in Spanish 3, for reasons unknown, failed to complete the last 3 sections of the test. Therefore, the number of students whose testing data was used in the above calculations varied as follows:

Language Group	Number of Students					
	Grammar	Reading	Cloze	Listening	Dictation	TOTAL
Spanish 1						
Effectives	12	12	12	12	12	12
Ineffectives	8	8	8	8	7	8**
Spanish 3						
Effectives	8	8	4	4	4	4
Ineffectives	4	4	3	3	3	3
Spanish 5						
Effectives	4	4	4	4	4	4
Ineffectives	2	2	2	2	2	2

** One ineffective student could not complete the dictation subtest. His TOTAL score was calculated by adding the statistical average of ineffective students' dictation performance to his scores on the other subparts of the test.

Similarly, differences were noted in the degree of effectiveness among effective students. Most demonstrated solid study skills, good attention spans, and interest in performing the various language tasks given them. These students might be considered the "typical effectives." Several, however, attacked the tasks with unwavering concentration and determination and showed remarkable flair and intuition in completing each one; these students might be considered the "exceptional effectives."

Thus, even within the categories of effective and ineffective, students showed variation in ability. These differences are important to note most particularly for the ineffective students, where teachers should be aware that lack of motivation may not be the sole cause of ineffectiveness but, rather, poor study skills or other learning problems. As far as both the "exceptional" and more typically effective students are concerned, much can be learned from their various styles and approaches to language learning, as will be seen below.

Criteria for Selection of Data to be Analyzed

As was mentioned in the previous section, certain limitations exist in the data collection technique of "think aloud." For one, certain strategies (i.e., peer cooperation) are not elicited in a one-on-one interview situation, so little can be said about effective and ineffective student behavior in this regard. A more important limitation, however, is that the quality of the data collected is directly related to the quality of the student's think aloud. Some students, despite training, were not good at using the technique, probably due to their quiet natures. Others were capable of producing a good think aloud but, at the particular moment of data collection, were distracted, tired, or

nervous. In other instances, the think aloud session was poor due to inadequate questioning by the interviewer or because technical problems arose, such as a bad recording or an unplanned interruption (i.e., fire drill). Thus, judgements had to be made about the adequacy of each student's think aloud before including it in data analysis. If the data coder found that the transcript of the session showed too many gaps in think aloud, then the student's data were not included in the analysis reported here.

Exhibit III-8 shows the number of student think alouds included in each analysis. As can be seen, these numbers vary from activity to activity. In some cases the variance is due, not to inadequate think alouds, but to the fact that students never got to the activity. This tends to be true in the case of the Year 1 ineffective students, who spent so much time performing the first three activities that time ran out before they got to the last two. The figures presented in the tables throughout this section (and in the appendices) have been adjusted to account for the varying numbers of students involved. For example, if the seven (7) effective Spanish 3 students used a total of 25 selective attentions in listening, the figure entered in the table would be 25/7, or 3.6. This number, then, represents the average number of times an effective student selectively attended during a listening passage.

Spanish 1 Results: Spring 1986

Think aloud sessions with Spanish 1 students produced some interesting and unexpected results. Two activities (vocabulary and writing) were analyzed for incidence of learner strategies used by effective and ineffective students; results indicate that the ineffective students tended to use more strategies than the effectives. Exhibit III-9 lists those strategies where fairly large

EXHIBIT III-8

Number of Effective and Ineffective Spanish Students
Whose Data Were Analyzed,
by Spring 1986 Think Aloud Activity

Language Level	Activity	---- Number of Students Included in Analysis ---- Effective	Ineffective	Total
Spanish 1	Vocabulary	13	6	19
	Writing	9	5	14
	Cloze	10	-	10
Spanish 3	Listening	7	4	11
	Writing	7	3	10
	Cloze	7	4	11
Spanish 5	Writing	2	1	3
	Cloze	2	2	4

EXHIBIT III - 9

Strategies Showing a Difference in Usage for
Effective and Ineffective Spanish 1 Students
(Spring 1986, Think Aloud Session 1)

Activity	Strategy	Frequency of Usage			
		Effective		Ineffective	
		N	%	N	%
Vocabulary	Subtotal, Metacognitive Planning Strategies	0.1	1.9	0.8	14.7
	Self-evaluation	0.3	7.7	1.8	32.4
	Total, Metacognitive	4.0	100.0	5.7	100.0
	Resourcing	0.5	4.0	2.0	11.5
	Total, Cognitive	13.6	100.0	17.3	100.0
	Question for Clarification	3.0	100.0	5.3	100.0
	Total, All Strategies	20.6		28.3	
Writing	Organizational Planning	4.6	39.4	7.0	42.7
	Subtotal, Metacognitive Planning Strategies	5.7	47.2	7.6	46.3
	Self-monitoring	4.2	35.2	6.2	37.8
	Total, Metacognitive	12.0	100.0	16.4	100.0
	Resourcing	0.1	1.0	1.8	12.0
	Translation	3.4	27.4	6.0	40.0
	Deduction	1.2	9.7	0.4	2.7
	Imagery	0.6	4.4	0.0	—
	Total, Cognitive	12.6	100.0	15.0	100.0
	Questions for Clarification	4.3	100.0	6.6	100.0
	Total, All Strategies	28.9		39.0	

differences appeared in the frequency of use between the two student groups (Appendix B presents tables showing frequency of all strategy occurrence for these two activities).

Vocabulary Fill-in-the-Blank: The Family Tree. The vocabulary task consisted of five sentences, each containing at least one blank space needing a word relating to the family. A drawing of a family tree provided visual information about relationships (see Appendix C). The students were asked to read the sentences and find a word to put in each blank. In examining the vocabulary think alouds, the reason for the ineffective's greater use of strategies becomes clear. The effective students had far less difficulty in filling in the blanks with an appropriate word. In contrast, the ineffectives took quite a bit of time figuring out what each sentence meant, using either the dictionary (resourcing), asking the interviewer for help (questioning for clarification) or simply stalling in place. Their self-evaluations were likely to be negative, as in the example presented below. The student is working on the sentence "Mi _____ es González" ("My __(last name)__ is González").

St: My parents, they're González. I don't know the word for parents.
Int: Can you think of another word?
St: My folks, I don't know.
Int: Do you have words coming into your mind or is it just blank?
St: Well, I remember where I should have learned it, but I don't remember it. I mean... El nombre (going on to the next sentence)
Int: What are you thinking?
St: Trying to figure out what nombre means.
Int: What are you thinking about it?
St: I don't know. Trying to figure out what nombre is and I don't remember. (Sp1#05)

the student generates the word "parents" as a possible answer without realizing that the blank calls for a singular word. He knows where he should have learned the word he thinks he needs, but does not remember it and subsequently moves on to the next sentence. There he encounters the word "nombre" (name) which he does not know and, without reading the rest of the sentence for a clue, he stalls in place. This type of approach was typical of the ineffective student.

The effective student, on the other hand, was generally efficient in finding an appropriate word to go in the blank.

> St: Mi blank es González. Um... nombre, I'm thinking. (writes in "nombre")
> Int: Okay.
> St: El nombre de mi blank es Susana González. Susana is at the top of that thing (the family tree in their workbook) so she must be my grandmother and that's abuela. (writes in "abuela") (Spl#03)

Thus, the greater number of strategies used by the ineffective students may be due to their more "muddled" approach to finding the correct vocabulary word. The effectives had a better grasp of family vocabulary and had less need to employ strategies to generate an answer. This finding mirrors results of the Russian study and indicates that task difficulty is an important variable in determining strategy use. If the task is too simple, strategy use is unnecessary. On the other end of the spectrum, if the task is too difficult, then use of strategies may be unhelpful or impossible.

Writing about the Family Tree. The results of the writing activity also show the ineffective students using more strategies than the effectives. The task given students was to write a short paragraph about the family tree used in the vocabulary exercise, pretending that they were a member of the

family. As Exhibit III-9 indicates, the ineffective students planned more (7.0 times in the exercise, as contrasted with the effective students' average planning of 4.6 times), monitored more (6.2 times, compared with the effectives' monitoring of 4.2), and questioned more (6.6, compared with 4.3). However, these numbers do not indicate how the students monitored or planned or questioned, and are in fact misleading as to the performance of effective and ineffective students. The ineffectives tended to compose at a much lower level, often moving word by word, as in the exampie presented at the top of Exhibit III-10. To begin with, the student has misunderstood what he is supposed to do. He believes he is supposed to write about his own family, although the interviewer has explained the task and the student workbook where he is writing contains clear instructions. He has already written three short sentences, all using the same structure of "My _____ is _____", a discourse plan he made at the start of the activity. At the point where the excerpt begins, the ineffective student is stymied because he doesn't "have much of a family" and cannot think of what to write next. He stumbles into writing about his uncle because the word "tio" occurs to him while he is trying to think of the word for "cousin." Having arrived at this general plan (line 7), he generates a sentence level plan (line 9) by producing the word "funny" to put into the second blank of his model sentence. But he cannot think of how to say funny in Spanish, so he substitutes "smart" (line 10), only to realize that he has already used this word (self-monitoring for style). He tries to think of other words he might know, but can not because "I don't know any words." This self-evaluation leads his thoughts to the wild weekend he claims he had (line 16), a personal elaboration that is irrelevant and distracting to the task.

EXHIBIT III - 10
Excerpts from Writing Think Alouds
of Ineffective and Effective Spanish 1 Students

Ineffective Student (#12): Result: Mi tio es feo.

Int: (on student's rapping of pencil on desk) What are you thinking?
St: (a) I don't have much of a family. Oh wait, no.
Int: What?
St: I don't know. (b) I don't have anything else to write about.
Int: Make something up. You're Pedro here, you can say anything you want.
St: Ah...um. (c) what's cousin again? (referring to prior exchange between himself and the interviewer) Tio? (d) Oh, I'll write about my uncle. Mi tio es... let's see...
Int: What are you thinking?
St: Nothing. I'm just thinking what to write about. (e) He's funny, he's funny. (f) Funny is... (g) He's smart, but I already wrote that.
Int: What are you thinking?
St: Nothing much. I'm just trying to think of anything else he is that I might know.
Int: Are you running through words?
St: (h) No, cos I don't know any words.
Int: Just waiting for one to pop in?
St: Yeah. (pause) (i) I had a really wild weekend.

a) Elab (personal)
b) S-eval
c) Elab (acad) Q for Clar Tr (W)
d) Plan (gen)
e) Plan (SL)
f) Tr (W)
g) Substitution S-monitor (STYLE)
h) S-eval
i) Elab (personal)

Effective Student (#01): Result: Mi tia Pilar López es muy mala.

St: (reads instructions aloud without prompting) Okay. (a) I'll start with her...aunt, Pilar Gonzalez. Right now I'm thinking, I'm looking at this picture and (b) she seems very evil, so...I'll write... (c) mi tia, my aunt, Pilar Lopez...es muy...muy...
Int: What's happening here?
St: (d) Mucho, okay, wait, I'm thinking. Okay, muy. (e) I'm trying to remember the picture and moving my mind as close as I can to it, so I can remember how to spell it out. I know it means very. Okay, so muy mala. (f) And I remember to translate this, so right now I'm just thinking this back in English. (g) My aunt Pilar Lopez is very bad, because she hasn't told us the translation...
Int: Of evil, you mean?
St: Yeah, evil.
Int: Good. Now, you hesitated a bit on muy.
St: Because I was thinking of muchacho too.
Int: Why did you discard muchacho?
St: Mucho. I mean. Cos it says "a lot" and I wanted to say "very."

a) Plan (gen)
b) Elab (creative) Plan (SL)
c) Tr (PL)
d) S-monitor Tr (W)
e) Imagery
f) Tr (SL) S-monitor
g) Substitution

d

In contrast to the ineffective student's belabored effort, the excerpt of the effective student shows a purposeful, efficient construction of a sentence. The student makes her plan (line 17-19), moving as did the ineffective from the general to the specific, but using the family tree picture to fuel her thoughts. The aunt in the picture looks evil, but the student has not yet learned to say evil, so she purposefully substitutes the word "mala" (bad). While both of these students use substitution to avoid a problem area, the effective does so in Spanish, not in English, and sticks to the semantic message she wishes to communicate. Similarly, her self-monitoring focuses on her use of Spanish (lines 23-24 and 31), while the self-monitoring done by the ineffective student relates to his English construction of the paragraph. Overall, there appears to be a difference in these students' goals; the ineffective student is most concerned with getting through the task, while the effective student is focused upon communicating a certain message.

Thus, the information that numbers provide about the way in which effective and ineffective students use learner strategies can be misleading. Number-counting does not reveal whether a strategy application is strategic, helping the student to accomplish the task at hand, or whether the student has wandered aimlessly into using the strategy, as in the case of the ineffective student who was just waiting for a word to pop into his mind so that he could complete his sentence. Therefore, although quantitative results will be presented through this report for the various student activities and levels, these will always be linked to qualitative examples of how students work with the language.

Reading and Grammar Cloze. The last activity in the Spanish 1 workbook was a reading and grammar cloze activity called "A Typical Day for Juan and his sister Rosa" (see Appendix C). Comparisons of how effective and ineffective students performed on this activity were not made because only two ineffective students managed to progress through the activities to this point. Ten effective students completed the activity, and their performance constitutes the basis for the analysis.

The reading/grammar activity consisted of a short story about Juan and emphasized vocabulary describing a typical day, such as to get up, to wash, to eat, to go to school. The students' task was to fill in the blanks with either a noun or the appropriate conjugation of the verb provided for them in parentheses. Appendix B presents a complete listing of the frequency of all strategies used by effective students to do this, but the strategies used most frequently were:

Metacognitive:	Cognitive:	
Self-monitoring (6.0)	Translation (16.2)	Deduction (4.7)
Self-evaluation (1.6)	Inferencing (7.7)	Total (42.8)
Total (8.5)	Elaboration (7.0)	

Obviously, the activity required extensive translating on the part of the students. In order to decide what noun or verb was needed in the blank, they had to recourse to their first language and see what would be needed there. But there was much evidence of other strategy use, such as in the example provided in Exhibit III-11. The student is trying to solve the sentence "A las siete y media, vamos a la _____(N) para el desayuno" ("At seven-

EXHIBIT I I I - 11

Excerpt from
an Effective Spanish 1 Student's Cloze Think Aloud,
Spring 1986

St: (a Okay, Rosa washes later than me. Um... (b six-thirty we go to the something for the something. We go to the... we go to the... (c where would they go after washing? Um. Let me think. (d Can I go on cos I might...

Int: Yeah.

St: Okay. (e At eight we something... (f of house and we go, I guess, that would be "vamos" (writes in vamos) (g and we go to school. (h So if they're going to school at 8, maybe they'd go downstairs? (i I don't know, I don't know how to say it. We go... um, (j that could be breakfast, we go downstairs for breakfast. But I don't know how to say downstairs.

Int: Where do you go to eat breakfast?

St: To the dining room. Okay, (k so cocina is kitchen, sala is dining, living room, and oh, (l cocina is kitchen, sala is dining room, oh. cocina, la sala... (m I can't remember it. (n How about if I put they go to eat in the kitchen?

a) Tr (SL)
b) Tr (SL)
c) Elab (guist)
d) Q (task)
Inference
(reads on)
e) Tr (PL)
f) Tr (PL)
g) Tr (PL)
h) Elab (BP)
Q (self)
Inference
i) S-eval (W)
j) Inference
(of desayuno)
k) Grouping (RECALL)
l) S-monitor
m) S-eval (W)
n) Substitution

(Spl#15)

thirty, we go to the _____ for breakfast"). The (N) indicates to the student that the blank calls for a noun.

Although the student's first step is to translate to English, it is not immediately apparent to her what word is needed in the blank. She briefly wonders what logically would follow (line 3, elaboration: questioning), reads on to look for a clue (inferencing), translates the next section and fills in the next blank with "vamos" (lines 6-8), then returns to the first blank with the clue she was looking for, that perhaps Juan and his sister Rosa might be going downstairs after washing (lines 8-9, elaboration: between parts). But she does not know how to say downstairs (self-evaluation: word level) and grabs onto the interviewer's suggestion that there might be another word equally appropriate for the blank. She has obviously stored the Spanish word for "dining room" in a group with other rooms and calls them forth in a search for dining room (lines 14-15, grouping: recall). When she cannot remember whether sala is living room or dining room (self-monitoring), she opts for putting cocina (kitchen) in the blank (substitution). Incidental to her solution is her correct inference that the word desayuno might mean breakfast (lines 10-11).

The approach taken by this student was typical of the method used by most effective students: translate the Spanish to English, search for an appropriate word in English, then translate back into Spanish. It is interesting to note that most of this student's translation takes place at the phrase level (i.e., "at eight we something ... of house") as opposed to word by word. While this reliance on translation may seem disturbing to foreign language educators who would discourage excessive use of this strategy, it is clear from this activity that (a) the nature of the activity promotes

translation, and (b) even the most effective students at this elementary level of Spanish study find it necessary to resort to their native language in order to understand. In addition to the translation, however, the student also applied a wide range of other strategies, some of them quite efficient, such as reading on to look for a clue (inferencing) and the substitution of cocina when the word for dining room could not be recalled. This example also serves to illustrate that the strategy of elaboration can be used in a variety of ways, such as the questioning the student does, the relating of various parts of the text to each other, and in the group of rooms she recalls. This strategy will be discussed in more detail later in this section of the report, as well as two other strategies she uses, inferencing and self-monitoring. As will be seen, these strategies prove very useful and are often applied in combination.

In relation to the research question of whether student strategy use varies depending upon the task, comparisons were made between strategies employed by effective students during this activity and those used with vocabulary and writing. Exhibit III-12 lists those strategies showing a difference in frequency of use across the three activities. As was found in the Russian study, strategy use does vary with task. Writing, for example, elicited heavy use of organizational planning, a strategy unnecessary when working with the cloze and vocabulary tasks. The cloze, on the other hand, elicited far greater translation, deduction, resourcing, and overall cognitive strategy use than either the vocabulary task or writing. As was noted above, the vocabulary task was not sufficiently difficult for the effective students. The cloze activity, however, was: the students averaged 42.8 cognitive strategy uses, as opposed to 13.6 uses with vocabulary. In conclusion, it would seem that certain tasks tend to elicit high usage of

EXHIBIT III - 12

Differences in Effective Spanish 1 Student
Strategy Use Across Activities
(Spring 1986, Think Aloud Session 1)

Learning Strategy	ACTIVITY: Cloze N	Cloze %	Vocabulary N	Vocabulary %	Writing N	Writing %
Metacognitive Strategies						
Organizational Planning	0.0	0.0	0.0	0.0	4.6	39.4
Subtotal, Planning Strategies	0.9	10.6	0.1	1.9	5.7	47.2
Total, Metacognitive	8.5	100.0	4.0	100.0	12.0	100.0
Cognitive Strategies						
Resourcing	1.1	2.6	0.5	4.0	0.1	1.0
Translation	16.2	37.9	6.5	48.0	3.4	27.4
Deduction	4.7	11.1	0.6	4.5	1.2	9.7
Substitution	0.1	0.0*	0.1	0.0*	0.9	7.1
Elaboration	7.0	16.4	3.1	22.6	5.0	39.8
Total, Cognitive	42.8	100.0	13.6	100.0	12.6	100.0
Total, All Strategies	56.8		20.6		28.9	

* Less than 1%.

Note: Numbers and percentages may vary slightly due to rounding.

Note: Social affective strategies of cooperation and self-talk are not included here; the think aloud interviews did not elicit these strategies.

certain strategies, while other tasks call for others. Strategies such as self-monitoring and self-evaluation do not appear in Exhibit III-12 because their usefulness cuts across tasks.

Summary of Spanish 1 Spring 1986 Results

The data of Spanish 1 students showed that strategies are used as the need arises. When the answer comes quickly to a student, as in the case of the effective students and the vocabulary task, little cognitive processing (or strategy use) is required. Although ineffective students consistently used more strategies than their effective peers, a qualitative examination of the data revealed that the ineffective's approach to language activities was not nearly so purposeful and efficient as the good language learner's. The ineffective student tended to rely more heavily upon the dictionary and upon asking the interviewer for help, rather than on his or her own store of Spanish. Elaborations of the ineffective student were often negative self-evaluations, as in the case of the student who, confronted with the writing task, exclaimed, "I can't write in Spanish like that!" (Sp1*07) Furthermore, ineffective students tended to take so much time solving the initial activities that they did not get to the tasks at the end of the workbook. These deficits in performance seemed largely due to lack of interest and motivation in learning the language, although there were indications that one or two of the ineffective students suffered more from other learning difficulties.

Effective students, on the other hand, tended to be interested in studying Spanish, had developed a store of the language to work with, had gained an understanding of elementary rules of grammar and syntax, and employed a variety of strategies in order to solve problems they encountered. This is

not to say that individual variation in style and ability was not apparent among the effective students; in fact, differences were as noticeable between the effective students as between the ineffectives. For example, the effective students who were older or who had studied another foreign language seemed more poised and controlled in working through the language activities than younger effectives or those who were new to studying a foreign language. The reading/grammar (cloze) example presented in Exhibit III-11 above was drawn from an effective student (Spl#15) in her junior year who had already studied five years of French. In contrast is the example presented below, drawn from a sophomore whose only prior language experience was one semester of French the previous year. She is working on the exact same phrase as the first student, "At seven-thirty we go to the _____(N)_ for breakfast."

> St: A las siete y media... that means, that's time... seven-thirty... vamos a la... what are they asking? I know they're asking for a noun but where do you get it from, are you just supposed to know it... (Spl#13)

Clearly, this latter student has not yet developed the language learning know-how of the first student, who calmly read on to search for a clue to the missing noun. That the less sophisticated language learner wondered where she was supposed to get the noun from indicates that students enrolled in beginning language courses could benefit from explicit instruction and practice in language learning strategies.

Spanish 3 Results: Spring 1986

As mentioned at the beginning of the Results section, ineffectiveness, as a term used to describe student performance, becomes relative at more advanced levels of foreign language study. Students in Spanish 3 had elected to continue their language study and all students, including those categorized as ineffective learners, knew enough Spanish to be able to work within the language. Thus, differences in the attitude, motivation, and language proficiency of effective and ineffective students at this level were not so extreme as at the beginning level. Yet, despite the fact that effective and ineffective students bore greater resemblance to each other at this level, clear differences appeared between the two groups in how they performed in the think aloud sessions. The results for listening, writing, and the reading/grammar cloze activities are discussed below.

Strategy Use: Metacognitive, Cognitive, and Social/Affective. Similar to findings with Spanish 1 and Russian students, strategy use of Spanish 3 students varied according to task. Exhibit III-13 presents the average number and percentage of metacognitive, cognitive, and social/affective strategies used by both effective and ineffective students in each of the analyzed activities. It is interesting to note that the average number of strategies students used in writing is far greater than that used for listening or the cloze. For example, an effective student used an average of 74.7 strategies while writing a paragraph, as opposed to 28.9 strategies while listening and 57.4 for cloze work. Ineffective students showed a similar pattern, with 46.7 strategies for writing, 20.0 for listening, and 37.5 for cloze. Apparently, those tasks which are productive in nature (as opposed to receptive) require students to use or at least report more strategies. The cloze task, which

EXHIBIT III - 13

Proportions of Metacognitive, Cognitive and Social/Affective Strategies
Used by Effective and Ineffective Spanish 3 Students
for the Listening, Writing, and Cloze Activities

Activity	Type of Learning Strategy	Effective (n=7) N	Effective (n=7) %	Ineffective (n=4)* N	Ineffective (n=4)* %	Total N	Total %
Listening	Metacognitive	12.0	41.5	9.3	46.5	11.0	43.0
	Cognitive	15.7	54.3	8.8	44.0	13.2	51.6
	Social/Affective	1.1	3.8	2.0	10.0	1.5	5.9
	Total	28.9	100.0	20.0	100.0	25.6	100.0
Writing	Metacognitive	38.4	51.4	19.0	40.7	32.6	49.2
	Cognitive	30.6	41.0	19.7	42.2	27.3	41.2
	Social/Affective	5.7	7.6	8.0	17.1	6.4	9.7
	Total	74.7	100.0	46.7	100.0	66.3	100.0
Reading/ Grammar Cloze	Metacognitive	19.3	33.6	9.3	24.8	15.6	31.1
	Cognitive	33.7	58.7	22.3	59.5	29.6	59.0
	Social/Affective	4.4	7.7	5.8	15.5	4.9	9.8
	Total	57.4	100.0	37.5	100.0	50.2	100.0

* The data of only 3 ineffective students were used in the analysis of writing, due to a poor writing think aloud by one ineffective student.

Selected aspects of the data presented above, organized to show percentages of strategy use across activities.

Type of Learning Strategy	Effective Listen	Effective Writing	Effective Cloze	Ineffective Listen	Ineffective Writing	Ineffective Cloze
Metacognitive	41.5%	51.4%	33.6%	46.5%	40.7%	24.8%
Cognitive	54.3	41.0	58.7	44.0	42.3	59.5
Social/Affect.	3.8	7.6	7.7	10.0	17.1	15.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: Numbers may not total to 100.0% due to rounding.

might be considered part receptive (reading) and part productive (filling in the blank), shows an average strategy use that falls between those found for listening and writing.

The small chart at the bottom of Exhibit III-13 shows selected aspects of the data and indicates that students, both effective and ineffective, changed the type of strategy they used according to the requirements of the task at hand. For example, effective students relied most heavily on metacognitive strategies (i.e., planning) during the writing activity, but shifted to predominately cognitive strategies (i.e., elaboration, deduction, and translation) for both the listening and the reading cloze activities. Both groups showed the lowest proportion of metacognitive strategy use for the cloze task. Note that the ineffectives used a consistently higher percentage of social/affective strategies across all three activities (i.e., questioning for clarification), a finding that emerged among the Spanish 1 ineffective students as well.

These latter data are broad categorizations of strategies. Although they indicate that students shift the type of strategy they use depending upon what type of task they are engaged in, the percentages do not tell which strategies students tend to use most for each task. An in-depth examination of which strategies appear to be most useful to students at this level is provided below.

Listening. The listening passage, about a Bolivian miner going to school at night, was divided into four parts (see Appendix D for the student workbook page for this activity and a script of the monologue). After each part was

played, the tape was stopped and the students were asked to say aloud the thoughts they had had while listening. All differences in frequency of strategy use reported were in favor of the effective students, as the listing below indicates (see Appendix E for a complete listing of all strategies used):

Learning Strategy	Effective Students N	%	Ineffective Students N	%
Metacognitive Strategies				
Selective Attention	3.6	29.8	1.3	13.5
Self-evaluation	1.7	14.3	0.5	5.4
Total, Metacognitive	12.0	100.0	9.3	100.0
Cognitive Strategies				
Note-taking	4.3	27.3	1.5	17.1
Elaboration	5.7	36.4	0.8	8.6
Total, Cognitive	15.7	100.0	8.8	100.0

The large differences between the number of times effective and ineffective students used the strategies of selective attention, self-evaluation, note-taking, and elaboration is as significant as the ways in which each used these strategies. Prior to the tape being played, effective students were much more likely than ineffective students to use the introduction and questions in the student workbook to generate ideas about what they might hear in the passage. Effective students offered comments such as:

> I'm thinking he's in a village, so it's gonna be a small town, and I don't think he's one of the well-to-do South Americans. I think he's probably going to be going to night school and I think of other dialogues or movies that we've seen. (Sp3#01, elaboration (academic) and inference)

> He says he's going to tell you something about himself and his country, so I'd probably be listening for something that I can relate to, in terms of what I've seen, like mountains or Ecuador or the jungles or something, like we learn about the little people who live in the mountains or in the valleys, so I'll probably be thinking about that." (Sp3#06, elaboration (academic), selective attention, inference)

> I know what I want to be looking for. Just what the questions ask, I suppose. It seems like he probably goes to night school, if he does something for a living. (Sp3#11, selective attention, elaboration, inference)

Ineffective students showed a similar tendency to make use of the questions in the workbook to prepare themselves for listening, but stopped short of making predictions about what they might hear. They made remarks such as, "I'm just trying to keep those questions and listen for clues about this" (Sp3#08, selective attention), and "I'm going to listen for certain words" (Sp3#10, selective attention). What elaborations they offered were personal in nature, such as "I was just thinking, it seems like it's simple. I hope it will be and I'll be able to understand it" (Sp3#10), and "It seems if it's plain, if it's not too hard, I'm going to understand it" (Sp3#02).

Once students actually began listening to the tape, other differences in approach were evident. For one, effectives tended to take notes, jotting down the answers to the questions as they heard them. Only one of the four ineffective students made use of this strategy. Effective students were also more likely to produce academic elaborations referring back to material learned in class, and to elaborate between the parts of the passage in order to help themselves understand, as in the following example of a girl trying to figure out what the narrator did for a living.

> First, when he said mineo, I didn't know what that means, but then he went on and he said "but his country was famous for minerals" or was very rich in minerals and then he said in the end that he was a miner. So I could associate the three words and get the meaning of the first one, which I didn't know when he first said it, because of the context of the second and third. (Sp3*01, elaboration (between parts), self-monitoring, and inference)

Effective students were also more likely to evaluate how well they were doing, although this took a variety of forms. Of his performance, one student said, "I understood almost all of that, cos a lot of it was in the film. If I didn't see the film, I wouldn't know what he was talking about" (Sp3*09). Of her strategy use, another student (Sp3*07) remarked, "I'm thinking that the way I just listened to that isn't going to work. I was immediately trying to translate and I wasn't quite catching what he was saying." Another effective had written "mineras" in his workbook and, upon finding out that the word was masculine, made the correction to "mineros" (production) (Sp3*11). In contrast, the self-evaluation of ineffective students was limited to such remarks as: "I didn't catch all of that" (Sp3*04) or "I never really listened that hard before. In class I listen, but sort of don't pay any attention" (Sp3*10).

This latter comment reveals the role that motivation and interest play in a student's decision to direct his or her attention to a listening (or other) task. The student in question, having made the decision to listen hard, was able to understand a fair amount of the passage. Ordinarily, though, he does not make the effort. Two of the other ineffectives held similar attitudes. In fact, only one ineffective reported an enthusiastic attitude towards studying Spanish. Interestingly, she is the only ineffective across all levels (Spanish 1, 3 and 5) who is female. Her performance on the listening task showed that

she was operating at a very low perceptual level, having trouble discriminating words and sounds; as a consequence, she understood almost none of what she heard.

> St: There's just one word ... I still didn't catch between his name. Started with a "p", I didn't catch.
> Int: Pueblo?
> St: Maybe it was that. It sounded like pero.
> Int: Yeah. (reading from script) "Pero en el pueblo ... "
> St: Oh, I guess he said it so fast, I thought it was one word. (Sp3*02)

One new finding to emerge from the Spanish 3 listening data relates to cognitive applications of the metacognitive strategy, selective attention. Previously conceived of as something students decide to do in advance of an activity (thus making the strategy metacognitive), the definition of selective attention has been broadened to take into account when students actually follow through on their decision and selectively attend as they planned. The example below illustrates the planning and on-line aspects of selective attention.

(Before listening, on reading the word "village" in the questions:)
Yeah, village, it's probably gonna be something ... I hope I've heard of before!

(After listening:)
He said what his name was and then he said, well, in my village, and then I thought, well, that's that word, so listen for what he's talking about. (Sp3*06)

Strategically, it is ineffective to decide in advance to listen for something in particular and then not actually do so. The effective students followed through on their plans to selectively attend much more than the ineffectives.. It may be that the action of taking notes according to the questions in the workbook helped the effective students to focus their attention and remember the pieces of information they were listening for; as one effective student put

it, as he wrote down the answers to two questions, "That time I just played it right by the question. I knew what I wanted and they were all words I knew, so... I mean, you just gave (it to) me with the question there." (Sp3#05)

One finding that was a bit surprising was that there was little quantitative difference between the effective and ineffective students' use of the strategies self-monitoring (an average of 5.4 times for each effective student and 5.3 for the ineffectives) and inferencing (2.4 as opposed to 1.8). A previous learning strategies study with limited English proficient Hispanic students learning English found that both self-monitoring and inferencing occurred more frequently among effective listeners than among their ineffective counterparts (O'Malley, Chamot, & Küpper, 1986). Here, however, it was clear that both groups were concerned with trying to understand the passage and were aware when they did not understand. Likewise, both groups tried to infer meanings of words they did not know. The effective students, though, tended to persist more and were more successful at applying these two strategies, most particularly self-monitoring, as the following two examples illustrate.

Example of Self-Monitoring:

(Both students hear the word "minas" (mines) as "niños", which means children.)

An effective student's self-monitoring (Sp3#07):
When he started talking about children, I thought he was going to start talking about his town, but he didn't. He started talking about minerals, and I said wait. I was like, what, do kids work? (also inferencing and elaboration (questioning))

An ineffective student's self-monitoring (Sp3#10):
His country is... produces a lot of minerals? and he has niños, or does he have a lot of niños? (also question for clarification)

This example illustrates how simply counting numbers of strategy uses does not capture qualitative differences in student behavior. The effective student's thoughts are analytical; she projects ahead, then questions when the new information coming in does not logically follow her expectations. The ineffective appears to receive the information more passively and expresses his uncertainty about what he has understood by asking the interviewer for verification. Both students mistake the word "minas" for "niños" and both are monitoring their comprehension, but only the effective student is reacting to each part she hears, forming impressions, and not only identifies the inconsistency in what she has heard but ponders how the information might fit after all ("What, do children work?").

Example of Inferencing:

An effective student's inferencing: (Sp3#05)
I didn't know what minas was. Cos he said there were lots of minas but... I figured it out cos it sounds like mine. And he said that's where he worked. I thought, I don't know that word and just have to wait and see if they mention it again, cos it sounded like something important. (also selective attention and transfer)

An ineffective student's inferencing: (Sp3#10)
I heard rico and minerales and - does he work in a mine? I heard miño or something like that. I heard that and thought it would be a mine. (also question for clarification and transfer)

In the inferencing example, both students decide that "mina" must mean "mine," transferring from English based on similar sound. The ineffective student, however, uses isolated words (rico, minerales) to piece the meaning of the sentence together ("does he work in a mine?"), while the effective student works towards the meaning using larger chunks of language (i.e., "he said there were lots of mines" and "he said that's where he worked"). He also makes a mental note to listen for the word "minas" again (selective attention), supposedly to verify his inference, because it seemed important.

And finally, incidental to the inferencing process is the fact that the effective student retains the correct Spanish word while the ineffective retains an incorrect approximation ("miño").

Writing. Students were asked to write a short paragraph about the picture presented in Appendix D. The picture was a very busy intersection of two streets which allowed students the latitude to choose as they saw fit from a variety of scenarios. Clear differences appeared in the way effective and ineffective students went about the writing task, as well as in the paragraphs they produced. The top of Exhibit III-14 presents a list of those strategies for which a difference in student use during writing emerged. (Appendix E presents a complete listing of all strategies used during writing.)

While both effective and ineffective students used metacognitive strategies in roughly the same proportion in writing (i.e., 28.3% of effective students' metacognitive strategy use was organizational planning, 26.3% for the ineffectives), the effective students used them more often (i.e., almost 11 organizational plans for each effective student, as compared with 5 for each ineffective). This may correspond to the fact that effective students wrote more words and sentences than the ineffectives, as is shown below.

Category	Effective	Ineffective
Average number of sentences written	7.1	3.7
Average number of words in the paragraph	56.9	37.7
Average number of words in a sentence	8.0	10.1

EXHIBIT III - 14

Strategies Showing A Difference in Usage
for Effective and Ineffective Spanish 3 Students
in Writing and Reading Cloze

Activity	Learning Strategy	Frequency of Usage			
		Effective		Ineffective	
		N	%	N	%
Writing	Metacognitive Strategies				
	Organizational Planning	10.9	28.3	5.0	26.3
	Self-monitoring	16.0	41.6	9.3	49.1
	Self-evaluation	10.0	26.0	4.0	21.1
	Total, Metacognitive	38.4	100.0	19.0	100.0
	Cognitive Strategies				
	Repetition	2.0	6.5	0.7	3.4
	Deduction/Induction	4.3	14.0	1.7	8.5
	Substitution	4.4	14.5	0.7	3.4
	Total, Cognitive	30.6	100.0	19.7	100.0
	TOTAL, ALL STRATEGIES USED IN WRITING	74.7		46.7	
Reading/Grammar Cloze	Metacognitive Strategies				
	Self-monitoring	14.1	73.3	6.3	67.6
	Self-evaluation	3.0	15.6	1.5	16.2
	Total, Metacognitive	19.3	100.0	9.3	100.0
	Cognitive Strategies				
	Translation	9.1	27.1	6.3	27.8
	Deduction/Induction	11.0	32.6	7.0	31.1
	Elaboration	8.1	24.2	4.3	18.9
	Total, Cognitive	33.7	100.0	22.5	100.0
	TOTAL, ALL STRATEGIES USED IN CLOZE	57.4		37.5	

Apparently, the effective students, more than the ineffectives, possessed the ability to write quickly about a variety of different scenes. The effectives were also more consistent as a group in how they went about planning and writing and in how much they wrote; 5 of the 7 effectives wrote paragraphs of more than 50 words. The ineffectives, on the other hand, were very different from each other, ranging from the female student (Sp3*02) who wrote three sentences averaging 17 words each to a male student (Sp3*08) who wrote four sentences averaging 6 words each. Interestingly, though, almost all the students produced a cohesive paragraph that maintained a consistent perspective (i.e., the policeman's point of view) rather than a series of sentences that had no connection between them. This would seem to indicate that the writing skills they have learned in English are being applied to writing tasks in Spanish.

What critical differences appear in the quality of their production, however, seem to be related to the effective students' greater proficiency in the language and the greater flexibility with which they approach the task. Exhibit III-15 presents brief excerpts from an effective and ineffective student's think aloud; these will be used to illustrate some key differences in how each group went about writing.

Organizational Planning. Flower and Hayes (1980) suggest that Planning is one of the most effective strategies for handling the number of constraints that the task of writing presents. "Plans allow writers to reduce "cognitive strain," that is, to reduce the number of demands being made on conscious attention" (Flower & Hayes, 1980, pp. 31-32). This premise is certainly borne out by the Spanish 3 writing data, where all students

EXHIBIT III - 15

Excerpts from Writing Think Alouds of Effective and Ineffective Spanish 3 Students

Effective Student (#03): **Result:** En realidad lo tienen.

Student begins with three sentences about Alberto, the policeman, and how he is scared that the cars will have an accident. Then...

St: Los automoviles will have, van a tener un accidente. (Writing) Um..(a) they end up doing so, I could say en realidad... um, en realidad,(b) now I'm thinking of what to call the automobiles but I'd just use a subject prounoun, which I can't... I guess, yeah, I'll use a subject pronoun.

Int: Yeah, what? You just made a decision about something.

St: Yeah. Um...what to call cars.(c) I suppose eilos, and I can just drop that, leave that out and say they do. Um, they do have one. Uh,(d) hay, hacer I don't think would be the right word, um..(e) I'm thinking of the right word to say that they have this accident, um... I guess I'll just have to repeat it. En realidad... tienen un accidente.

Int: Did you entertain certain words and throw them out?

St: (f) Yeah, and I'm going to throw this out, if I can. There's a much more natural way to say - lo tienen! (g) (crosses out "tienen un accidente" and puts "lo tienen.")

a) Plan (SL)
b) Deduction
c) S-monitor (STYLE) Revision of Plan (SL)
d) S-monitor
e) S-monitor (STYLE)
f) Elab (personal) Plan (compose)
g) S-monitor (prod)

Ineffective Student (#02): **Result:** Soy policia y me gusta mucho pero con unos modos modernos, es muy dificiles trabajar con todo violencia.

St: (a) The first thing that came into my head is that I should take something easy where I can stick to my own vocabulary. (b) I think I'm gonna be the policeman and I'm gonna describe. Um... (pause) (c) Does that have an article for that?

Int: Policia?

St: (d) Does it have an accent? (e) I'm so bad at this.

Int: Yeah. (observing student write) Why did you cross that (the word pero) out?

St: (f) Cos I'm gonna put that later. (muttering) Mucho... see...(g) I'm thinking how to say modern ways, I guess I'll say un modo moderno...

Int: (h) I see you're checking it as you go along.

St: Yeah, I guess I do that. Es... (taps on table) (i) I'm thinking "works hard", I'm thinking what I should, (j) I always think in English when I write paragraphs, I don't know if you should or not, but I do. And so... as much... (pause) trabajar..(k) do you say that?

Int: (reading what student has written) Es muy dificil trabajar?

St: (l) It's hard work. With, you know, modern stuff. Um...con...modern ways.(m) with...can..violence. (n) (looks violence up in dictionary) (o) It's almost the same.

Int: (reading what student has written) Todo de violencia.

St: (p) I guess you wouldn't have the de. (q) I usually like putting in de.

Int: You do? Why is that?

St: It looks nicer.

a) S-management
b) Plan (DISC)
c) S-monitor (prod) Q for Clar
d) Q for Clar S-monitor (prod)
e) Elab/S-eval
f) Plan (compose)
g) Tr (PL)
h) S-monitor (prod)
i) Tr (PL)
j) STRATEGY AWARENESS
k) S-monitor Q for Clar
l) Tr (PL) Summarize
m) Tr (W)
n) Resourcing Tr (W)
o) Elab/Transfer
p) S-monitor (prod)
q) Elab (personal)

showed evidence of planning aspects of what they were going to write. The effective students, as mentioned, generated more than twice as many plans as the ineffective students. This is in keeping with the fact that they also wrote nearly twice as much.

As was apparent in the Spanish 1 data, the plans that both Spanish 3 groups made showed varying degrees of specificity, ranging from the discourse plan of the ineffective student who decides to organize her paragraph around being the policeman and describing what she sees going on around her (line 14), to the general plan ("I guess I should say something about the dog", Student Sp3#01), to the sentence level plan of the effective in the excerpt ("they end up doing so", lines 1-2), to the phrase level plan used by many students.

When the "plans" are tallied by type of plan made, differences appear between effective and ineffective students, as follows:

Type of Plan	Effective	Ineffective
Discourse-level	0.7	0.3
General	3.3	1.7
Sentence-level	5.1	0.7
Phrase-level	1.6	2.0
"To Compose"	0.1	0.3
Total:	10.9	5.0

Thus, while ineffective students tended to rely more upon phrase-level planning, the effectives were planning at all levels and most at the sentence level. The category "to compose" is also drawn from Flower and Hayes (1980) and is shown in the ineffective student's remark "I'm gonna put that later"

(line 19) and in the effective's "I'm going to throw this out, if I can" (line 11). This type of plan focuses upon the writing process as opposed to the product.

Self-monitoring. Students use self-monitoring to check that their paragraphs are making sense (comprehensibility), that the words are correctly spelled (production), or that the words they are using meet with some internal standard of style. Effective students monitored more frequently than the ineffectives (an average of 16 times versus 9.3); moreover, there was a qualitative difference in the way they monitored. For example, the ineffective student, in lines 15, 17, 21, and 29, monitors for the accuracy of her production, while the effective student is more focused on the stylistics of his paragraph, not wanting to repeat the word accidente or automóviles which would violate writing "rules" about undue use of the same word. He knows there is a more natural way to say what he wants to say and struggles until he finds it (lines 11-12); this is a much more sophisticated self-monitoring than the ineffective student's wondering if a word needs an accent mark or not. Although effective students monitored their production, no ineffective student showed evidence of monitoring for style. This difference in performance may be due to the effective students' generally greater proficiency in Spanish.

Another qualitative difference in how each effectiveness group self-monitored mirrors what was found among the Russian students: auditory and visual monitoring, or whether something sounds or looks right. An example of auditory self-monitoring comes from an effective student who repeatedly made decisions by bouncing words off his internal ear.

St: Now, if I were one of the robbers, si estís, I guess this'd have to be preterite, I don't know, I think... in French it'd probably be conditional, but I don't know conditional in Spanish. So, uh, I would say est-uv-í, yeah, that's it, estuví, no, estuvé, estuvó, estuvé, si estuvé... that's it. Estuve.

Int: How did you figure out what that was?

St: I knew preterite, it's estuv- but the endings for the first person is either "i" or "e" and I just decided it was "e."

Int: How did you decide though?

St: Cos estuví sounds dumb. (Sp3*05)

a) Plan (PL)
b) Tr (PL)
c) Deduction
d) S-monitor (of the deduction)
Elab / Deduction
Elab / Transfer
e) S-eval
f) S-monitor (AUD) Repetition
g) S-monitor (AUD)
h) Decision Made
i) Deduction

As in this example, auditory self-monitoring is often linked to the effective group's greater use of repetition. By repeating various forms of the word and moving the accent mark around, the student finally arrives at the correct conjugation of estar in the preterite (estuve), although he recognizes that the tense he really needs is the conditional, something he does not know in Spanish. Of all the students, the "exceptional" effectives showed the greatest inclination to monitor using the "ear", showing that they have developed an internal idea of how Spanish sounds; this "ear" often proved to be what decided them to use one word or another ("quien, quien or que, I don't... que sounds better but quien would seen right, so I'll put que", Sp3*05).

Self-evaluation. Self-evaluation, as was seen in the Spanish 1 data, can be done at a variety of levels ranging from the word ("hacer algo por 'prevent'- no, I can't say that", #05), the phrase ("then, entonces un perro camina, no... I don't know how to say walks up to me", #06), the sentence ("en el biblioteca... el hombre que estudia, uh, quiere silencia, that's one sentence I can say", #03), for production ("now I've got to check all this stuff", #06), for strategy use ("you shouldn't always use the dictionary, cos it's so hard, which word to use", #02), and finally, evaluation of ability ("I have a lot of trouble writing in Spanish cos words don't come up into my mind very easily", #03) and performance ("so, hacer algo, that's okay", #05). It should be noted that remarks such as the ineffective student's "I'm so bad at this" (line 17) were generally not viewed as straight self-evaluations, but rather as a form of elaboration called elaboration/self-evaluation because elements of both strategies exist in the remark. Such elaborative/self-evaluative remarks were tallied as incidences of elaboration. Only when a statement seemed to be seriously meant as a self-evaluation (as opposed to a personal elaboration or expression of emotion) was it coded as self-evaluation alone.

Coding by the subcategories listed above revealed that the majority of self-evaluation took place at the word level and in reference to overall ability/performance. The effective students used self-evaluation more than the ineffectives, but this may be an artifact of how much more they wrote. In generating more sentences, they had greater opportunity to evaluate whether or not they knew words they wanted to use, as well as to examine the quality of what they were producing.

Deduction. Both effective and ineffective students made use of their knowledge of rules as they wrote, although the effectives more frequently mentioned this strategy. In the example of self-monitoring on the previous page, the several incidences of deduction illustrate that it, like other strategies, can take various forms and degrees of specificity. The student's first deduction is general: he decides that he should conjugate the verb estar (to be) in the preterite tense. Then he monitors this deduction by recognizing that in French he would use the conditional tense. While this remark is also deductive in nature, it is offered as an elaboration and so is coded elaboration/deduction, illustrating (a) that strategies are often so intertwined as to be inseparable, and (b) that coding decisions in such cases may be based upon the function of the strategy within the context of its appearance. (Another example of intertwined strategies is apparent in his reference to French, which is coded as elaboration/transfer because he is reflecting upon how he would proceed in French, not actually transferring information from French to use with Spanish (he does not know the Spanish conditional). Thus, the remark is viewed as elaborative, although it contains clear elements of transferring between languages.)

The student's second deduction is more specific; he applies the rule for conjugating estar in the preterite ("I knew preterite, it's estuv- "), but has to auditorily self-monitor to arrive at the correct ending for the root "estuv." Thus, in the brief example, the student uses two types of deduction: the first is broad (which tense?) and, once decided, leads to the second (what root?). Both of these deductions are different from the one used by the effective student in Exhibit III-15, who knows he can use a subject pronoun to avoid repeating the word automóviles (line 2-3). What seems to be apparent in

examining the ways in which effective and ineffective students use deduction is that effective students not only have a more solid grasp of rules in Spanish, but also have extensive metalinguistic awareness about other aspects of forming sentences. This latter observation may reside upon the fact that six of the seven effective students have studied another foreign language beyond the first year; none of the ineffective students could make this claim.

Substitution. Neither student excerpt in Exhibit III-15 shows use of substitution, but the strategy proved more useful to the effective students. Use of the strategy was often linked to self-evaluation, as in the following example:

> Let's see, en la biblioteca, um, I'm thinking how to say librarian, and I don't know how to say it, so I might as well just say the lady. (Sp3*09)

The ability - or flexibility - to revise the original plan to get around unknown words or difficult structures was one of the characteristics of the effective students as they wrote; ineffective students seemed more likely to ask the interviewer for the missing information, look in the dictionary, or get frustrated and give up, moving on to planning a different sentence or stopping writing completely ("I guess that's it", Sp3*08).

Thus, it can be seen that the effective students' greater use of certain strategies while writing was in part due to their flexibility and proficiency in Spanish, as well as their exposure to studying other languages. They were not as likely as the ineffective students to get bogged down in the details of accent marks, and were more likely to plan at the sentence level, monitor using their internal ear and with attention to style, evaluate their

knowledge base and substitute, if necessary. It appears as if their writing goals drove their writing, rather than the fact that they did not know a certain word or could not remember a particular conjugation or structure. It is particularly revealing that the effective students expressed far fewer feelings of inadequacy when faced with this task; instead they moved themselves decisively through the activity.

Reading and Grammar Cloze. The last activity in the Spanish 3 student workbook was a reading and grammar cloze entitled "Un Viaje a Madrid" (see Appendix D). The paragraph described Juanita's trip to Madrid to visit her cousin Clara; students were asked to read the story and fill in the blanks with the appropriate conjugation of the verb provided in parentheses. Appendix E presents a complete listing of the frequency of all strategies used by effective and ineffective students to do this. Listed at the bottom of Exhibit III-14 are the strategies for which a difference in average usage was apparent between these students groups; these are: self-monitoring, self-evaluation, total metacognitive, translation, deduction/induction, elaboration, total cognitive, and total of all strategies used in the cloze. Interestingly, these strategies are nearly the same as those found to be used most often by the Spanish 1 effective students to perform their reading/grammar cloze. Selected aspects of these strategies are discussed below.

Self-monitoring. Self-monitoring functioned in the cloze activity much as it did in other activities, in that students checked their comprehension and production, but there were some noticeable differences in how this strategy was used as well. For one, no monitoring for style was necessary (see writing results above). Further, effective students used a form of self-

monitoring called double check, a subcategory of this strategy previously undetected. In double check self-monitoring, the student has identified a problem area or uncertainty which he or she returns to at some point in the exercise, either because it is still unresolved or because he or she has found a clue to its solution. This holding of the question in the mind and returning to it is the double check. Only effective students showed this tendency. The most noteable application, occurring across almost all effective students, was the close monitoring of what tense Juanita was using as she described her trip to Madrid. Another example of the double check is provided in the box below.

Student is working on the sentence: "Nosotros (divertirse) tanto que yo no (querer) irme", or "We (enjoyed ourselves) so much that I (did not want) to leave."

I think it's gonna be I didn't want to leave. Um ... querí, pero yo no querí irme. I know that this is an irregular verb but what I'm just gonna assume is that querer is not gonna have a radical change in the past, so in a way I'm sort of guessing, and I think I'm right, that it would be querí.

(after finishing exercise, Interviewer tells him "And with querer in the past, it's quiso. Q-u-i-s is the root.") So it is a radical. (Sp3*03)

Effective students also relied upon auditory self-monitoring, as in this student who is trying to figure out the past tense of dar (to give): "I know it's i-o, but I'm not sure if it's supposed to be digo, dio doesn't sound right, decio doesn't sound right either"(Sp3*11). This bouncing sounds off the ear occurred only once among the ineffective students.

Self-evaluation. Effective students evaluated themselves twice as much as the ineffectives. The strategy took the same forms as in the writing activity; both sets of students evaluated their word knowledge ("I

don't know what abrazo is", #10), their ability to perform the task ("of course it's subjunctive and I don't know subjunctive preterite", #07), and some of the strategies they used (I'm just saying it to myself and seeing if anything pops into my head. It's not working very well", #08). Only the effective students, however, showed an inclination to evaluate after the task, wanting to know how many of the blanks they had correctly filled in and asking about some of the questions they had had during the activity. Clearly, they had invested themselves in the task and cared to know how they had done.

(Upon looking at the interviewer's script with the answers filled in):

Llevaba! Oh my gosh, I got these wrong. But couldn't they be past ten- they could be present tense. . If you took it context-wise. Oh, I don't know that tense. Okay. Querría... oh man, oh man! Tuve! Oh my gosh, that's so right! Oh man, I don't know why I'm writing on these things.

(crosses out her incorrect responses and writes in correct answers) (Sp3#06)

Elaboration. As in other activities, elaboration took many forms. Both effective and ineffective students most frequently elaborated academically, followed by elaborations between the parts of Juanita's story, but effective students elaborated in both ways much more frequently (8.1 times, as compared with the ineffective's average of 4.3).

In summary, this task seemed to stimulate more thought in the effective students than in the ineffectives. Although both groups used the same strategies in similar ways, the effectives used them more frequently and with greater versatility. How this impacts upon performance, in a qualitative way, can be seen in Exhibit III-16, which shows how one effective

EXHIBIT III - 16

Excerpts from Cloze Think Alouds of Effective and Ineffective Spanish 3 Students

Sentence being worked on: Nosotros (divertirse) tanto que yo no (querer) irme.
We (enjoyed ourselves) so much that I (didn't want) to leave.

Cloze excerpt from an Effective Student (#05):

1 St: Nosotros nos, (a) oh this doesn't matter, (b) no, it does, diver-. (c) no, this is the same in
2 present or preterite, (d) so I can't lose there, tango que yo no querer, so irme, oh
3 (e) that's leave, okay. Yo no quiere, (f) oops, quiero... quiero irme.

a) Deduction
b) S-monitor
c) S-monitor Deduction
d) Elab (personal)
e) Tr (W)
f) S-monit (prod)
g) Elab (BP) S-eval (prod)
h) S-management
i) S-management

(Later, working on another sentence that he's decided should be preterite tense)

4 St: (g) I'm thinking this should have been preterite too. (h) I'll go back and worry about that
5 later.

(At the end of the activity, he returns to this sentence, as he said he would.)

6 St: (i) I'm going to go back and change these to preterite. I didn't want to leave would be
7 quise... I believe.

Cloze Excerpt of an Ineffective Student (#10):

8 St: Nosotros... ah.
9 Int: What are you thinking?
10 St: (a) Reflexive. (underlines the "se" on divertirse) Okay, nosotros... (b) I think it would be
11 nos?
12 Int: You stopped there. What were you thinking?
13 St: (c) I was just getting the spelling, like copying it right, the i-v-e-r, I just went back to
14 make sure I was spelling it correctly. (by looking at the infinitive provided) Tanto que
15 yo... que yo no... ir. (d) Just looking at this word (irme) reminds me of how those things
16 used to look weird.
17 Int: What, the reflexive ones?
18 St: Yeah. Especially irme. Que yo no quiero (writes in word) irme.

a) Deduction Selective Attn (cog)
b) Q for Verif
c) S-monitor (prod) Resourcing
d) Elab/S-eval

(Later, working on the next sentence, which doesn't make sense to him)

19 St: (e) I don't know what this is (pointing to divertirse) but she...
20 Int: What are you thinking?
21 St: I don't know what it could be. I don't know what this is.
22 Int: Divertirse means to have fun.
23 St: (f) Tanto means...
24 Int: So much.

e) S-eval (W)
f) Q for Clar Tr (W)

and one ineffective student approached solving the same sentence. Clearly, the effective student reacts more analytically to the sentence, immediately recognizing that divertirse (to enjoy oneself) conjugates the same in the present and the preterite (although he momentarily doubts this). He fills in the two blanks in the sentence and moves on, only to discover further down the page that he should have placed querer in the preterite. The fact that he has not forgotten what has gone before indicates that, as a reader, he is not looking at each sentence as isolated from the others in the paragraph, a separate task to be solved. Rather, he is actively aware that sentences in a story are generally joined together by a consistent voice. He does not immediately correct the mistake, however, because he does not want to interrupt his concentration; he returns at the end of the activity to fix the problem. The impression that his performance leaves is that he is both an analytical and disciplined student.

The ineffective student, on the other hand, returns to this sentence because he does not understand what follows. He did not pay attention to the meaning of the sentence when he first read it but only filled in the verbs, and finds that the next sentence's logic resides upon understanding what has gone before. The care he took to spell divertimos correctly, a self-monitoring, would have been better spent in monitoring what the sentence meant.

Summary of Spanish 3 , Spring 1986 Results

The Spring 1986 think alouds of the Spanish 3 students were among the most fascinating generated during this period of data collection. As was found for beginning Spanish students and the Russian students, both effective and ineffective learners in Spanish 3 use strategies in accordance to their need

and the task at hand. Certain strategies are used more frequently in one task than in another (i.e., note-taking and selective attention for listening, and planning and substitution for writing). There is evidence that strategies such as self-monitoring, self-evaluation, deduction, and elaboration tend to be used more often by effective language learners at this level than by those who are ineffective, and also that a qualitative difference exists in how the strategies are used by these two student groups. These latter strategies appear to be useful in performing many different tasks and may take slightly different forms depending upon the task; for example, self-monitoring while writing might consist of checking a verb's conjugation by repeating it aloud to bounce it off an "internal" ear (auditory), while self-monitoring during a cloze activity might involve finding the answer to a question asked earlier in the exercise (double check).

The differences in attitude, proficiency, and performance found between the two effectiveness groups at the Spanish 1 level are not so glaring and extreme at Spanish 3. Ineffective students do seem to be familiar with and use many different strategies; the fact is that they, like their more effective peers, possess a working knowledge of Spanish. Effective Spanish 3 students, however, appear to use a wider range of strategies than the ineffectives, as well as to persist more in finding solutions to the problems they encounter.

Spanish 5 Results: Spring 1986

Data were collected on a total of six (6) Spanish 5 students during the first semester of the study. Of these, 4 were classified as effective learners and 2 as less effective. As mentioned previously, all students who continue to an advanced level of foreign language study can be considered reasonably effective language learners, and those who have reached the advanced level (Spanish 5 and 6) may differ only slightly in their degree of effectiveness.

The data of the two less effective Spanish 5 students were compared to that of two of the more effective students. The criterion used to select the two effective students (rather than all four) was completeness of data. For example, students for whom there was no data on an activity to be analyzed (i.e., because of a poor think aloud) or for whom there were no longitudinal data are not included in the comparative analysis. Results for the two activities analyzed, the writing sample and for the reading/grammar cloze, are discussed below.

Strategy Use: Metacognitive, Cognitive, and Social/Affective. Exhibit III-17 presents the average number and percentage of total strategy use for metacognitive, cognitive, and social/affective strategies. While comparisons cannot be made between the number of strategies students used to do one task versus the other (because the figures reported for the cloze activity represent tallies for only the first six sentences of the cloze, not the entire passage), differences are apparent in the type of strategy used by students for the two tasks. The chart at the bottom of Exhibit III-17 highlights this latter comparison.

EXHIBIT III - 17

Proportion of Metacognitive, Cognitive and Social/Affective Strategies
Used by Effective and Less Effective Spanish 5 Students
for the Writing, and Cloze Activities,
Spring 1986

Activity	Type of Learning Strategy	Effective (n=2) N	%	Less Effective (n=2)* N	%	Total (n=4)* N	%
Writing	Metacognitive	22.5	52.3	17.0	56.7	20.7	53.5
	Cognitive	18.0	41.9	9.0	30.0	15.0	38.8
	Social/Affective	2.5	5.8	4.0	13.3	3.0	7.8
	Total	43.0	100.0	30.0	100.0	38.7	100.0
Reading/ Grammar Cloze	Metacognitive	12.0	34.8	7.0	20.9	9.5	27.9
	Cognitive	21.5	62.3	20.5	61.2	21.0	61.8
	Social/Affective	1.0	2.9	6.0	17.9	3.5	10.3
	Total	34.5	100.0	33.5	100.0	34.0	100.0

* The data of only 1 less effective student were used in the analysis of writing.

Selected aspects of the data presented above, organized to show percentages of strategy use across activities.

Type of Learning Strategy	Effective		Ineffective	
	Writing	Cloze	Writing	Cloze
Metacognitive	52.3%	34.8%	54.8%	20.9%
Cognitive	41.9	62.3	32.3	61.2
Social/Affective	5.8	2.9	12.9	17.9

Note: Numbers may not total to 100.0% due to rounding.

As can be seen, both effective and less effective students used proportionately more metacognitive strategies for the writing task, but proportionately more cognitive strategies for the cloze task. This parallels the strategy use of Spanish 3 students. Similiarly, Spanish 5 less effective students, as with Spanish 3 ineffective students, used more social/affective strategies (e.g., questioning for clarification) than did their more effective peers.

The section below describes and provides examples of particular strategies used by Spanish 5 effective and less effective students for the writing and cloze tasks.

Writing. Students were asked to write a short paragraph about the picture presented in Appendix D (the same picture was used for Spanish 3 students). Only one of the less effective students produced a writing sample, so that comparisons of strategy use between effective and less effective students can be made only on a case study basis. Exhibit III-18 lists the strategies which were used differentially by the two groups of students for the writing task.

The less effective student used nearly the same proportion of metacognitive strategies as did the effective students (54.8%, as compared with 52.3%, respectively), but the average number of metacognitive strategies used was greater for the effective students (22.5) than for the less effective one (17.0). The most frequent types of metacognitive strategies used were: organizational planning, self-monitoring, and self-evaluation. The average number of planning and self-monitoring strategies used by all three students did not differ greatly. Effective students planned an average of 8 times and

EXHIBIT III - 18

Strategies Showing Differences in Average Usage
Between Effective and Less Effective Spanish 5 Students
During WRITING, Spring 1986

Learning Strategy	Effective (n=2) N	%	Less Effective (n=1) N	%
Metacognitive Strategies				
Self-evaluation	7.0	31.1	4.0	23.5
Other Metacognitive	15.5	68.9	13.0	76.5
Total, Metacognitive	22.5	100.0	17.0	100.0
Cognitive Strategies				
Translation	2.5	13.9	7.0	77.8
Deduction/Induction	3.5	19.4	0.0	-
Substitution	2.0	11.1	0.0	-
Elaboration	8.5	47.2	1.0	11.1
Other Cognitive	1.5	8.3	1.0	11.1
Total, Cognitive	18.0	100.0	9.0	100.0
Social/Affective Strategies*				
Total	2.5	100.0	4.0	100.0
TOTAL, ALL STRATEGIES	43.0		30.0	

* The think aloud interviews did not tend to elicit the strategies of cooperation or self-talk. The numbers reported here represent predominately the use of questioning for clarification or verification.

Note: Numbers and percentages may vary slightly due to rounding.

self-monitored an average of 7 times, while the less effective student used both strategies 6 times each.

Differences were found, though, in self-evaluation, which the effective students used an average of 7 times and the less effective only 4 times. Further, in examining the types of self-evaluation used, four distinct approaches emerged; these approaches mirror the types of self-evaluation found among the Spanish 3 students. The features associated with each (including the action taken by the student) are described below:

- Evaluation of language repertoire, at the word or phrase level. As has been described in previous sections of this report, in evaluation of this sort the student realizes that a word or phrase is not known or available. This happened to both effective and less effective students during the writing activity. What the students decided to do in the face of this obstacle, however, varied.

Possible actions students can take are to leave a blank, write the missing word in English, or find the translation in the dictionary. Examples of this are: "I can't remember what policeman is. El... el... el... I'll leave it blank" (Sp5*02) and "I know I can say hit, but I want to say break" (student looks word up in dictionary) (Sp5*02). The less effective student self-evaluated and took this type of action 4 times, and did not react in any other way. Resorting to the dictionary was used only once by an effective student.

Another action the student can take in the face of missing language is to substitute a known word or phrase for the problemmatic first choice, as in this student who is trying to think of the Spanish word for collision,

"... um, I don't know how to say it... let's see... and now I'm going to say... maybe they came from two different streets" (Sp5*02) or in another's "I don't know manhole, but I'm just going to say hole or something like that" (Sp5*03). Substitution was the strategy most frequently used by the two effective students when they found a blank in their language repertoire (6 instances, or an average of 3 per student). By evaluating what they did not know and getting around this difficulty by using familiar language, these students were able to make productive use of what they already knew in Spanish rather than abandoning the problem (by leaving a blank) or relying on translation and resourcing (by using a dictionary).

- Evaluation of ability, as in "I'm trying to figure out parte. Is parte... this always gives me problems. Is parte el or la?" (Sp5*03). There were 3 instances (or an average of 1.5) of this type of self-evaluation by effective students. This type of self-evaluation suggests a metacognitive awareness of one's ability as a learner and student.

- Evaluation of written product for accuracy, style or completeness. One effective student critiqued a phrase she was writing by saying "I'm sure it sounds terrible, even in English grammar..." (Sp5*02), while the other effective said "Now I'm thinking, why did I put unos?" and went back and corrected what she had written (Sp5*03). Self-evaluation of production, which occurs during the revision stages of composition, was applied 4 times by the effective students (or an average of 2 times per student); the less effective student did not examine his work in this way at all.

To sum up, the difference in metacognitive strategy use between effective and less effective students was mainly that effective students used self-evaluation combined with substitution to generate sentences in Spanish,

seemed to be aware of their own level of ability for writing in Spanish, and went back over their writing to revise for errors. Again, it should be remembered that the sample of students is very small.

Differences in cognitive strategy use during writing were quite apparent, with an average of 18 instances for effective students, and only 10 for the less effective student. All three students made use of translation, but where the less effective student used this stratgy for 70% of his cognitive strategies, the effective students used translation for 14% of their cognitive strategies. Examples of the way in which translation was used differentially were that the less effective student indicated that after planning what to say in English, he would then try to find translations into Spanish. As he wrote, he indicated an English word, then searched for the Spanish equivalent, such as: "... to fall - está cayendo... inside - al dentro de un... manhole - I'm sure that's not going to be in here, so I'll just put manhole" (Sp5*01). The effective students, on the other hand, indicated that they were composing directly in Spanish for the most part, but occasionally would resort to translating from English. For instance, when asked if she thinks in English first and then translates, one effective student replied, "Occasionally, when I run across a word that I can't... like, this part, en un area de construcción, I thought in English" (Sp5*03).

As was noticed among Spanish 1 and Spanish 3 groups, there were also differences in strategy use between the two effective students. One effective (Sp5*02) did not use deduction at all; she had lived in South America as a child and appeared to have greater fluency and automaticity in Spanish as a result. The other effective, who had not lived in a Spanish-speaking

country, developed her proficiency in the language through academic study; deduction represented 30% of her cognitive strategies, as in this example: "I was thinking fell was callado, but then I thought again and said, well, this is caer, an ER verb, it has to be caido" (Sp5*03).

Both effective students used elaboration about the same number of times, and this strategy represented 47% of their cognitive strategy use. Types of elaboration used included: personal ("I'm looking at the man at the bottom [of the page] and he seems to be oblivious", Sp5*03), academic ("Señora uses that word a lot [enojar, to get angry]", Sp5*02), and related to world knowledge (when asked how she goes about remembering words, "Well, I guess I just thought of movement and the word that came to my head was caminando [walking], and then I thought, well, that's... that's feet, that's not a car, and I was thinking, then I was going to say driving, but I guess a car can't drive, a driver has to drive it", Sp5*02). In contrast to the multiple ways in which effective students elaborated, the less effective student used elaboration only once.

In conclusion, for this sample of students, elaboration was the strategy that characterized both effective students, while use of translation was the major strategy used by the less effective student. One effective student used deduction a fair amount, but neither of the other two students did.

In looking at the paragraphs produced by each student, the following differences were found:

Category	Effective	Less Effective
Average number of sentences written	4	5
Average number of words in paragraph	59	50
Average number of words in sentence	14.8	10

The major difference was that the effective students tended to write longer sentences and indicated an ability to link ideas through the use of subordinate clauses. The less effective student used y (and) to link clauses, whereas the two effective students not only used y, but also used que (that, which), porque (because), cuando (when), and si (if).

Reading and Grammar Cloze. The cloze activity consisted of three paragraphs comparing the reasons why adolescents left home in the past and why they leave home today (see Appendix F). Nine blanks appeared in the passage, and in each of these, students had to write the correct form and tense of the verb indicated in parenthesis in its infinitive form. Since not all student completed the activity, only the sentences completed by all four students are analyzed. Appendix G presents a complete listing of the frequency of all strategies used by the two effective and two less effective Spanish 5 students for the first six sentences of the cloze. Exhibit III-19 lists the strategies which were most frequently used by one or both groups. These strategies are: selective attention, self-monitoring, self-evaluation, total metacognitive, translation, deduction, elaboration, and inferencing.

EXHIBIT III - 19

Average Frequency and Percent of Strategy Use
of Effective and Less Effective Spanish 5 Students
During the CLOZE, Spring 1986

Learning Strategy	Effective (n=2) N	%	Less Effective (n=2) N	%
Metacognitive Strategies				
Selective Attention	2.5	20.8	0.0	-
Self-monitoring	5.5	45.8	5.0	71.4
Self-evaluation	4.0	33.3	2.0	28.6
Total, Metacognitive	12.0	100.0	7.0	100.0
Cognitive Strategies				
Translation	4.5	20.9	9.5	46.3
Deduction/Induction	5.5	25.6	6.5	31.7
Elaboration	7.5	34.9	1.5	7.3
Inferencing	2.5	11.6	0.5	2.4
Other Cognitive	1.5	7.0	2.5	12.2
Total, Cognitive	21.5	100.0	20.5	100.0
Social/Affective Strategies				
Questioning for Clar/Verif	0.5	50.0	6.0	100.0
Self-talk	0.5	50.0	0.0	-
Total, Social/Affective	1.0	100.0	6.0	100.0
TOTAL, ALL STRATEGIES	34.5		33.5	

Note: Numbers and percentages may vary slightly due to rounding.

A comparison with results for Spanish 3 students on a similiar cloze task shows similarities and differences between effective and less effective students. For example, both Spanish 3 and 5 effective students used more self-monitoring, self-evaluation, total metacognitive, and elaboration strategies than did their less effective peers at the two course levels. However, the effective Spanish 5 students used translation and deduction less than Spanish 5 less effective learners (the opposite was noted among Spanish 3 students). Particular features of the strategies used by Spanish 5 students are discussed below.

Selective Attention. This strategy was used an average of 2.5 times by the effective students and not at all by the less effective ones. When using selective attention, students focused on particular aspects of the text necessary for comprehension. For example, "That's something you always have to watch out for as you're reading along..." and "But, um, I'm looking at the sentence and I find out it's not really super-important (a word)" (Sp5*03).

Self-monitoring. This strategy was used an average of 5.5 times by effective students and 5.0 times by less effective students. The monitoring by the effectives was mostly for comprehension ("...y además era siempre en serio...y además era siempre en serio...that still doesn't make sense to me", Sp5*02). The less effective students monitored equally for comprehension ("...I have a whole bunch of bits and pieces in my mind as to what it means, but I don't really [know] which one goes to which...", Sp5*04) and production (student reads "en el serio", then corrects self to "en serio", Sp5*01). Less effective students also monitored their production

by the sound of the verb form under scrutiny more often than did effective students ("This hacerse sounds right", Sp5*04) (auditory). The effective students used self-monitoring to double check the accuracy of prior items in the exercise ("I was looking at sueter and azules and wondering why azules was plural, and I looked back [to check what it referred to]", Sp5*02), while ineffective students did not check back.

Self-evaluation. This strategy was used twice as often by effective students as by those less effective, for an average of 4 times versus 2 times respectively. This same difference between use of self-evaluation was found among Spanish 3 students. The most frequent type of self-evaluation occurred when students evaluated their comprehension of sentences with blanks to be filled in ("I guess I did translate there, but it didn't help me, because it didn't make any more sense", Sp5*02). Evaluation of actual production also occurred more frequently among the effective students (2.5, versus 0.5 times for the ineffectives). The example below shows how an effective student evaluated her production several times in her search for the correct verb form:

Student is working on the sentence: "... y cuando [el adolescente] tenía una posición, una mujer, y a veces unos hijos, ___(volver)___ a la casa de sus padres ... "

Translation of sentence: ... and when the adolescent had a position, a wife, and sometimes some children, __(to return)__ to his parents' home ...

Student (recognizing difficulty she often encounters with verb tenses): ... I have an idea that I might be wrong, but ... there's no other answer in my head, so I'll just put down what I ... it's probably vuelve (present tense - incorrect). I don't know, vuelve - se hizo (comparing to the previous verb filled in, which is in the past tense) ... oh, I don't know.

Then student: (a) writes volvió (past tense - can be correct, although imperfect preferable), (b) crosses this out and writes in vuelve (present tense - incorrect), (c) notices tenía (imperfect) and remarks on the fact that, as tenía has an accent, it seems to go with volvió rather than vuelve; and (d) crosses out vuelve and writes in volvió again.

What this example illustrates is the effort and persistence in searching for the right answer which is a characteristic of effective students more often than of ineffective students, at this level and at beginning and intermediate levels as well.

Differences in the frequency of use of four cognitive strategies were found between effective and less effective students for the cloze task. Effective students used elaboration and inferencing more often than did less effective students, while the latter used translation and deduction more frequently than did effective students. A discussion of the ways in which these four strategies were used follows.

Translation. This strategy was used by effective students less than half as often as by those less effective (an average of 4.5 times for the effectives, and 9.5 times for ineffectives). The latter group used translation to go through each sentence of the cloze word by word or phrase by phrase, reading in Spanish and then giving the English equivalent. Effective students did this occasionally, but more often merely mentioned when they were translating in their heads ("That I had to think about. I think I translated into English", Sp5*02). The impression given in the interviews is that less effective students plodded through the exercise translating as they went,

whereas effective students resorted to translation only when they did not immediately grasp the meaning of the sentence.

Deduction was used, on the average, 5.5 times by effective students and 6.5 times by less effective students. That is, students stated the rule and then applied it to find the correct verb form, or used similarities between verb forms to help find the answer. "Esto... it's not estos, so it would be singular", Sp5*01). As previously mentioned, however, the nature of this activity tends to elicit rule application.

Elaboration. Perhaps the most striking difference between effective and less effective Spanish 5 students in working the cloze was their frequency of use of elaboration. Effective students used this strategy on the average of 7.5 times, whereas less effective students used it on an average of only 1.5 times. A further analysis reveals that only one of the less effective students used elaboration, and that all of his instances were of elaboration between parts for grammatical information.

(Explaining how he is trying to figure out the verb form):

Well, I look at the other verbs in the sentence, and it's tenía and iba, so it would be something like whatever that form is, but for hacer. (Sp5*01)

This is a highly unusual form of elaborating between parts, which has appeared in other student's transcripts as predominately a way of searching for semantic rather than syntactic information. Thus, not only did the elaborations of the less effective students take an unusual form, but they all issued from one student; the other made no elaborations.

Effective students, for their part, used a variety of elaborations, such as: personal ("I like that!", Sp5*02), academic ("I'm trying to remember the lesson she gave us on commands", Sp5*03), world knowledge ("I'm relating ... back to experiences I've had here and, like... reading about kids disappearing, you know, things in English", Sp5*03), between parts of the text ("It sounds like in the paragraph before", Sp5*02).

Inferencing. On the average, inferencing was used during the cloze activity 2.5 times by effective students and only 0.5 by less effective students, and took a variety of focuses: inferencing for vocabulary ("En el pasado [in the past] - I don't really know what that means yet - something about the past", Sp5*02), for grammatical forms (trying to identify the tense of the first verb in a sentence in order to write the missing verb in the same tense, "... actually, it's probably some kind of tense that I can't figure out, but it looks [like] present to me", Sp5*03), and for overall meaning (student indicates that the text is getting at a subtle point, adding "... something that has to do with psychology, I assume", Sp5*03).

In conclusion, although both effective and less effective students used about the same number of cognitive strategies, the particular strategies each group used most often were quite different. Individual differences between the ways in which students approached the task were also evident. For example, translation and deduction were the major strategies used by the ineffective students, but one of these used mostly translation (62.5% of cognitive strategies), and proportionately less deduction (16.7% of cognitive strategies), while the other used more deduction (52.9% of cognitive strategies)

than translation (23.5%). In comparing the cognitive strategy use of the two effective students, the difference appears not so much in the types of strategies used but rather in the total number. One student used a total of 13 cognitive strategies, while the other had a total of 30. The differences occurred in their uses of deduction and elaboration, with the latter student using both much more (deduction: 33.3% of cognitive strategies, versus the other student's 7.7%; elaboration: 40%, versus the other student's 23.1%).

Social/Affective Strategies in the Cloze Activity. As with students at lower levels of Spanish instruction, less effective Spanish 5 students used more social/affective strategies (almost all of which were questions for clarification and verification) than did more effective students (see Exhibit III-19). As with other levels, more effective students apparently had less need than the ineffectives to ask how to proceed or to seek confirmation of an answer.

C. LONGITUDINAL COMPARISONS WITH SPANISH STUDENTS: Spring 1986 - Spring 1987

In this section of the report, longitudinal comparisons will be made between how Spanish students performed in Spring 1986 and how they performed one year later, in Spring 1987. These comparisons will be used to address such questions as:

(a) How stable does student strategy use remain over time? and

(b) How does strategy use change in conjunction with changes in language proficiency, attitude or other factors?

Before beginning a discussion of how the students performed from one year to the next, though, the issue of effectiveness and how this categorization of students held up across time will be addressed. This will be followed by a brief discussion of how the longitudinal comparisons were made and some considerations involved in making them. Then, a short clarification of terminology used in this section will be provided. Finally, the results of the Spring 86-Spring 87 analysis will be presented.

Effectiveness of Students

Certain changes over time were noted in the effectiveness of students, most particularly at the lower levels of Spanish study. Interestingly, changes were most apparent among the effective students. Spanish 1 students originally designated as ineffective (a) either dropped out of Spanish and were not available for interview in Spring 1987, or (b) continued with their language study and remained ineffective. The effective Spanish 1 students, on the other hand, began to show intra-group differences in performance by the interview sessions of Spring 1987. This may be because study at this level is so basic, a student with good study habits and a positive attitude is

likely to perform well and appear effective in terms of what is expected in the classroom. But as study becomes more advanced and students are expected more and more to interact with the language and use it in a variety of ways, the nature of what is effective language learning behavior changes. Students who might have been effective in Spanish 1 may be less so in Spanish 2. This was the case with a number of effective students, particularly those who had not fully or correctly internalized the basics. Others continued to perform quite well, drawing from the base of language they had gained in order to work through the tasks given them.

Changes in effectiveness were also apparent among the Spanish 3 students. Only one ineffective student continued study in Spring 1987 and, in fact, improved her performance. Of the original eight effective students, six were available for re-interview. Of these, one (#03) had advanced so rapidly, he had jumped to Spanish 5 (his interviews will be examined fully in subsequent reports). Another was so bad at thinking aloud, she was not tortured through another think aloud session. She was, however, asked to describe briefly how Spanish study was going for her, one year later, and she replied that she was having more difficulty and that her grade had slipped. The reason, she felt, was that Spanish 4 contained less "structured" activities, such as grammar practice, and more "free form" activities where students were expected to use their Spanish more as a native speaker would, for learning, conversation and discussion. All of the remaining four effective students replied in similar ways, noting that the difference in what was expected of them in the classroom made the language class more difficult. One student (#11) remarked that because the teacher spent less time on having them practice new vocabulary or verb tenses, the new material was

not as thoroughly assimilated into working knowledge as what they had learned before.

Other factors contributed to several students' impressions of their own slipping effectiveness. Chief among these was "Senior Slump." As one student (#11) said, "Senior slump is just... I kind of read stuff and let it go." Another (#07) complained of having been moved to the back of the room to accommodate the arrival of a new student; the effects of senior slump, not being able to see as well and feeling isolated from the flow of the class resulted in this student's lowered motivation and lowered performance. Her grades, she reported, had fallen from Bs to Cs because she did not feel like trying. These remarks tend to underscore the importance of attitude in contributing to achievement.

Not all effectives, though, suffered from senior slump or other attitudinal problems. Spanish 3 student #05, who could be considered one of the "exceptional" effectives, was every bit as effective in Spring 1987 as the year before. In fact, he was so good during the Level 4 listening activity that he was asked to listen to the Level 6 passage as well. Yet he claims to be "a science math person" and is not particularly interested in studying language in college, although he supposes he might take Spanish if he has time. His approach to the various tasks did not vary depending upon his interest level; regardless of what he thought, he applied himself fully to each task, showing that the effects of negative attitude can be substantially mitigated in students who possess the ability and willingness to concentrate and perform the tasks of "students."

No Spanish 5 ineffective remained in the study in Spring 1987. The three effective students did not report finding the language work more difficult than in the past or feeling the effects of senior slump. All three planned to take Spanish in college. Thus, it would seem that whether students are appraised as effective or ineffective language learners may depend as much on a host of situational variables as on the student's own performance, strategy use, and native ability to learn a foreign language.

Longitudinal Comparisons: Some Considerations

The longitudinal comparisons, as mentioned above, will be used to examine (a) how stable student strategy use remains over time, and (b) how strategy use changes in conjunction with changes in language proficiency, attitude, or other factors. Given the amount of data available to address these questions (i.e., several activities at each level of study for each semester of study) and the number of ways in which the longitudinal comparisons can be made (i.e., group trends versus individual case studies), slices will be made into the data selectively. For example, one activity might be examined in terms of group statistics, while another might be used to pursue how students have changed (or not changed) the way in which they apply a strategy or combination of strategies. Only the longitudinal performance of effective students will be examined at this time; subsequent reports will address aspects of the longitudinal performance of the few ineffective students who remain in the study.

The think aloud interviews in Spring 1987 were coded for incidence of learning strategies in the same way that Spring 1986 interviews were coded. As has been mentioned, analysis of the protocols has not been limited to

counting how many times a student uses a particular strategy, but also includes looking at the ways in which strategies are used. In keeping with this approach, the first step in making the longitudinal comparisons was to "count numbers" in the Spring 1987 data, then compare those numbers to the earlier data to see if any large differences emerge. In order to make the comparisons "equal" in terms of students, new figures were computed for the Spring 86 data using only those students whose data was used in the Spring 87 analysis. Thus, the longitudinal figures presented in this section of the report, unless otherwise noted, are calculated on exactly the same students. (As an example, the data of seven effective Spanish 3 students were used to calculate the Spring 86 figures presented earlier in this report. Four of these effectives were interviewed again in Spring 87. To make the comparisons on as equivalent a group as possible, the Spring 86 data was re-computed using data from only those four students.)

One very important consideration in making longitudinal comparisons between semesters is the nature of the tasks themselves. The activities given the students in Spring 87 were not designed to be "comparable" to those given them in Spring 86. Both sets of materials asked the students to listen, read, and write, but that was the extent of task comparability. For example, Spanish 3 students listened to a monologue in Spring 86 and a narrative story in Spring 87. Nor was time on task an issue; students were allowed to work through the tasks more or less at their own pace, so that individual differences in approach would emerge. The interviewer might occasionally prod a student who was dallying too much in one place, or suspend one activity in favor of another to make sure that the student worked on all activities in the workbook, but generally speaking the student

was encouraged to assume his or her natural style to working in the language. Therefore, comparisons between semesters must be made with caution, recognizing that aspects to performing the task the first time might have not been comparable to performing it again, one year later.

Given this caveat, a qualitative examination of how strategy use changes over time is critical. While numbers address whether a student has increased or decreased his or her use of inferencing, for example, only qualitative analysis can reveal whether a student has changed the way in which the inferencing is done, whether it appears now in combination with elaboration and self-monitoring or whether it is a guess that goes unchecked. Therefore, as with other results presented in this report, the numbers of strategies students used in performing the various tasks will be exhibited and will be used to fuel the discussion, which will be largely qualitative in nature.

Terminology Used in This Section

Because two sets of data will be used in this section (Spring 1986 and Spring 1987), as well as three sets of student data (beginning, intermediate and advanced), the following approach will be used in referring to the various pieces of data. Rather than make constant reference to Spring 86 or 87, the semester of data collection will be noted only for emphasis or to ensure clarity. Instead, the student level will indicate what semester is being referred to. For example, intermediate level students began the study in Spanish 3 during Spring 1986. When they were sampled one year later, they were in Spanish 4 and it was Spring 1987. Therefore, reference to a Spanish 4 student would indicate that the semester being discussed is Spring 1987.

Similarly, reference to a Spanish 1 student would indicate Spring 1986, while Spanish 2 refers to Spring 1987. Spanish 5 will be used with Spring 1986, and Spanish 6 for Spring 1987. When the groups of students are being discussed, and semester is not an issue, they will be referred to as Spanish 1/2, 3/4, or 5/6.

Any variations from this approach will be noted specifically. One case, for example, is the discussion of one of the "exceptional" effectives who began the study in Spanish 3 and skipped Spanish 4 entirely, so that one year later (Spring 1987) he was in Spanish 5. Any examples drawn from this student will be made using his Spring 1986 designation (Sp3*03) and noting which semester is being referenced.

Spanish 1/2 Longitudinal Results

Two activities at this level of Spanish study were available for longitudinal comparisons: writing and cloze. The comparisons are approached in different ways, given the degree of comparability between the tasks across semesters.

Writing. The data of seven (7) effective students form the basis for Spring 86-87 comparisons of writing in Spanish. Exhibit III-20 presents the average number of times these seven students used the various learner strategies while writing a short paragraph about the pictures presented to them. The Spring 86 picture was of a family tree (see Appendix C); Spring 87's depicted a crowded hotel lobby (see Appendix H).

Longitudinal Comparison of Average Frequency and Percent of Strategy Use of Effective Beginning Level Spanish Students During WRITING ACTIVITY, Spring 1986 - Spring 1987

Learning Strategy	Spring 1986 Sp 1 Effectives* (n=7) N	%	Spring 1987 Sp 2 Effectives* (n=7) N	%
METACOGNITIVE				
Planning				
Planning	4.0	37.3	6.4	29.2
Selective Attention	0.0	0.0	0.7	3.3
Self-management	0.6	5.3	1.7	7.8
Subtotal, Planning	4.6	42.7	8.9	40.3
Monitoring				
Self-monitoring	4.1	38.7	8.0	36.4
Evaluation				
Self-evaluation	2.0	18.7	5.1	23.4
TOTAL, METACOGNITIVE	10.7	100.0	22.0	100.0
COGNITIVE STRATEGIES				
Repetition	0.3	2.5	1.0	3.6
Resourcing	0.1	1.3	1.3	4.6
Translation	3.3	29.1	9.4	33.7
Grouping	0.4	3.8	0.9	3.1
Note-taking	0.0	0.0	0.3	1.0
Deduction/Induction	1.0	8.9	2.4	8.7
Substitution	1.0	8.9	1.7	6.1
Imagery	0.7	6.3	0.9	3.1
Elaboration	3.6	31.6	7.4	26.5
Transfer	0.4	3.8	1.1	4.1
Inferencing	0.0	0.0	0.6	2.0
Summarizing	0.4	3.8	1.0	3.6
TOTAL, COGNITIVE	11.3	100.0	28.0	100.0
SOCIAL AFFECTIVE STRATEGIES**				
Question for Clar.	5.0	100.0	5.6	100.0
TOTAL, ALL STRATEGIES	27.0		55.6	

NOTE: Numbers and percentages may vary slightly due to rounding.

* Figures relate to the same 7 students, sampled in Spring 86 and again in Spring 87.

** Social affective strategies of cooperation and self-talk are not included here; the think aloud interviews did not elicit these strategies.

What is immediately apparent from the two sets of numbers is that the frequency of strategies used in Spring 87 is double that of the previous year (an average of 55.6, as compared with 27.0). Moreover, every strategy shows an increase in usage, suggesting that as the students' proficiency in the language increased, so did either their strategy repertoire or their need to use strategies to accomplish the task. Yet students did not increase the amount they wrote in Spring 87, as the chart below indicates:

Category	Spring 86	Spring 87
Average number of sentences written	3.9	3.9
Average number of words in paragraph	23.0	23.4
Average number of words in a sentence	6.0	6.1

Given that students did not change how much they wrote, how did they change how they wrote? Looking broadly at Exhibit III-20, student metacognitive strategy use shows a balanced increase from one semester to the other for the subcategories of planning, monitoring and evaluating, while the changes in cognitive strategy use appear to be largest for particular strategies (resourcing, translation, and elaboration). Looking closely, however, at the way in which each student attacked the writing task in Spring 86, as compared with their performance in Spring 87, the importance of attitude in determining how a task is completed can be seen, as well as how the effectiveness of students is open to change. For example, in Spring 86 one of the most effective students (#16) raced through the writing without apparent difficulty, producing three sentences describing the family tree. One year later and suffering from senior slump, she takes so much time to

write two sentences that the period runs out before she can even glance at the next activity, the cloze. She is aware of dallying ("I'd better start writing something") but makes no effort to correct her aimlessness. The two sentences she actually does write (and the many she thinks about writing) show she is conscious that, according to the dictates of writing style, her paragraph should not be isolated sentences describing the picture but, rather, a series of sentences that fit together to tell a story. Her lack of motivation, however, is what ultimately drives her planning and subsequent writing.

Spring 87

(after examining the picture but before writing):
I'm gonna have to start writing, I guess. . . Do I have to have this, like, structured or can I just write sentences about what the people are doing? I'd rather write sentences but do they want me to write ...something structured and all that business, which is more effort.

(after having written the first sentence):
I'm just looking for any word that stands out that I know in Spanish that I can write about. Because then I was thinking that maybe I could ... have him tell her about all the crazy things going on in the airport - and then it would be structured. (#16)

Rather than begin by planning the structure she knows her paragraph should have, she stumbles into satisfying this writing "tenet." In this way, her effectiveness as a student is not seriously impaired on the surface, but the many strategies she uses while wandering through the picture do not advance her through the writing activity in an efficient manner. Her Spring 87 performance clearly shows that the use of strategies does not necessarily result in an improved product, particularly if the student is not interested in or focused upon what he or she is producing.

One student showed a marked change in how swiftly and smoothly he wrote. He had spent his spring break in the Dominican Republic, which appeared to result in increased confidence, as is seen in the example below.

(Spring 86, having written "Mi papa tiene..."):
How do you spell trein-te, I think... (Int: Treinta?) Yeah. Treinta six, treinta six, something like that. (Int: Why 36?) Well, he doesn't look that old, but I thought it would be too young, if I put him much younger.

(Spring 87):
There are muchas personas en la pictura. I don't know if that's a word or not. (Int: What made you pick pictura?) It sounds like it could be something. (#09)

In Spring 87, this student does not ask the interviewer for information; he generates his own word (pictura), no doubt drawing from English (transfer and inference) and the way the word sounds. That he was sensitive to sound is evident in the Spring 86 example, for he changes his pronunciation of "treinta" following the interviewer's use of it, but in that semester he worked much more slowly, thinking of things to say in English first, then seeing if he knew the Spanish. One year and one trip later he is able to generate large fragments of his sentences in Spanish and claims to be thinking mostly in Spanish.

In contrast to this one student, most others reported thinking largely in English and then finding the Spanish they needed. This is very similar to the approach they used the year before. And while most students used many more strategies in Spring 87 to create their paragraphs, the results tended to be similar to the products of their previous writing: a series of sentences describing the picture but which do not tell a story and at best are loosely joined by a topic sentence such as "There are many people in the room."

What seems to account for the dramatic increase in strategy use for writing, then, is that students, having grown in proficiency, have more options about what they can say. Because they generate more ideas, they confront more decision points and have to use more strategies in order to complete their plans. An example of this is presented in Exhibit III-21, which contrasts a segment of a student's Spring 86 think aloud, where two sentences are produced, with a segment of the same student's think aloud one year later, where one sentence is produced.

Both excerpts commence as the student begins the task. Obviously, she devotes more time in Spring 87 to examining the picture and deciding what she wants to write, whereas in the previous session she jumped into the task with no preliminaries. Further, her Spring 87 plans are driven by her decision not to look words up in the dictionary; what she cannot say without resourcing, she abandons, substituting something she knows how to say or can guess. Working within what she knows requires her to be flexible in planning her sentences, but since she knows more than she did the previous spring, she can pick and choose the message she wants to convey, rather than be limited strictly to the basics. Yet, despite this evident increase in proficiency, her sentences in Spring 87 are disconnected from each other, and the resulting paragraph is no more cohesive than what she wrote in Spring 86. Apparently, her writing is still constrained by her limited vocabulary or her unwillingness or inability to produce a well-integrated story.

What remains consistent in this student's performance across semesters is her tendency to monitor as she goes along, correcting mistakes and doubting her tenses, and her use of the French she has taken (transfer). This latter

EXHIBIT III - 21

Excerpts of One Effective Student's Writing in Spring 86 and Spring 87

Spring 86: Sentence 1 & 2 (St#15)

Result: Mis padres son Clara González y Carlos González. Mi prima Teresa esta bonita.

Sentence 1

St: My parents...mi padre... oh, are.... oh, this is what I hate, because I can never remember whether to use estar or, uh, ser. So I'll just use ser, I guess.

Int: Why do you pick ser?

St: Because that's for things that are permanent. Okay, wait. My parents are Clara Gonzalez and Carlos Gonzalez. Okay... um... I already did all the... can I do ones that they had on the other page?

Int: No.

St: Um, okay. (writing) My... cousin...Teresa...is...(writes es and pauses)

Sentence 2

Int: What are you thinking?

St: That that's for tú and not for ella, and, if I add a "t", that's like French... Sometimes I get my French and Spanish confused. But, um, let's see, it goes "soy, es..." I guess I'll put "t" cos I know that's how you say it in French. I'll sometimes do that when I'm not sure of how to do it in Spanish, I'll just write it in French. is...um, pretty. (writes bonita) Maybe... oh that's... is that it? Wait. (corrects "est" to read "esta")

Int: Está instead of est?

St: Oh well, I can't remember that point too well.

1 a) Tr (PL)
b) S-monitor (prod)
c) Elab/S-eval
S-monitor
d) Deduction
e) Summarization (in English)
2a) Q (task)
b) Tr (PL)
c) S-monitor
Deduction
d) Transfer (F-S)
e) Elab/S-eval
f) Deduction
g) Transfer (F-S)
DM
h) Tr (W)
i) S-monit (prod)
Q for Clar
j) S-eval

Spring 1987: Sentence 1

Result: El hombre llama su esposa al aeroport.

St: (beginning) First I'm thinking what this is and where they are. I'm trying to think of the activity that I know the most about, so I can write about it, so I don't have to look words up cos it's a pain. There is this guy on the telephone, and I'm looking at the dog. I was thinking if I know how to say dog and I do. But I'm trying to pick the thing that's the easiest to write about. I guess I don't want to do the guy with the suitcase because I don't know suitcase or fall down. But then I don't know if I know how to say, like, runs or stuff like that. It's a pain, cos you're only at the lower level, you don't know any words to say. I think I'll do the guy on the telephone though. El hombre llama...

Int: What are you thinking?

St: I'm trying to think if I should say calls his wife... hm. un espouse- esposa, I use that cos it was in our Unit 4. Oh wait, his wife, not a wife. (erases un, corrects to su) Calls his wife... I'm thinking if I should say to tell her... To tell, decir, but that's a pain because I don't know how to do that, the indirect, the direct pronoun's a pain, I don't really know how to do that with infinitives. I'll make it in the airport. I don't know how to say "at the airport" in Spanish. Something like that. (writes l'aeroport)

Int: Interesting construction. Looks like French.

St: Oops. It is. I do it all the time. I get them confused all the time. (corrects to aeroport)

a) Adv Organizer
Elab (questioning)
b) Selective Attn
Plan (compose)
S-management
c) FD1, FD2
d) S-eval (W)
e) S-management
f) DM Plan (gen)
S-eval
g) S-eval
h) Elab/S-eval
STARTS WRT
i) DM Plan (gen)
j) Plan (PL)
k) S-monit (prod)
l) Elab (acad)
m) Tr (PL)
S-monitor
n) Summarizing
o) Plan (PL)
p) Tr (W)
q) Elab (personal)
S-eval
t) S-eval (prod)
r) Substitution

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strategy is not particularly helpful to her, although it permits her to find an approximate of the word she needs and thus move along in her writing. Using "l'aeroport", however, in Spring 87 was not a deliberate transfer; upon questioning, she admits that when she wrote the word, she was unaware that she was writing French.

All students showed a similar consistency in using certain strategies. The student in the above example monitored on line, not after the fact, and recoursed to her French; another student (*01) relied upon imagery and auditory self-monitoring in both semesters to recall information; two others (*10 and *13) planned only at the sentence level, then translated, often moving word by word. These findings support the emerging awareness that students vary greatly from each other in what strategies they use and how they use them. While most students make use of most of the strategies in the course of these think alouds and while strategies such as elaboration, self-monitoring, and deduction could be considered core strategies in each student's repertoire, certain of the strategies are used as a matter of personal style and choice and reflect that student's individual approach. The use of these strategies seems relatively stable across time.

Another question to be addressed concerns the core strategies students use while writing: did the manner in which these students applied planning, self-monitoring, translation, and elaboration undergo a change as their proficiency increased? These strategies are examined closely in the next pages.

Planning. Spring 87 writing think alouds saw these seven effective students making more plans about what they were going to write than in the previous year (an average of 6.4, as compared with 4.0, respectively). As has been mentioned, this is likely due to increases in their proficiency which allow them to consider a wider range of sentences to write. But planning can be at the discourse, sentence or phrase level, be directed at the process of writing, not the product (planning to compose), be general and move later to the specific, or involve taking a broad look at the overall organization of the task at hand (formerly the category of advance organizer). Comparing the types of plans that students made in Spring 86 with those of Spring 87 indicates that a small shift is taking place in the size of the language chunk students are focusing upon in their plans:

Type of Plan	Raw Count Spring 86	Raw Count Spring 87
Discourse	2	2
General	9	12
Sentence-level	13	18
Phrase-level	1	7
to Compose	1	2
Other	2	4
Raw Total, Planning	28	45
Average (n=7)	4.0	6.4

While students are still focusing predominately upon planning at the sentence level, they are beginning to plan also at the phrase level. This can be seen in the Spring 87 excerpt in Exhibit III-21 when the student in question plans the first part of her sentence (I'm trying to think if I should say calls his wife"), writes this fragment and corrects it, before moving on to planning the second half ("I'm thinking if I should say to tell her"), only to have to substitute when this plan presents her with difficulties ("I don't know how to do that" so "I'll make it in the airport"). Planning at the phrase level is not an

unusual approach to writing even when writing in the native language. By "partitioning the problem," the writer is able to devote attention to one aspect of the problem at a time and, thus, is able to handle the many constraints of the writing process (Flower and Hayes, 1980). This appears to be what the student has done. Such a shift in focus indicates that students are perhaps beginning to be able to approach writing in Spanish with some of the same strategies they use when writing in English, and that the increases in their proficiency allow them the confidence to not have to plan the entire sentence and check their Spanish vocabulary before putting pen to paper.

Self-monitoring. Like planning, self-monitoring can assume a variety of forms. Comparing the way in which students monitored what they were writing in Spring 86 with their monitoring one year later indicates that students not only increased their use of this strategy over time, but also changed the focus of their monitoring.

Type of Self-Monitor	Raw Count Spring 86	Raw Count Spring 87
Comprehensibility	13	37
Double Check	0	3
Production	14	8
Style	1	0
Auditory/Visual	1	8
Raw Total, Self-monitor	29	56
Average (n=7)	4.1	8.0

In the year between data collection points, students appear to have become more concerned with how much sense their writing is making (monitoring for comprehensibility) and somewhat less concerned with whether the words are spelled correctly (monitoring for production).

(Spring 86):
Esposo de Susana González. (laughs as she corrects spelling of González) I feel retarded. (Sp1*03)

(Spring 87):
El hombre se llama, I mean... I'm trying to remember how to say "to speak." I'm thinking of name. Because I know...me llamo, I know llamo, but it doesn't seem like it's going to be right for speaking. (Sp2*03)

This shift in concern is most likely a function of knowing more Spanish rather than of developing careless habits. In Spring 87, in addition to having to attend to spelling and accents, students now know enough of the language to be aware of nuances of meaning for some words, as in the student's wondering whether "llamar" is appropriately used when referring to "speaking."

Students are also more inclined in Spring 87 to make use of their "ear" or "eye" to make decisions (auditory/visual self-monitoring), which suggests that they are developing a sense of how Spanish sounds and/or looks, as in the following example drawn from a Spring 87 think aloud:

St: I was looking at this guy who fell. And ... I was thinking to hit, but that's like ... when you're saying someone hits, like a car-crash, what's the word for that? Chocat- ... chocato or something like that. C-h-o-c ... I think it's "t", I can't remember. I'll just say the guy falls. And I was thinking in the book, in Lesson 3, we were talking about what people do, **casarse** ... c- ...
Int: **Casarse.**
St: ... **c-a-s-e-r** ... **Casars-** (sounding it out under breath)
Int: C-a- ... you're writing it at the bottom of the page. Why?
St: **Because I was looking in the book. I was trying to remember how it looks when it's written down.**
Int: So you came up with it. Ahh. Now you write caerse.
St: Yeah, that's it. To fall. (Sp2*01)

This student appears to have grouped the "c" words together in her mind and has to decide whether "to fall" is chocar, casarse, or caerse. In searching for the word she wants (caerse), she uses both auditory and visual self-monitoring (as well as academic elaboration and note-taking), and is ultimately successful.

Elaboration. Students used roughly double the number of elaborations in the Spring 87 writing activity as they had the year before (7.4 in Spring 87, as opposed to 3.6 in Spring 86), with the elaborations being of the following types:

Type Elaboration	Raw Count Spring 86	Raw Count Spring 87
Personal	0	12
Academic	8	14
World	1	1
Between Parts	1	4
Creative	12	13
with Self-evaluation	3	5
Other	0	3
Raw Total, Elaborations	25	52
Average (n=7)	3.6	7.4

Obviously, the most dramatic change is that students are offering more personal elaborations in the Spring of 87. These elaborations also tend to be negative in tone, such as "that's a pain because I don't know how to do that" (#15) and "I should know what dog is called but I can't remember. I feel dumb now cos I use it all the time" (#03) and the voice of alarm in discovering a problem, "Uh-oh" (#13). This finding may be an artifact of the interview situation itself; in Spring 87 the interviewer is now familiar to them, and they may feel more comfortable with expressing their affective reaction to what is happening at the moment. It is interesting to note that, while students increased their use of most other types of elaboration

(academic, between parts, self-evaluative, and other), the number of creative and world elaborations stays virtually the same. Students barely make reference in either semester to knowledge they have gained from the world, and seem to rely most heavily and consistently upon their own creativity.

(Spring 86, examining the picture of the family tree):
Pedro es... what about Pedro? Pedro is ugly! No. No, no, Sergio is the definitely the one that's the loser! Okay!

(Spring 87, examining the picture of the hotel lobby):
So... I guess I'll write on this little guy. Señor Martinez. Okay, that's him. (Writes this invented name next to the figure of the man on the phone) (#13)

Thus, it would appear as if small changes did take place in the way that students at this beginning level of Spanish study went about writing their paragraphs in Spring 87, as contrasted with the year before. Although they are still planning what they want to say predominately at the sentence level, there are signs that plans are also being made at the phrase level, which approximates more how writing is done in the native language. Further, they devote more attention in Spring 87 to monitoring the sense of what they are saying than the superficial aspects of spelling or accent marks, and are beginning to develop and use their "ear" and "eye" for making decisions. Although these changes are small, they would seem to indicate that increases in proficiency subtly shift the way in which certain strategies are used.

Reading and Grammar Cloze. The reading/grammar cloze was the last activity in both semesters' think aloud sessions, and not all Spanish 1/2 students were able to complete it. Thus, the number of students available for Spring 86-87 comparisons is five (#04, #09, #13, #15, and #17).

Spring 86 cloze dealt with Juan's typical day, while Spring 87 cloze was entitled "Teresa Pimentel, Médica (Teresa Pimentel, doctor). Quantitative comparisons of how many and which strategies students used to read both cloze passages are not appropriate, because the two stories and the tasks presented to the students with each are not comparable. For example, the Spring 86 cloze contained nine blanks (4 nouns and 5 verbs), and the Spring 87 cloze contained nineteen (5 nouns, 2 verbs, 12 other forms of speech). Therefore, one sentence in each cloze will be examined to see how students went about reading and understanding it, then filling in the blank. Each sentence contains words or phrases that the students were not expected to know; the Spring 87 sentence contains two blanks and is longer than the Spring 86 sentence being examined. The sentences are:

Spring 86:
A las tres de la tarde regresamos juntos a la __(casa)__.
(At three in the afternoon we go back together to the __(house)__.

Spring 87:
Pasa mucho tiempo __(con)__ **sus pacientes, explicándoles sus problemas médicos y contestando** __(sus)__ **preguntas.**
(She spends a lot of time __(with)__ her patients, explaining their problems to them and answering their questions.)

In Spring 86, four of the five students correctly filled in the blank with "casa" (the fifth student skipped it). In Spring 87 all five students correctly filled in "con," some quite automatically, and three filled in the next blank with an acceptable "las" (the), although "sus" (their) is a more correct response. The strategies these students used most frequently while working with each sentence were, in order:

Spring 86	Spring 87
Translation (10)	Translation ---- (21)
Inferencing (8)	Self-monitor --- (21)
Questions for Clar/Verif (7)	Inferencing (9)

Self-monitoring (5)	Elaboration (8)
Transfer ----- (4)	Questions for Clar/Verif (7)
Elaboration -- (4)	Transfer (6)
Resourcing --- (4)	Deduction (4)

This rank ordering indicates that students used the same core of strategies to solve the two sentences, although the relative weight they gave to each strategy shifted a bit (i.e., self-monitoring became more frequent in the Spring 87 task). Closer examination of the strategies by their subcategories (e.g., academic versus world elaboration) showed little difference in use between semesters, however, nor was there any detectable shift in strategy combinations. In both semesters, for example, students tended to use inferencing with transfer to guess at meanings of words ("... explicándoles, explaining? EXP, E-x-p-l-...", Sp2*13), and self-monitoring with deduction ("Oh now I get it, this is the present progressive, -ANDO...", Sp2*15). If any change can be seen, it is with one individual in particular, not the group as a whole, and appears to relate back to the issue of emerging effectiveness raised earlier in this section.

The student in question (*17) used nearly the same number of unique strategies in solving the Spring 87 sentence (9 different strategies, as opposed to 8 for the Spring 86 sentence) but increased the variety of ways in which she used the strategies. For example, in the first think aloud session she monitored once, for comprehension; in the Spring 87 session, she monitored for comprehension and also for production and her own strategy use. Excerpts from each semester's think aloud are provided in Exhibit III-22 as examples of this student's approach to figuring out what she does not know.

EXHIBIT III - 22

Excerpts from One "Exceptional" Effective Student's Cloze Think Aloud in Spring 86 and Spring 87

Spring 86 (A las tres de la tarde, regresamos juntos a la ___(casa)___.)

St: A las tres de la tarde regresamos. (a) I don't know that word (laughs). juntos a la. okay. (b) at three of the tarde. oh, buenas tardes means afternoon. so that's gonna be at three in the afternoon. (c) I don't know that word, better look it up.

Int: (observing) Regresamos.

St: Well, I don't have it (in the dictionary). (d) but return. I think it means the verb return.

Int: Why do you think that?

St: Because (regression is regression, regresivo is regressive,) etc., etc. (e) So at three o'clock we return juntos a la... (f) I'll look up juntos. (Looks it up in dictionary) Oh, together. We return to. (g) I guess they started out (unintelligible) casa. I suppose, a la casa. (Fills in casa)

a) S-eval (W)
b) Tr (PL) Transfer (S-S)
c) Resourcing Tr (W)
d) Inference Transfer (S-S)
e) Summarizing
f) Resourcing Tr (W)
g) Elab (BP) S-monitor (C)

Spring 87 (Pasa mucho tiempo ___(con)___ sus pacientes, explicándoles sus problemas médicos y contestando ___(sus)___ preguntas.

St: (a) Pasa. I think that is spend, because I just remembered pasar vacaciones. (b) She spends much time. I was gonna put con (writes this in). con sus pacientes, explicándoles sus problemas (c) médicas - médicos - y contestando -- (d) questions. (e) Spends time with her patients explaining medical problems and maybe answering questions. (f) I'm not really sure though, cos this contestando, I've never seen that before with the ending like that, -ándoles, so I don't know if that's a verb, but I'm just guessing that it is something that I just haven't come across yet. (g) because it makes sense.

Int: How did you figure out explicándoles? You just said you'd never seen that kind of an ending before.

St: (h) I just looked at the beginning of that, explaining. I was going to look it up. (i) ((Leafs through dictionary) (j) I'm not going to find that word there. I can tell. I mean, as it is. (pause) (k) Explicar is to explain and I'll just guess that that meaning is parallel to -ing ending in English. (l) And this is too, contestando. (m) It's just that they are both different, and I would expect them to have the same ending, that's why it's kind of strange. (n) And answering... I think I'm just going to put "any questions." (o) Contestando... I don't know what contestar means, and that would help. ((p) Takes up dictionary) Answer, yeah. I had figured that out because of questions. (q) Any, I don't know how to say "any." I'll just say las, because I can't remember and I think that is correct, I mean, grammatically.) (writes "las" in second blank)

a) Tr (W) Transfer (S-S)
b) Tr (PL)
c) S-monit (prod)
d) Tr (W)
e) Tr (PL) Inference
f) S-monitor Deduction
g) S-monitor
h) Inference Transfer (E-S)
i) Resourcing Tr (W)
j) S-monitor (of STRATEGY)
k) Inference Transfer (E-S)
l) Inference Transfer (E-S)
m) Elab (BP) S-monitor
n) Tr (PL)
o) S-eval (W)
p) Resourcing Tr (W) Elab (BP) S-eval
q) S-eval (W) Substitution S-monitor Deduction

(*17)

In both semesters' think alouds, the student relies upon using the dictionary (resourcing and translation) and transferring from English and Spanish to infer meanings of unknown words. Clearly looking words up is a habit she has; she is also very efficient in doing so, finding the word quickly, then jumping back to reading. What seems to distinguish her performance from the others, in addition to the thoroughness she shows, is her flexibility in calling up what she knows and using it and her metalinguistic awareness. She is the only one of the five effectives who figured out the meaning of "tres de la tarde" (Spring 86) by transferring from "buenas tardes" (good afternoon). The others thought of being late (another meaning of tarde) and had to work their way around to the proper meaning. In Spring 87, she confronts "explicándoloes" and "contestando" by analyzing what the "-ando" might mean, but has misgivings about her analysis (self-monitoring) because of expectations she formed ("it's just that they are both different and I would expect them to have the same ending"). But the sense of the sentence, within the context of the paragraph, is what ultimately guides her inferencing ("I'm just guessing that it is something that I just haven't come across yet, because it makes sense"). She uses the dictionary, unnecessarily, to confirm her assumptions.

In this case, effectiveness seems to be determined by equal parts intuition, cleverness, and persistence. The student is not the only one to generate the correct answers to these cloze sentences, but her mind seems to be the one most versatile in reviewing incoming information and fitting it in with what she already knows.

In summary, then, the reading and grammar cloze did not reveal much change in strategy use over time. All students used basically the same strategies to arrive at their answers, and the answers were, for the most part, correct. As with the writing activity, these data tend to indicate that certain strategies go with certain tasks, and that students have their own styles that may influence whether they use a particular strategy or not (i.e., resourcing). Degrees of effectiveness, though, can be seen in the students in the amount of effort they invest in the task, in how efficiently they arrive at their solutions and, ultimately, in how complete their understanding of the reading passage is.

Spanish 3/4 Longitudinal Results

Three activities are available at this level of Spanish study for longitudinal comparisons: listening, writing, and cloze. As was mentioned earlier in this section, the data of four effective students form the basis of Spring 86-87 comparisons. Of the three other students deemed effective in the original Spanish 3 sample, one graduated (#06), one dropped Spanish study (#09), and one skipped to Spanish 5 (#03).

Listening. Exhibit III-23 presents the average number of times the four effective students used the various learner strategies while listening during the think aloud sessions of Spring 86 and 87. Spring 86 listening consisted of a monologue about a Bolivian miner (see Appendix D), while Spring 87 presented a narrative story about an old man who rides the streetcar with a pipe in his mouth (see Appendix H). The latter passage was longer than the former; it also contained six pauses for the student to think aloud, while the miner's monologue only contained four. Therefore, it might be expected that

Average Frequency and Percent of Strategy Use of Effective Spanish 3/4 Students During LISTENING ACTIVITY, Spring 1986 - Spring 1987

Learning Strategy	Spring 1986 Sp 3 Effectives* (n=4) N	%	Spring 1987 Sp 4 Effectives* (n=4) N	%
METACOGNITIVE				
Planning				
Planning	0.3	2.4	0.3	1.7
Directed Attention	0.8	7.1	0.8	5.2
Selective Attention	4.3	40.5	1.3	8.6
Self-management	0.5	4.8	0.8	5.2
Subtotal, Planning	5.8	54.8	3.0	20.7
Monitoring				
Self-monitoring	4.0	38.1	9.3	63.8
Evaluation				
Self-evaluation	0.8	7.1	3.0	20.7
TOTAL, METACOGNITIVE	10.5	100.0	14.5	100.0
COGNITIVE STRATEGIES				
Repetition	0.5	3.4	0.8	3.0
Translation	0.5	3.4	2.5	9.9
Grouping	0.0	0.0	0.3	0.1
Note-taking	5.3	36.2	0.0	0.0
Deduction/Induction	0.0	0.0	1.0	4.0
Imagery	1.0	6.9	1.0	4.0
Auditory Representation	0.3	1.7	0.0	0.0
Elaboration	3.5	24.1	8.3	32.7
Transfer	0.5	3.4	3.3	12.9
Inferencing	2.5	17.2	5.0	19.8
Summarizing	0.5	3.4	3.3	12.9
TOTAL, COGNITIVE	14.5	100.0	25.3	100.0
SOCIAL AFFECTIVE STRATEGIES**				
Question for Clar.	1.0	100.0	2.8	100.0
TOTAL, ALL STRATEGIES	26.0		42.5	

NOTE: Numbers and percentages may vary slightly due to rounding.

* Figures relate to the same 4 students, sampled in Spring 86 and again in Spring 87.

** Social affective strategies of cooperation and self-talk are not included here; the think aloud interviews did not elicit these strategies.

students would report using more strategies for listening to the story of the old man. As Exhibit III-23 shows, this is indeed the case (an average total of 42.5 strategies in Spring 87, compared with 26.0 the year before).

However, the pattern of strategy use is different. In terms of meta-cognitive strategy use, students planned more and monitored and evaluated less in Spring 86 than in the following year. Several factors may be behind this changed performance. For one, the design of the workbook was purposefully different. In Spring 86, the page introducing the listening activity contained instructions, a brief statement about the listening topic, and a list of four questions. The introductory page in the following year's workbook presented instructions, a statement of the topic, and the sentence "You will asked to answer the questions on the following page." Of interest here was whether students would take the initiative to look at the questions before listening, if questions were not directly in front of them. Unfortunately, none did. The effect, then, of listing questions in the clear sight of the students is to increase the likelihood of them using the questions before listening to hypothesize about what they might hear and to plan to listen for specific words, phrases, or ideas (selective attention). In the absence of the questions, students were able to plan less before listening and, by default, had to monitor more while listening. It may also be that the four students performed this way in Spring 87 because they felt more comfortable with listening to Spanish one year later and perceived less need to plan ahead for the activity.

The four effective students reported using more cognitive strategies in the Spring 87 listening task, most particularly: elaboration, transfer, and

summarizing. While these increases may be due in part to the greater length of the later passage, they may also represent a subtle shift in listening approach. For example, the use of elaboration, when examined by sub-categories, looks as follows:

Type of Elaboration	Raw Count Spring 1986	Raw Count Spring 1987
Personal	2	11
Academic	4	8
World	0	4
Between Parts	5	4
with Self-evaluation	1	4
Other	2	2
Raw Total, Elaborations	14	33
Average (n=4)	3.5	8.3

In Spring 87 listening, students offered more personal elaborations, finding the story "kinda silly" (#07), or expressing surprise at how it proceeded (#05), curiosity about what a particular word might mean (#11), or judgment about the story's sense ("that's a better ending", #01). Being familiar with the interviewer and the interview situation may have contributed to this greater offering of personal impressions in the Spring 87 think alouds. Further, the Spring 87 passage was a story told with dramatic emphasis, while the monologue of the earlier semester was dry and serious; this difference in tone may be in part responsible for the more personal reaction of the students.

In Spring 87, the four effectives also reported elaborating more to their academic and world knowledge while listening, and appeared to analyze the narrative both for its story grammar and for its specific language, a type of awareness not evident in the prior think alouds. "It's so wordy," says one student (#07); she also notes that the main character "doesn't have a name,

they just call him el viejo (the old man)." She finds the story "like one of those 'see Jane run' kinda things. Jane said, he asked..." and says that the back-and-forth repetitive dialogue between the old man and the conductor makes the story easier to comprehend. The main difficulty the students seemed to have had in understanding was keeping track of who was speaking, since both parts are read by the narrator ("it's the sort of thing that gets screwed up in English, so sometimes you don't remember the order of conversation", #05). Again, though, the fact that the passage was a story may be responsible for the students referring to such world-based knowledge; the miner's monologue may not be the type of passage that activates a listener's "story" expectations and schema.

The Spring 87 increase in transfer is mainly due to one student's (#11) heavy use of this strategy. Interestingly, this student is one of the effectives who reported having more difficulty in Spanish 4. He appears to understand the passage fairly well, but has to work harder at it than in his previous think aloud, often analyzing single words, something he had not done in the Spring 86 session. He is the only one of the four who spent a significant amount of time contemplating the list of vocabulary words before listening to the passage, transferring from English and Spanish alike to glean some sense of what the words might mean.

(Before listening) Detiene. Detain? Kind of looks like detain. To hold, tener.

(After listening) I came to detiene and even though I just said what I thought it meant, it kind of threw me, cos I hadn't heard it before, and then I kind of lost a little bit in that section, but then I got back on track. I think I did try and think about what it meant, and then I said, oh well, I just said what it meant. I just said, forget it and ... try and get back with it so I don't lose the rest.

On one hand, this student is processing from the bottom up, analyzing at a very low level in order to comprehend. On the other hand, he is also using whatever linguistic knowledge he has available to help himself understand, as in "something retirar. Tirar, to throw, retirar, maybe go away or recede or something along that line. "Re-" - to do it again, or to return, to go back. He's gonna go away...". First, he refers to his Spanish knowledge (tirar=throw) to infer the meaning of retirar, then transfers from Latin regarding the prefix "re-" and arrives at more or less the meaning of the verb. So it would seem that he has increased his use of strategies to offset his newfound difficulties with the language.

The greater use of summarization in Spring 87 is linked to the increases in self-monitoring, since the two strategies are often used in conjunction with each other. "It just kept coming through my mind that he's insisting that he's not smoking" is an example of the strategy appearing alone (#11), but "I'm sure that was a joke. Just because of the way she was saying it. And I can't quite get it" shows the same student trying to make sense of the story (self-monitoring) and summarizing the piece he managed to understand. Also, the students appeared to have greater difficulty understanding the story of the old man, perhaps causing them to resort to summarizing as a means of defining what made sense and what had escaped them. This would seem to reinforce the finding that students tend to use strategies only when there is need.

In contrast to the four students' increased use of certain strategies, there was a drastic fall-off in note-taking. In the first data collection session

students were meticulous about jotting down the answers to the questions as they heard them. Not one student took notes during the story of the old man. It is difficult to tell if this is because the questions were not listed before them or because their "stake" in the task was not sufficient to motivate them to note-taking.

In conclusion, then, these four students appear to have altered certain aspects of their strategy use for listening in the year between data collections. Metacognitively, they came to plan less and monitor more; the pattern of their cognitive strategy use is somewhat different as well. Elaboration and summarization appear more frequently in the Spring 87 think alouds, note-taking not at all. These data make the link between note-taking and selective attention clear, as well as the desirability of putting questions directly in front of the students to spur use of this strategy combination. In many regards the students give the impression of having become a bit more lazy in Spanish 4, preferring to ride along and take what comes rather than to be rigorous and methodical. Senior slump and familiarity with the interview situation may play parts in their more relaxed attitude, but the shift in strategy use may also be linked to the differing nature of the listening passage and, at times, the difficulties two students in particular (#07 and #11) reported having in Spanish 4 class. Overall, though, it can be seen that the students retained use of several core strategies for listening in Spring 87 that they had used previously, showing that certain strategies tend to go with this task. The most salient of these are monitoring, elaboration, and inferencing.

Writing. Exhibit III-24 presents the average number of times the four effective students used the various learner strategies while writing during the think aloud sessions of Spring 86 and 87. In both sessions, students were asked to write about a picture in their workbook and were permitted great latitude in determining what they wanted to say and in setting their own pace for saying it. Spring 86's picture was a busy intersection (see Appendix D); Spring 87's was of a crowded hotel lobby (see Appendix H).

Students report using exactly the same number of strategies in both semesters (61.3). However, the breakdown of which strategies were used in which semester (and how) is different: for example, metacognitive strategy use went down slightly in Spring 87, while cognitive strategy use went up. Further, within the category of metacognitive strategies, planning for writing increased, while self-evaluation plummeted. This latter is opposite to the metacognitive trend noted in listening.

But how much did students write in the two semesters? The chart below indicates their actual word/sentence production in both data collection points.

Category	Spring 86	Spring 87
Average number of sentences written	6.8	4.5
Average number of words in paragraph	56.8	44.8
Average number of words in a sentence	8.4	9.9

Obviously, each student tended to write more in Spring 86 than in the think aloud session one year later. Yet more planning was done in the latter

Average Frequency and Percent of Strategy Use of Effective Spanish 3 Students During WRITING ACTIVITY, Spring 1986 - Spring 1987

Learning Strategy	Spring 1986 Sp 3 Effectives* (n=4) N	%	Spring 1987 Sp 4 Effectives* (n=4) N	%
METACOGNITIVE				
Planning				
Planning	8.0	25.2	10.3	40.6
Directed Attention	0.0	0.0	0.3	1.0
Selective Attention	0.3	0.8	0.0	0.0
Self-management	0.5	1.6	0.5	2.0
Subtotal, Planning	8.8	27.6	11.0	43.6
Monitoring				
Self-monitoring	14.0	44.1	11.3	44.6
Evaluation				
Self-evaluation	9.0	28.3	3.0	11.9
TOTAL, METACOGNITIVE	31.8	100.0	25.3	100.0
COGNITIVE STRATEGIES				
Repetition	0.5	1.9	0.3	0.9
Resourcing	1.0	3.7	0.5	1.5
Translation	7.0	26.2	10.0	29.9
Grouping	0.5	1.9	1.0	3.0
Deduction/Induction	2.8	10.3	2.5	7.5
Substitution	4.3	15.9	4.0	11.9
Imagery	0.5	1.9	0.5	1.5
Elaboration	6.5	24.3	11.0	32.8
Transfer	2.3	8.4	1.5	4.5
Inferencing	1.0	3.7	0.0	0.0
Summarizing	0.3	0.9	2.3	6.7
TOTAL, COGNITIVE	26.8	100.0	33.5	100.0
SOCIAL AFFECTIVE STRATEGIES**				
Question for Clar.	2.8	100.0	2.5	100.0
TOTAL, ALL STRATEGIES	61.3		61.3	

NOTE: Numbers and percentages may vary slightly due to rounding.
* Figures relate to the same 4 students, sampled in Spring 86 and again in Spring 87.
** Social affective strategies of cooperation and self-talk are not included here; the think aloud interviews did not elicit these strategies.

session. The students appeared to take more time to examine the picture and think about what they wanted to write, rather than just jumping in and beginning to write. As an example:

(Spring 86, starting the task): I'm just trying to pick out which one I want to be. I think I'm going to be these kids here with the radio.

(Spring 87, starting the task): I guess it's in a hotel or something and this girl's got a dog and he's running away. (I'm) just kind of look at what everybody's doing. The guy on the phone, the bellhop on the ground...and perro... I'm sort of labelling everything in Spanish, as I go through looking at the picture. (#11)

The level at which the students planned was also different, as the chart below indicates:

Type of Plan	Raw Count Spring 86	Raw Count Spring 87
Discourse	3	5
General	7	7
Sentence-level	17	4
Phrase-level	5	22
Other	0	3
Raw total, Planning	32	41
Average (n=4)	8.0	10.3

Most striking in these figures is that in Spring 1986 students tended to plan at the sentence level; one year later, they appeared to plan predominately at the phrase level. As an illustration of this shift in focus:

(Spring 86, sentence level plan): I'm going to put that the policeman doesn't see.

(Spring 87, two phrase level plans): Let's see, I'll give these people names. Los Gomez, cos it's used a lot everywhere... los Gomez sign the register ... (pause while writes "Los Gomez firman el registro")... I wanna say "and the worker says, um... says welcome." (finishes the sentence with "y el dependiente dice Bienvenido.") (#07)

While translation plays an obvious part in the above example, in fact most of the effective students tended to begin their sentences in Spanish and revert to English when they ran into difficulties. This initial generation in Spanish happened in both semesters and, typically, occurred at the phrase level, with the students using "stock" phrases with which they were very familiar. "Those would be newlyweds," observes one student (#11) of the Spring 87 hotel lobby picture. "I automatically associate these two, I think it's the pictures with our lessons that really do it, cos I see that and it's novios, cos they look...like they just got married. So I'll say unos novios...acaban de... that's just another one of those catch phrases..." He pauses at this point to consider what the word "to marry" might be.

As was noted in an earlier section of this report, creating at the phrase level is not an unusual approach to writing even when writing in the native language. In Spring 86 these students showed many signs of approaching writing in Spanish as they would approach the task in English. One year later, the signs are even stronger. They are concerned with producing cohesive paragraphs, not isolated sentences ("Whenever I have to write something, I try and think of how I can relate everybody to everybody else", Sp4#11), with whether the words they choose are communicating the message they want (I'm just trying to get the idea across of the sequence of the dog and the girl and the man", Sp4#01), with the logic of what they are saying ("I guess they didn't just get married if they have a baby. Of course, you know, it happens", Sp4#11), and with creativity ("maybe it's grandmother sitting in there, yeah, grandma, abuela... she, oh yeah, she wants to go to the casino", Sp4#05). Perhaps because their proficiency in Spanish has increased,

the students need to devote less time to struggling over the words and structures and can afford to spend more time in creating a paragraph with a consistent or clever perspective.

Many of the writing considerations listed above involve self-monitoring, one of the strategies that showed a small decrease in use from one year to the next (an average of 14.0 self-monitors in the Spring 86 writing session and 11.3 in Spring 87). Part of the decline could be due to the fact that students wrote less in Spring 87, but there is also a small shift in how the students self-monitored, as indicated by sub-category below.

Type of Self-monitor	Raw Count Spring 86	Raw Count Spring 87
Comprehension	22	18
Double check	4	0
Production	12	14
Style	3	6
Auditory/Visual	15	7
Raw total, Self-monitor	56	45
Average (n=4)	14.0	11.3

Stylistic self-monitoring went up, while auditory, double check, and comprehension monitoring declined. Again, it would seem as if the students were more sure of their ability to write in Spanish in the Spring 87 session and spent less time occupied with actual details of Spanish. A similar shift in use of self-evaluation appears to confirm such an explanation. Not only did the students average a much lower use of self-evaluation but a closer look at how they self-evaluated shows much less time spent examining their language repertoire to see if they know how to say this word or that one or in checking over their work to see if they have accented and spelled words properly.

In terms of the cognitive strategies, virtually no changes took place in how many times the four students used deduction or substitution. Elaboration and summarizing, however, showed an increased usage, a finding in keeping with the Spring 87 listening data (see above). As with the listening data, the type of elaboration used by students shows a shift, as indicated below.

Type of Elaboration	Raw Count Spring 86	Raw Count Spring 87
Personal	8	6
Academic	7	16
World	0	6
Between Parts	2	6
Creative	3	7
Other	6	3
Raw total, elaborations	26	44
Average (n=4)	6.5	11.0

Spring 87 writing samples, then, show these students using many more academic, world, between parts, and creative elaborations as they produce their paragraphs. These increases may result from the fact that strategies often appear in combination with each other. For example, an increased concern with style and cohesion (planning, say, at the discourse level) would result in awareness that the various parts of the paragraph must hold together and, thus, an increase in elaboration between parts would be in order. That students showed increases in so many subcategories of elaboration, both here and in the listening data, may suggest that they are becoming more adept at using the range of their knowledge, drawing not just from what they have learned in school, but also from their own creativity and from what they know of the world ("I wanna say 'and the worker says welcome'... I think that'd be really weird if someone said that to me. People don't say welcome, they say, can I help you?", Sp4*07).

In summary, then, a picture of how these effective students have changed in writing in Spanish emerges from the longitudinal comparisons. They seem to show less concern with the content of their vocabulary repertoire and much more concern with getting across their points. To this end, they plan more and monitor their style, drawing from world knowledge and their own creative ideas to produce work that they feel less need to check (self-evaluation). In many regards, their newfound tendency to summarize may perform the functions of self-evaluation, for they occasionally re-read what they had written before producing the next piece. Such an act may allow them to check their work even as it helps them to unify the various sentences. What seems evident, though, is that the use of the various strategies is tied to producing a good written product; that the product is in Spanish seems, at times, almost a secondary concern. What limitations the students encounter in their vocabulary they neatly side-step, showing that they have become more practiced at working with what they know and less hamstrung by what they do not.

Spanish 5/6 Longitudinal Results

Data from the writing and the cloze activities are available for longitudinal comparisons of students at the advanced level of Spanish study. Longitudinal data from Spring 1986 to Spring 1987 are available for two effective students only (the two less effective Spanish 5 students graduated in Spring 86 and could not be followed longitudinally).

Writing. Exhibit III-25 presents the average number of times the two effective students used the various learning strategies while writing during the think aloud sessions of Spring 86 and 87. In both sessions, students were asked to write about a picture in their workbooks. The same pictures were used as with Spanish 3 and Spanish 4 students; in Spring 86, a drawing of a busy city intersection was used to elicit the writing sample (see Appendix D), while the picture of a crowded hotel lobby was used in Spring 87 (see Appendix H).

Students reported using more than twice as many strategies in Spring 87 (an average of 114.5 strategies used) than in Spring 86 (an average of 49.5). This held true in all three categories of strategies. Metacognitive strategies rose from an average number of 29.5 in Spring 86 to an average of 55.5 in Spring 87. Cognitive strategies rose from an average of 17.5 to an average of 48, and social/affective strategies rose from 2.5 in 1986 to 11 in 1987. Differences were also found in the percentage of strategies used in each of the three categories. Use of metacognitive strategies fell from one year to the next (59.6% of all strategies used in Spring 86, compared with 48.5% in Spring 87), while use of cognitive and social/affective strategies rose (cognitive: 35.4% in Spring 86, 41.9% in Spring 87; social/affective: 5.1%, up to 9.6%). What this indicates is

Average Frequency and Percent of Strategy Use of Effective Spanish 5/6 Students During WRITING ACTIVITY, Spring 1986 - Spring 1987

Learning Strategy	Spring 1986 Sp 5 Effectives* (n=2) N	%	Spring 1987 Sp 6 Effectives* (n=2) N	%
METACOGNITIVE				
Planning				
Planning	8.0	35.6	14.0	25.5
Selective Attention	0.5	2.2	0.0	0.0
Self-management	0.0	0.0	1.5	2.7
Monitoring				
Self-monitoring	7.0	31.1	31.0	56.4
Evaluation				
Self-evaluation	7.0	31.1	8.5	15.5
TOTAL, METACOGNITIVE	22.5	100.0	55.0	100.0
COGNITIVE STRATEGIES				
Repetition	0.0	0.0	2.5	4.7
Translation	2.5	13.9	5.0	9.4
Grouping	0.0	0.0	1.5	2.8
Deduction/Induction	3.5	19.4	9.0	16.8
Substitution	2.0	11.1	6.0	11.2
Auditory Representation	1.0	5.6	0.0	0.0
Elaboration	8.5	47.2	21.5	40.2
Transfer	0.5	2.8	2.5	4.7
Summarizing	0.0	0.0	5.5	10.3
TOTAL, COGNITIVE	18.0	100.0	53.5	100.0
SOCIAL AFFECTIVE STRATEGIES**				
Question for Clar.	2.5	100.0	11.0	100.0
TOTAL, ALL STRATEGIES	43.0		119.5	

NOTE: Numbers and percentages may vary slightly due to rounding.
* Figures relate to the same 2 students, sampled in Spring 86 and again in Spring 87.
** Social affective strategies of cooperation and self-talk are not included here; the think aloud interviews did not elicit these strategies.

that, while overall use of all categories of straetgies increased, the increase was greatest in cognitive strategy use. The most dramatic strategy increases were noted in the use of: self-monitoring, elaboration, and summarizing.

In comparing the amount written in the two semesters, relatively small differences are seen:

Category	Spring 86	Spring 87
Average number of sentences written	4.0	4.5
Average number of words in paragraph	59.0	66.0
Average number of words in sentence	14.8	16.3

The most striking difference in writing samples from 1986 to 1987 is in the overall quality and cohesion of the paragraphs produced. In 1986, both effective students were content to describe the picture and the action in it. In 1987, however, the same students used the picture as a springboard to develop an original story. English translations of the writing samples for both semesters are presented in Exhibit III-26, to illustrate the qualitative differences in the writing samples of these two effective students.

The writing samples not only show the development of a greater command of Spanish, but also an increasing ability to use the language to express their own ideas creatively. So that even though the actual amount written was only slightly greater in Spring 87, the organization and coherence of the paragraphs was much improved.

The improvement in quality of writing was accompanied by an increase in the number of strategies used. Of the metacognitive strategies, students used more planning strategies (an average of 14) in Spring 87 than in Spring 86 (an average of 11), and far more self-monitoring strategies (an average of 31.5 in Spring 87, versus only 9 in Spring 86). Self-evaluation, however, was the same (8.5) for both years.

As with Spanish 3 students, the level at which students planned was different in the two years, as the chart below indicates:

Type of Plan	Raw Count Spring 86	Raw Count Spring 87
Discourse	4	5
General	2	9
Sentence level	6	2
Phrase level	5	22
Other	2	3
Raw total, Planning	16	28
Average (n=2)	8	14

The most frequent type of planning in Spring 86 was at the sentence level, whereas the most frequent type one year later was at the phrase level. The following examples illustrate these differences in approach to planning:

> Spring 86, sentence level plan: And now I'm going to say, maybe they came from two different streets.
>
> Spring 87, phrase level plan: Oh, that's it! Tan, no, no, la obra ... I'm trying to think of a word that goes with obra (work). I think, well, esta, well, I'll just la, esta obra tan magnifica. (St5/6*02)

EXHIBIT III-26

Comparison of Written Products of Two Effective Spanish 5/6 Students, Spring 86 and Spring 87

English Translations of Paragraphs*

Student #02:

Spring 86: [Blanks were left for the word "policeman", which the student did not know how to say in Spanish.] The _____ was directing traffic when there was an accident. A car was in one street and the other one was in the street to the left of the other car and didn't see that the other car was moving and CRASH!!! [written in English]. He has an arm. There are also some children that were playing their radio very loud. Some people said to the _____ that they were mad about the music and if the _____ could do something.

Spring 87: In this picture, Mr. and Mrs. Cruz are asking for their key. They are very happy because their baby is not sick anymore. For many years he did not grow and one day a miracle occurred and the baby grew two meters - and the reason why he doesn't look very big [in the picture] is because it hadn't happened yet at the moment in which this magnificent work [the picture] was created.

Student #03:

Spring 1986: In one part of the picture a man falls into a construction area, and the man shouts for help. The workers don't realize that the man has fallen. One of the workers doesn't hear the screams because he is working with a machine that makes a lot of noise.

Spring 1987: The father and the sone were travelling in a car, when the son said he was tired. The father saw a hotel and stopped the car. The father, the son, and his dog entered the hotel. But the dog didn't like the hotel and wanted to get out. The father and the son started to run to capture the dog. The dog escaped and ran out of the hotel.

* The actual paragraphs written by these students in Spanish are presented on the reverse side of this page.

EXHIBIT III-26
(continued)

Actual Spanish Production of Students

Student #02:

Spring 1986: El ____ estaba dirigiendo el tráfico cuando había un acidente. Un coche estaba en una calle y el otro estaba en la calle a la izquierda del otro coche y no vio que el otro coche estaba moviendo y CRASH!!! El tiene un brazo. Tambien habían unos niños que tocaban su radio muy alto. Algunas personas dijeron al ____ que se enojaban de la música y si podía el ____ hacer algo.

Spring 1987: En este dibujo, Señora y Señor Cruz estan pidiendo su llave. Ellos están muy felices porque su bebe ya no está enfermo. Hace muchos años que no crecía y un dia ocurrió un milagro y el bebe creció dos metros - y la razón porque no parece muy grande es que no había ocurrido en el momento en que se creyó esta obra tan magnífica.

Student #03:

Spring 1986: En una parte de el cuadro, un hombre se cae en un area de construcción, y el hombre grita para ayuda. Los trabajadores no dan cuenta de que el hombre ha caido. Uno de los trabajadores no oye los gritos porque trabaja con una machina que hace mucho ruido.

Spring 1987: El padre y el hijo estaba viajando en un carro, cuando el hijo dijo que estaba cansado. El padre vio un hotel y paró el carro. El padre, el hijo, y su perro entraron en el hotel. Pero, al perro no le gustaba el hotel y quería salir. El padre y el hijo comenzaron a correr para capturar el perro. El perro escapó y corrió fuera del hotel.

In planning at the sentence level, students typically generated a sentence they wanted to say in English, then sought to translate it into Spanish. When they encountered translation difficulties, they would then decide to write an easier or a different sentence. For example, after Student #02 (see Exhibit III-26) indicated that she was going to say that the two cars in the picture came from two different streets, she made a number of elaborations while looking for an appropriate verb for the planned sentence, then said, "But, um, I decided that was all too complicated to think out, so I'm just going to say it was on one street."

In contrast, students planning at the phrase level typically would begin by starting a sentence directly in Spanish, then plan an appropriate continuation phrase in English, modifying it if difficulties were encountered in searching for the equivalent Spanish phrase. As an example, the student who wrote about the father and son stopping at the hotel (see Exhibit III-) started by general planning for the meaning she wished to communicate: "... so I'm just going to write a beginning ... sentence about this group of people right here." She then wrote the first phrase of the beginning sentence, making several decisions about word choice and verb tenses as she wrote. Having written "El padre y el hijo estaba viajando," she asked herself how they were travelling and planned the next phrase "en el carro." She then decides to add a subordinate clause to the sentence and writes "cuando" (when), then begins some general planning about the things that might happen. She writes "el hijo dijo" (the son said), and plans the next phrase by saying "I'm thinking 'tired'." She then generates the phrase "estaba cansado" (was tired) to conclude the sentence. This planning approach seems to allow for a great deal more flexibility in language use, and resembles the recursive way in

which native speakers of a language plan, compose, and revise throughout the writing process (Hillocks, 1987).

The other metacognitive strategy showing a marked increase from Spring 86 to Spring 87 was self-monitoring, which rose from an average of 9 to an average of 31.5 instances. (This was in contrast to students in Spring 3/4, who showed a decline in the use of this strategy in the year studied.) The type of self-monitoring used by Spanish 5/6 students in Spring 86 and 87 was as follows:

Type of Self-monitor	Raw Count Spring 86	Raw Count Spring 87
Comprehensibility	0	10
Production	12	30
Style	0	14
Auditory/Visual	2	8
Raw total, Self-monitor	14	62
Average (n=2)	7	31

In Spring 86 both effective Spanish 5 students were using self-monitoring predominately for their production, as in these examples: "I was just wondering if there was an accent on habia (#02) and "Now I'm trying to spell it, think of how to spell it - trabajadores [writes word]" (#03). A year later, however, both were using a wide variety of types of self-monitoring, although monitoring for production was still the most frequent type.

For example, in Spring 87 students showed evidence of monitoring the comprehensibility of what they were writing, as in the student writing the paragraph about the baby's miraculous cure. Upon reaching the point of indicating how much the baby grew as a result of the miracle, the student

generated in Spanish "creció dos pies" [he grew two feet], then realized that the metric system would be used in a Spanish speaking country (world elaboration). So instead she wrote "dos metros" [two meters], then observed laughingly, "I'm sure that's a lie!"

In Spring 87 students also monitored for style. For example, the student who wrote the paragraph about the father, son, and dog had reached the point where she wanted to complete the sentence about running to capture the dog, and she had some difficulty in finding the exact verb she needed. She checked and rejected a number of verbs, such as: "I was going through obtener [obtain]. I thought, obtener is not appropriate to the situation." (Sp6#03) And the student who eventually wrote about the miraculous growth of the baby indicated a consciousness of style by starting the writing task with, "I'm trying to think of what they're doing and ... I didn't want to write something like a boring sentence. I was going to say something like Señora y Señor Cruz están en vacaciones [Mrs. and Mr. Cruz are on vacation], and that's really boring. That sounds like it's out of Spanish Book One, so that's really dull. That's why I make up stories so they won't be dull."

The increase in cognitive strategy use between Spring 86 and 87 was substantial (an average of 18 strategy instances grew to an average of 53.5 instances), and involved for the most part four strategies: deduction, substitution, elaboration, and summarizing. Of these four, elaboration showed by far the greatest increase, rising from an average of 8.5 instances in Spring 86 to an average of 21.5 in Spring 87. A comparison of the types of elaboration used each year is summarized in the chart below:

Type of Elaboration	Raw Count Spring 86	Raw Count Spring 87
Personal	6	14
Academic knowledge	7	4
World knowledge	4	5
Between Parts	0	4
Creative	0	9
Other	0	7
Raw total, Elaborations	17	43
Average (n=2)	8.5	21.5

While students decreased the number of elaborations based on academic knowledge, strategy use in all other sub-categories increased. The increase in range of types of elaborations is as striking as the increase in total average instances. Instead of relying for the most part on personal, academic, and world knowledge elaborations, students also elaborated between parts of the writing task and used a number of creative elaborations as they composed.

The creative elaborations made by students in Spring 87 suggest that students are less occupied with the details of writing in Spanish and more involved in producing an interesting paragraph. Examples of these types of elaborations are: in writing about the couple with the miraculous baby "Okay, they're newly- no... newlyweds? They already have a baby. Oh well, I don't know how to say newlyweds anyway" (#Sp6#02), and in writing about the father, son, and dog, "I'm thinking first, he has to do something before he stops the car, he has to find the hotel first before he stops the car" (Sp6#03).

As with the Spanish 4 students, these two effective Spanish 6 students used the strategy of summarization in Spring 87, but not the year before. Both students used this strategy to periodically read out a sentence once they had completed it. This appears to be a way of summarizing the meaning so that a logical follow-up to it can be planned, thus creating a cohesive paragraph.

The use of deduction also increased, almost three-fold between Spring 86 and Spring 87 for these students. One student did not use this strategy at all the first year, but used it five times while producing her paragraph in the second year. The other student increased her use of deduction from 7 times (30% of all cognitive strategy use) to 13 times (27% of all cognitive strategy use). The student who used deduction most frequently used this strategy as she mentioned the grammatical rules that needed to be applied to the verb ending, gender, tense, or preposition, as in the following examples:

Spring 86:
... but then I thought again and said, well, this is caer [to fall], an ER verb, it has to be caido [fallen].

Spring 87:
I'm thinking correr [to run], corrió [ran], I'm checking the verb forms. (#03)

What emerges is that these two effective students have substantial differences in their reliance on use of grammatical rules to generate written language. The student who rarely uses deduction spent a number of years as a young child in a Spanish speaking country and is more fluent in Spanish than the other student, who has learned Spanish through school study. In spite of difference in proficiency and exposure to the language, however, both are effective students at the most advanced level of high school Spanish.

Both students also showed an increase in their use of substitution from one year to the next, from an average of 2 to an average of 6 instances. As the following examples indicate, substitution was used in similar ways in both semesters:

Spring 86:
I'm using máquina [machine] as a substitute for jackhammer, which I don't know. (Sp5*03)

Spring 87:
The student realizes she does not know the Spanish equivalent for "the Smiths" and so substitutes "Señora y Señor Cruz." (Sp6*02)

In conclusion, a growth in use of cognitive strategy use for the writing task over the one year period was apparent for both effective students. The growth was not only in total numbers of cognitive strategies used, but also in range. In Spring 86 students used 6 of the 15 different cognitive strategies identified throughout the study (40%), whereas a year later they used 8 different strategies (53.3%). It should be remembered that not all strategies are elicited by every type of task, and that some of the cognitive strategies included in our list, such as inferencing, are probably more appropriate for receptive than for productive language skills.

The increase in use of social/affective strategies from Spring 86 to 87 was due entirely to students' use of this strategy to question themselves, which occurred in Spring 87 but not a year before. Examples of the way in which this strategy was used in Spring 87 are: "I'm thinking follow, run, should I say follows or run?" (Sp6*03); "Oops, did I miss an accent?" (Sp6*02); "Now, I don't know - what can these parents feel?" (Sp6*02). These types of

questions are in the nature of interior monologues, not direct questions to the interviewer, and seem to serve as springboards to the composing and revision of their written products.

Reading and Grammar Cloze Activity. Although students completed a reading and grammar cloze activity in both Spring 86 and Spring 87, the specific structures of the tasks were somewhat different. In Spring 86 students were provided with a story in which some of the verbs had been deleted. At each deletion point, there was a blank to be filled in and the infinitive form of the required verb in parentheses. Thus, students had to use mainly grammatical knowledge to decide on the verb form and tense, with semantic knowledge not as necessary for task completion. In fact, one less effective student, when asked to summarize the Spring 86 passage, said, "I wasn't looking to understand it." He went on to describe his approach to the task as "I pretty much just look at the grammar part there, but rather than just individual words, key words that help me with the grammar... and the key point is to figure out what tense the verb should be in" (Sp5*01).

This description fairly summarizes the approach students took on the Spring 86 cloze task, which elicited a large proportion of deductions based on grammatical rules. The cloze activity a year later was more integrative in nature, in that every seventh to ninth word in the passage was deleted, and students were not provided with the base form of the word required for the blank. Not only verbs were deleted, but also nouns, adjectivees, articles, pronouns, and prepositions. Students had to rely not only on grammatical clues but also on semantic clues in the context in order to select an appropriate word for the blank. The nature of the task forced them to attend

to the meaningfulness of what they were reading, and this may have some bearing on the fact that, for this task, the two effective students available for longitudinal comparisons used only half as many deductions (an average of 3.0) as they had for the cloze a year before (an average of 6.0). Because of differences in the nature of the two cloze tasks, then, any longitudinal comparisons must be made with caution.

In both Spring 86 and Spring 87, the two students completed varying amounts of the cloze activity. Since both students filled in at least the first six blanks of both years' cloze, data are reported for only this portion of the cloze activity. (The first five and a half sentences only were used for Spring 86 comparisons [see Exhibit III-19] because this was the greatest number of blanks completed by one of the less effective students.)

Exhibit III-27 presents major strategy use by two effective students in Spring 86 and 87. As can be seen, the total number of strategies used showed only a modest gain, nor did the percentages of metacognitive, cognitive, and social/affective strategy use change appreciably. It appears as if the strategies these students used to perform a cloze activity remained fairly stable. The greatest changes in strategy use are an increase in self-monitoring (from 6.5 to an average of 11) and a decrease in translation (from 4.5 in Spring 86 to an average of 2.5 in Spring 87) and deduction (falling from an average of 6 instances to 3). (In the case of deduction, it must be kept in mind that the cloze task in Spring 86 elicited deduction because students had to conjugate a verb for the blank.) There was also an increase in questions asked, from an average of 0.5 in Spring 86 to an average of 3.5 in the next year's data collection. Interestingly, this rise was due to the fact that in

EXHIBIT III - 27

Longitudinal Comparison of Average Frequency and Percent of Strategy Use of Spanish 5/6 Effective Students on Reading/Grammar Cloze Task, Spring 1986 - Spring 1987

Learning Strategy	Spring 1986 Sp 5 Effactives* (n=2) N	%	Spring 1987 Sp 6 Effectives* (n=2) N	%
METACOGNITIVE STRATEGIES				
Selective Attention	2.5	17.2	0.5	2.9
Self-monitoring	6.5	44.8	11.0	64.7
Self-evaluation	5.5	27.9	4.0	23.5
Other metacognitive	0.0	0.0	1.5	8.8
TOTAL, METACOGNITIVE	14.5	100.0	17.0	100.0
COGNITIVE STRATEGIES				
Translation	4.5	19.6	2.5	11.9
Deduction	6.0	26.1	3.0	14.3
Elaboration	7.5	32.6	8.5	40.5
Inferencing	3.5	15.2	3.5	16.7
Other cognitive	1.5	6.5	3.5	16.7
TOTAL, COGNITIVE	23.0	100.0	21.0	100.0
SOCIAL/AFFECTIVE STRATEGIES				
Questioning	0.5	50.0	3.5	100.0
Self-talk	0.5	50.0	0.0	0.0
TOTAL, SOCIAL/AFFECTIVE	1.0	100.0	3.5	100.0
TOTAL, ALL STRATEGIES	38.5		41.5	

Proportion of Strategy Type	Spring. 1986	Spring. 1986
Percentage of Metacognitive Strategies	37.7%	41.0%
Percentage of Cognitive Strategies	59.7	50.6
Percentage of Social/Affective Strategies	2.6	8.4

NOTE: Numbers and percentages may vary slightly due to rounding.

* Figures relate to the same 2 students, sampled in Spring 1986 and again in Spring 1987.

Spring 87 students had begun to ask themselves questions (coded questions to self) as they worked on the task. A similar change was noted in the writing task.

In summary, the number and range of strategies used by the two effective students to perform the cloze did not appear to vary greatly from Spring 86 to Spring 87. Differences in the task structure may have obscured differences to some degree, however. Abstractions of student think alouds are provided below to illustrate the steps by which both students solved one sentence in the Spring 86 cloze activity.

Solving One Sentence in the Cloze: Spring '86

Students are working on the sentence: En el pasado, esto __(occurir)__ poco, y además era siempre en serio.
Translation of sentence: In the past, this [adolescents leaving home] _____(to happen, occur)__ rarely, and besides, it was always serious.

Student #02:

- reads the first phrase, en el pasado, and says : "I don't really know what that means yet" (self-evaluation).
- she then speculates that it is something about the past (inferencing).
- she tries out a possible verb tense by reading it in context: "Esto ha occurido [this has happened]... it sounds correct" (auditory self-monitoring).
- she then reads the next phrase twice (repetition) and says that she had to think about it and "I think I translated into English" (translation).
- later in the interview, in discussing how she had worked on this sentence later in the interview, she indicates that she translated the phrase "en el pasado" but that it had not helped make the sentence make more sense (self-evaluation of comprehension).
- she re-reads the phrase "y además era siempre en serio" and says, "That still doesn't make sense to me" (self-monitoring of comprehension).
- she then looks back to the first paragraph and says, "It sounds like in the paragraph before (elaboration between parts).
- she finally attempts another translation, which is incorrect: "This thing isn't serious or something."

Solving One Sentence in the Cloze, Spring '86 (continued):

Student #03:

- looks at the sentence and indicates that she is just translating. She then gets to "además" [besides] and says, "I know I've seen that word before - I've looked it up" (academic elaboration) and continues "But I always forget it" (self-evaluation).

- she then looks again at the sentence and decides that "it's not really super important" (selective attention).

- she then applies a grammatical rule: "I'm thinking, okay, that "esto" refers to what just happened" (deduction).

- she goes on to translate the next phrase correctly [it was always serious] and monitors her translation of the phrase: "... it was always serious, always a serious thing."

- she then goes on to connect what she understands of the sentence with the first phrase [in the past] and re-reads the Spanish, adding "I think of the preterite, you know, I think of the past" (academic elaboration).

- finally she switches to a deduction mode to figure out the verb ending: "I'm going through verb endings... I'm thinking of i-e verbs... ocurrió...".

In looking at these two approaches to solving the problems posed by the example's sentence, it is apparent that both students used a variety of metacognitive and cognitive strategies, and that their overriding concern was to discover the meaning of the sentence. This latter observation is particularly true of the first student (#02) who, having already solved the immediate problem of the verb tense to be written in the blank, still continues to worry about what the sentence means.

A similar general approach is evident in the Spring 87 data for these two students. Both emphasized understanding the meaning of the sentence or paragraph as opposed to being satisfied with finding a correct grammatical

answer for the blank spaces. This is illustrated by the following examples of the think alouds produced by these students for one sentence in the Spring 87 cloze:

Solving One Sentence in the Cloze: Spring '87

Students are working on the sentence: Un día la ranita más _____ vino nadando furiosamente hacia su padre, toda sofocada ____ muerta de miedo.

Translation of sentence: One day the _____ froggie came swimming furiously toward her father, all out of breath ____ scared to death.

Student #02:

- reads the first phrase, un día la ranita más, and generates a possible answer, "It's probably pequeña [small]... cos they said ranita" (deduction).

- She decides, though, to check to see if this answer fits, "Well, let's see..." (self-monitoring) and reads on to the next phrase, vino nadando furiosamente, stumbling on the pronunciation of "furiosamente." She corrects herself (self-monitoring, production) and chastises herself mildly: "Hm... English pronunciation creeping in there" (self-evaluation).

- At this point she makes a final decision about putting "pequeña" in the blank so that she can move on in the exercise (self-management): "I'll just go back here and put pequeña in so I don't have to think about that anymore."

- She reads on, carefully pronouncing the word "sofocada" (self-monitoring, production) and adding, "Hm, hard to say..." (self-evaluative elaboration). She indicates "maybe I don't know it" (self-evaluation, word).

- She goes back and reads the phrase again, adding in the phrase following the blank: "toda sofocada blah-blah muerta de miedo." She writes in "casi" [almost], then re-reads the phrase (self-monitoring, production) and adds "y" [and] in front of "casi", so that the sentence reads: "toda sofocada y casi muerta de miedo" [all out of breath and almost dead of fright].

Although she has filled in the blank with two words, this solution is acceptable, and the resulting sentence makes more literal sense than the original sentence. The phrase "...y muerta de miedo" translates literally as "and dead of fright" but idiomatically it means "scared to death."

Solving One Sentence in the Cloze: Spring '87 (continued)

Student #03:

- Begins reading the sentence, un dia la ranita, and interrupts her reading to clarify the meaning of ranita: "I'm thinking ranita, that's kind of little frog" (translation).

- She resumes reading, "la ranita más...", stops, and says "I'm thinking it's an adjective" (deduction, problem identification).

- Not knowing what adjective to write in the blank, she reads the entire sentence for additional clues (inferencing) and has to correct her pronunciation of "toda" (self-monitoring, production).

- Then she appears to get involved in the story itself, asking herself "Okay, what kind of frog is this frog?" (elaboration by questioning). She re-reads "la ranita más..." and decides to write in "pequeña", although she has doubts because " -ita, that like says pequeño" (self-monitoring, elaboration between parts). [Note: The "-ita" on ranita is the diminutive form, meaning little, as does pequeña.]

- When told by the interviewer that "pequeña" is correct, she comments "It seems redundant to me" (elaboration, personal).

- Then she finishes reading the sentence and says she has no idea what to put in the blank (self-evaluation). She re-reads, "Toda sofocada..." and summarizes "...apparently he is out of breath." When she addresses the phrase following the blank, she appears to generate the word she needs as she reads, "and then y muerta de miedo. So I'm just assuming that that's what it is."

Although these examples offer minimal evidence of stability in strategy choice, there is much evidence that, as mentioned above, the students' basic approach to the task remains meaning-driven and that they retain, across semesters, their personal styles. Student #02, who lived in South America when she was little, relies upon her "ear" for the language and so monitors heavily, while the other (#03) makes use of a wider range of cognitive strategies in order to understand and find the correct answer.

In summary, what these longitudinal data suggest are that the metacognitive strategies of self-monitoring and self-evaluation are of

primary usefulness in a task of this sort. The exact cognitive strategies chosen, though, can be expected to vary depending upon the sentence at hand and the knowledge of its content that the student has readily available. These students appear to find the cognitive strategies of deduction, summarizing, and elaboration most useful in solving the problems they encounter.

D. SUMMARY AND CONCLUSIONS

The purpose of the Longitudinal Study is to determine if differences exist in the way that effective and ineffective language learners use strategies in their foreign language study, and if their strategy use remains stable over time or changes. Findings to date indicate that effective and ineffective students of both Spanish and Russian tend to use similar strategies to perform language tasks but that effective students are likely to use a wider range of strategies, as well as a greater number of strategies. However, what emerges clearly from these data is the fact that counting the number of strategies used by effective students and contrasting this with the number used by ineffective students captures only the most superficial differences between these two groups. Using strategies does not necessarily guarantee successful task completion or successful language learning. Strategies do not, by definition, always contribute to learning. Some strategy applications may be off-target and irrelevant to the task, such as the student who offered a personal elaboration about the wild weekend he enjoyed. Thus, to be considered a "good" strategy application, the strategy used must be appropriate to the task at hand and be intended to move the student forward toward successful task completion.

Qualitative differences, then, were found in the way that effective versus ineffective students applied learning strategies, with the effective learners appearing to use more "on-target" strategies. In addition to persisting more in trying to find a solution to problems encountered in language tasks, effective students also seem to be more purposeful in their strategy use, focusing their attention upon the task at hand and systematically working

through it, while ineffective students, particularly at beginning levels of study, seem to have difficulty in maintaining their task orientation.

Yet, while patterns in strategy use exist that differentiate effective from ineffective language learners, much variation is apparent between individual students in each effectiveness group. For example, one effective student might favor an auditory approach to a task, while another might rely upon visual memories. Moreover, there are effective students who seem "exceptional" in their intuition, power of concentration, and cognitive flexibility, and ineffective students who suffer not so much from motivational problems as from what appears to be reading or other learning difficulties. These findings suggest that (a) no one profile of an effective or ineffective learner exists, and (b) the strategies students choose to use may be influenced by personal style and other factors.

Several factors appear to impact strongly upon the strategies students choose to use and, indeed, upon whether or not students can use strategies at all. One of the most powerful determiners is the difficulty of the task: if the task is too hard, strategy use may be unhelpful or impossible. Conversely, if the task is too easy, strategy use is unnecessary. The student's motivation to perform the task at hand or, in a broader sense, to study the language, also has the power to determine strategy use and, ultimately, successful learning. Many ineffective students, particularly those at the beginning levels of Spanish study, had serious motivational problems that could be seen to directly impede their internalization of even the basics of the language.

The nature of the task at hand, intent of the language program, and prior language learning experience also appear to influence the strategies students choose to use. The task of the writing, for example, can be facilitated by the use of planning and self-monitoring; on the other hand, a student may improve his or her listening comprehension by pairing self-monitoring with strategies such as selective attention, note-taking and summarization. Looking at this from a different angle, what the student needs to do or know in order to complete the task successfully (in other words, what the nature of the task requires) may determine which strategies are used. The dehydrated sentences used in the Russian think alouds and, to some extent, the Spanish cloze activity require grammatical knowledge and analysis on the part of the students. Writing is a much more integrative task and requires not just grammatical knowledge but also awareness of discourse rules and style. Thus, the strategies students used to execute these two tasks, not surprisingly, varied.

In many cases, the nature of the tasks given the students is linked to the intent of the language program. If the program's intent is to develop students' functional proficiency (as in the Russian intensive program), then reading skills and the strategies that are useful while reading may be de-emphasized. The influence of program intent upon strategy use can be seen most clearly in these data by contrasting how beginning Russian students attacked a listening passage with how overwhelmed beginning Spanish students were when faced with a similar task not stressed in their program of study.

Effects of program intent upon strategy choice and use may be mitigated somewhat by whether or not students have studied (or learned natively) other foreign languages. The majority of the university students of Russian (and many of the effective Spanish students) had studied other foreign languages which they often made reference to, either transferring specific linguistic knowledge to help them figure out unknown items or using their language learning "know-how", such as reading on in the text to look for clues as to meaning (inferencing). Students who had not been exposed to other foreign languages often seemed unsure of how they were to solve problems they encountered in the think aloud tasks.

That students can be taught to use strategies from the very beginning of their language learning is apparent in these data. Beginning level effective and ineffective students alike are discovering their own strategies for language learning, but for some, the discovery process is slow and confounding; systematic learning strategy instruction, such as what is done in the university Russian program, could prove very beneficial to these learners.

The fact that the nature of the task influences which strategies students choose to apply suggests that foreign language educators who wish to provide their students with opportunities to learn and practice certain strategies should carefully link this training (and subsequent practice) to specific tasks. Exhibit III-28 presents a listing of the predominate strategies that students chose to use with the various language learning tasks given them. As can be seen, a core of strategies exists that students appear to find most useful in their language learning. These are: self-monitoring, self-evaluation,

EXHIBIT III-28

A Matching of Strategies to Task

Task	Metacognitive Strategies	Cognitive Strategies
Vocabulary	Self-monitoring Self-evaluation	Resourcing Elaboration
Listening	Selective Attention Self-monitoring Problem Identification	Note-taking Elaboration Inferencing Summarizing
Reading Cloze	Self-monitoring Self-evaluation	Translation Deduction Inferencing Elaboration
Writing	Planning Self-monitoring Self-evaluation	Resourcing Translation Deduction Substitution Elaboration Summarizing

deduction, translation, and elaboration. That students tend to rely so heavily upon translation may distress foreign language educators, but the think aloud data show that, while the strategy is by no means the only one students use, even effective students translate to facilitate their understanding. As language study continues, however, effective students show signs of diminishing the amount of translation used, often times only resorting to the strategy when there is a major breakdown in comprehension or communication.

What the exhibit does not show, however, is the multi-dimensional ways in which these strategies can be used. For example, monitoring during writing need not be exclusively to ensure that accent marks, verb conjugation, and spelling are correct; effective students also monitor for style and the comprehensibility of what they are writing, and often make decisions based upon how correct something sounds (auditory self-monitoring) or looks (visual self-monitoring). Students should be made aware that different forms of key strategies (i.e., self-monitoring and elaboration) exist and that each represents a valuable tool in language learning. The particular form in which a strategy might be used, moreover, may relate directly to the nature of the task being performed. As an example, students are likely to find elaboration between parts more useful during a reading activity than during a vocabulary or grammar activity, where academic elaborations may be more helpful.

The discovery of strategy sub-categories, or the varying ways in which students apply strategies, represents a refinement in our understanding of both strategies and language learning. Effective language learners tend to

use a wide variety of strategies, both in combination and sequentially, as well as alter how they use a strategy, with the primary goals of understanding the language they are encountering and successfully completing the task. If one strategy does not move them forward toward task completion, they are more likely than the ineffective learner to try another strategy or even the same strategy in a different form. What the think aloud data suggest is that the effective learner is flexible in approach; he or she will tend to use as many tools (strategies) as possible, in as many of their forms (sub-categories) as possible.

Longitudinally speaking, strategies appear to remain fairly stable over time. When confronted with a difficulty in Spring 87, most students tended to use strategies similar to those they had used to solve problems the year before. What appears most subject to change are the student's own interest and motivation in the task or in language learning, and that it is these changes that lead to differences in approach or in effectiveness. Language learning, then, is highly subject to motivational and situational influences, suggesting that any strategy training provided to students should emphasize the executive control aspects of metacognitive strategies.

The Next Steps in the Study

This report has detailed the findings of one year of the Longitudinal Study. For as many questions as were answered, as many remain or are raised. Subsequent reports will examine other aspects of the Longitudinal Study, such as:

- additional Spring 1986 - Spring 1987 comparisons, focusing upon selected effective and ineffective students;
- comparisons of strategies used in Fall 1986 - Fall 1987 think aloud sessions, focusing upon selected students and tasks;
- analyses of strategy use linked to quality of language performance; and
- how strategy use and the student think aloud data fit in to models of cognition (i.e., Anderson (1985).

Also to be reported in subsequent reports are the findings of the Course Development Study, an exploratory study where students are being taught how to use learning strategies for selected tasks.

LIST OF REFERENCES

Anderson, J.R. (1985). Cognitive psychology and and its implications (2nd ed.). New York: W.H. Freeman.

Atkinson, R.C., & Raugh, M.R. (1975). An application of mnemonic keyword method to the acquisition of Russian vocabulary. Journal of Experimental Psychology: Human Learning and Memory, 104(2), 126-133.

Ausubel, D.P. (1960). The use of advance organizers in the learning and retention of meaningful verbal material. Journal of Educational Psychology, 51(3), 267-272.

Ausubel, D.P. (1978). In defense of advance organizers: A reply to the critics. Review of Educational Research, 48(2), 251-257.

Bialystok, E. (1978). A theoretical model of second language learning. Language Learning, 28(1), 69-83.

Brown, A.L., & Palincsar, A.S. (1982). Inducing strategic learning from texts by means of informed, self-control training. Topics in Learning and Learning Disabilities, 2(1), 1-17.

Brown, A.L., Bransford, J.D., Ferrara, R.A., & Campione, J.C. (1983). Learning, remembering, and understanding. In P. Mussen, J.H. Flavell, & E.M. Markham (Eds.), Handbook of child psychology: Cognitive development (Vol. 3). New York: Wiley.

Canale, M., & Swain, M. (1980). Theoretical bases of communicative approaches to second language teaching and testing. Applied Linguistics, 1(1), 1-47.

Chamot, A.U., O'Malley, J.M., Küpper, L., & Impink-Hernandez, M.V. (1987). A study of learning strategies in foreign language instruction: First year report. Rosslyn, VA: InterAmerica Research Associates.

Chipman, S., Segal, J., & Glaser, R. (Eds.). (1985). Thinking and learning skills: Relating learning to basic research (Vols. 1 & 2). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cohen, D. (1983). Piaget: Critique and reassessment. London: Croom Helm Ltd.

Cohen, A.D., & Aphek, E. (1980). Retention of second language vocabulary over time: Investigating the role of mnemonic associations. System, 8(3), 221-235.

Cummins, J. (1984). Bilingualism and special education: Issues in assessment and pedagogy. Clevedon, England: Multilingual Matters, Ltd.

Dansereau, D.F. (1985). Learning strategy research. In J. Segal, S. Chipman, & R. Glaser (Eds.), Thinking and learning skills: Relating learning to basic research (Vol. 1). Hillsdale, NJ: Lawrence Erlbaum Associates.

Dansereau, D.F., & Larson, C. (1983, April). Cooperative learning: The role of individual differences. Paper presented at the Annual Meeting of the American Educational Research Association, Montreal.

Flower, L.S., & Hayes, J.R. (1980). The dynamics of composing: Making plans and juggling constraints. In L.W. Gregg & E.R. Steinberg (Eds.), Cognitive processes in writing. Hillsdale, NJ: Lawrence Erlbaum Associates.

Hillocks, G. (1987). Synthesis of research on teaching writing. Educational Leadership, 44(8), 71-82.

Krashen, S.D. (1982). Principles and practices in second language acquisition. Elmsford, NY: Pergamon.

Lamadrid, E.E., Bull, W.E., & Briscoe, L.A. (1974). Communicating in Spanish. Boston: Houghton Mifflin Company.

McLaughlin, B. (1987). Theories of second-language learning. London: Edward Arnold.

McLaughlin, B., Rossman, T., & McLeod, B. (1983). Second language learning: An information processing perspective. Language Learning, 33(2), 135-158.

Naiman, N., Frolich, M., Stern, H.H., & Todesco, A. (1978). The good language learner. Toronto: Modern Language Center, Ontario Institute for Studies in Education.

O'Malley, J.M., Chamot, A.U., Stewner-Manzanares, G., Küpper, L., & Russo, R.P. (1985a). Learning strategies used by beginning and intermediate ESL students. Language Learning, 35(1), 21-46.

O'Malley, J.M., Chamot, A.U., Stewner-Manzanares, G., Russo, R.P., & Küpper, L. (1985b). Learning strategy applications with students of English as a second language. TESOL Quarterly, 19(3), 557-584.

O'Malley, J.M., Chamot, A.U., & Küpper, L. (1986). The role of learning strategies in cognitive psychology and second language acquisition: A study of strategies for listening comprehension used by students of English as a second language. Rosslyn, VA: InterAmerica Research Associates.

O'Malley, J.M., Chamot, A.U., & Walker, C. (1986). The role of learning strategies in cognitive psychology and second language acquisition: A model for research. Rosslyn, VA: InterAmerica Research Associates.

Oxford, R.L. (1985). A new taxonomy of second language learning strategies. Washington, DC: ERIC Clearinghouse on Languages and Linguistics.

Politzer, R.L., & McGroarty, M. (1985). An exploratory study of learning behaviors and their relationship to gains in linguistic and communicative competence. TESOL Quarterly, 19(1), 103-123.

Pressley, M., Levin, J.R., Nakamura, G.V., Hope, D.J., Bisbo, J.G., & Toye, A.R. (1980). The keyword method of foreign vocabulary learning: An investigation of its generalizability. Journal of Applied Psychology, 65(6), 635-642.

Rivers, W.M., Azevedo, M.M., Heflin, W.H., & Hyman-Opler, R. (1976). A practical guide to the teaching of Spanish. New York: Oxford University Press.

Rubin, J. (1975). What the "good language learner" can teach us. TESOL Quarterly, 9(1), 41-51.

Saville, Troike, M. (1984). What really matters in second language learning for academic achievement? TESOL Quarterly, 18(2), 199-219.

Slavin, R.E. (1980). Cooperative learning. Review of Educational Research, 50(2), 315-342.

Spolsky, B. (1985). Formulating a theory of second language learning. Studies in Second Language Acquisition, 7(3), 269-288.

Weinstein, C.E., & Mayer, R.E. (1986). The teaching of learning strategies. In M.C. Wittrock (Ed.), Handbook of research on teaching (3rd ed.). New York: Macmillan.

Wenden, A.L. (1983). Learner training for L2 learners: A selected review of content and method. Paper presented at the annual meetings of the TESOL convention, Toronto.

Wenden, A.L. (1985). Learner strategies. TESOL Newsletter, 19(5), 1-7.

Wittrock, M.C., Marks, C.B., & Doctorow, M.J. (1975). Reading as a generative process. Journal of Educational Psychology, 67, 484-489.

Wong Fillmore, L., & Swain, M. (1984). Child second language development: Views from the field on theory and research. Paper presented at the TESOL Convention, Houston.

World English 4: The HBJ English Program. New York: Harcourt Brace Jovanovich.

Yorkey, R.C., Barrutia, R., Chamot, A.U., Rainey, I.D., Gonzalez, J.B., Ney, J.W., & Woolf, W.L. (1984). New InterCom 3. Boston: Heinle & Heinle.

APPENDIX A

ACTFL
Proficiency Guidelines
for Reading

ACTFL PROFICIENCY GUIDELINES

The 1986 proficiency guidelines represent a hierarchy of global characterizations of integrated performance in speaking, listening, reading and writing. Each description is a representative, not an exhaustive, sample of a particular range of ability, and each level subsumes all previous levels, moving from simple to complex in an "all-before-and-more" fashion.

Because these guidelines identify stages of proficiency, as opposed to achievement, they are not intended to measure what an individual has achieved through specific classroom instruction but rather to allow assessment of what an individual can and cannot do, regardless of where, when, or how the language has been learned or acquired; thus, the words "learned" and "acquired" are used in the broadest sense. These guidelines are not based on a particular linguistic theory or pedagogical method, since the guidelines are proficiency-based, as opposed to achievement-based, and are intended to be used for global assessment.

The 1986 guidelines should not be considered the definitive version, since the construction and utilization of language proficiency guidelines is a dynamic, interactive process. The academic sector, like the government sector, will continue to refine and update the criteria periodically to reflect the needs of the users and the advances of the profession. In this vein, ACTFL owes a continuing debt to the creators of the 1982 provisional proficiency guidelines and, of course, to the members of the Interagency Language Roundtable Testing Committee, the creators of the government's Language Skill Level Descriptions.

ACTFL would like to thank the following individuals for their contributions on this current guidelines project:

Heidi Byrnes
James Child
Nina Levinson
Pardee Lowe, Jr.
Seiichi Makino
Irene Thompson
A. Ronald Walton

These proficiency guidelines are the product of grants from the U.S. Department of Education.

Generic Descriptions–Reading

These guidelines assume all reading texts to be authentic and legible.

Novice-Low Able occasionally to identify isolated words and/or major phrases when strongly supported by context.

Novice-Mid Able to recognize the symbols of an alphabetic and/or syllabic writing system and/or a limited number of characters in a system that uses characters. The reader can identify an increasing number of highly contextualized words and/or phrases including cognates and borrowed words, where appropriate. Material understood rarely exceeds a single phrase at a time, and rereading may be required.

Novice-High Has sufficient control of the writing system to interpret written language in areas of practical need. Where vocabulary has been learned, can read for instructional and directional purposes standardized messages, phrases or expressions, such as some items on menus, schedules, timetables, maps, and signs. At times, but not on a consistent basis, the Novice-High level reader may be able to derive meaning from material at a slightly higher level where context and/or extralinguistic background knowledge are supportive.

Intermediate-Low Able to understand main ideas and/or some facts from the simplest connected texts dealing with basic personal and social needs. Such texts are linguistically noncomplex and have a clear underlying internal structure, for example chronological sequencing. They impart basic information about which the reader has to make only minimal suppositions or to which the reader brings personal interest and/or knowledge. Examples include messages with social purposes or information for the widest possible audience, such as public announcements and short, straightforward instructions dealing with public life. Some misunderstandings will occur.

Intermediate-Mid Able to read consistently with increased understanding simple connected texts dealing with a variety of basic and social needs. Such texts are still linguistically noncomplex and have a clear underlying internal structure. They impart basic information about which the reader has to make minimal suppositions and to which the reader brings personal interest and/or knowledge. Examples may include short, straightforward descriptions of persons, places, and things written for a wide audience.

Intermediate—High Able to read consistently with full understanding simple connected texts dealing with basic personal and social needs about which the reader has personal interest and/or knowledge. Can get some main ideas and information from texts at the next higher level featuring description and narration. Structural complexity may interfere with comprehension; for example, basic grammatical relations may be misinterpreted and temporal references may rely primarily on lexical items. Has some difficulty with the cohesive factors in discourse, such as matching pronouns with referents. While texts do not differ significantly from those at the Advanced level, comprehension is less consistent. May have to read material several times for understanding.

Advanced	Able to read somewhat longer prose of several paragraphs in length, particularly if presented with a clear underlying structure. The prose is predominantly in familar sentence patterns. Reader gets the main ideas and facts and misses some details. Comprehension derives not only from situational and subject matter knowledge but from increasing control of the language. Texts at this level include descriptions and narrations such as simple short stories, news items, bibliographical information, social notices, personal correspondence, routinized business letters and simple technical material written for the general reader.
Advanced-Plus	Able to follow essential points of written discourse at the Superior level in areas of special interest or knowledge. Able to understand parts of texts which are conceptually abstract and linguistically complex, and/or texts which treat unfamiliar topics and situations, as well as some texts which involve aspects of target-language culture. Able to comprehend the facts to make appropriate inferences. An emerging awareness of the aesthetic properties of language and of its literary styles permits comprehension of a wider variety of texts, including literary. Misunderstandings may occur.
Superior	Able to read with almost complete comprehension and at normal speed expository prose on unfamiliar subjects and a variety of literary texts. Reading ability is not dependent on subject matter knowledge, although the reader is not expected to comprehend thoroughly texts which are highly dependent on knowledge of the target culture. Reads easily for pleasure. Superior-level texts feature hypotheses, argumentation and supported opinions and include grammatical patterns and vocabulary ordinarily encountered in academic/professional reading. At this level, due to the control of general vocabulary and structure, the reader is almost always able to match the meanings derived from extralinguistic knowledge with meanings derived from knowledge of the language, allowing for smooth and efficient reading of diverse texts. Occasional misunderstandings may still occur; for example, the reader may experience some difficulty with unusually complex structures and low-frequency idioms. At the Superior level the reader can match strategies, top-down or bottom-up, which are most appropriate to the text. (Top-down strategies rely on real-world knowledge and prediction based on genre and organizational scheme of the text. Bottom-up strategies rely on actual linguistic knowledge.) Material at this level will include a variety of literary texts, editorials, correspondence, general reports and technical material in professional fields. Rereading is rarely necessary, and misreading is rare.
Distinguished	Able to read fluently and accurately most styles and forms of the language pertinent to academic and professional needs. Able to relate inferences in the text to real-world knowledge and understand almost all sociolinguistic and cultural references by processing language from within the cultural framework. Able to understand a writer's use of nuance and subtlety. Can readily follow unpredictable turns of thought and author intent in such materials as sophisticated editorials, specialized journal articles, and literary texts such as novels, plays, poems, as well as in any subject matter area directed to the general reader.

APPENDIX B

Tables of Frequency
of All Strategy Use
by Spanish 1 Students
in Spring 1986:

Vocabulary
Writing
Reading/Grammar Cloze

APPENDIX

Average Frequency and Percent of Strategy Use
of Effective and Ineffective Spanish 1 Students During
VOCABULARY ACTIVITY, SPRING 1986

Learning Strategy	Effective (n=13) N	%	Ineffective (n=6) N	%	Total (n=19) N	%
METACOGNITIVE						
Planning						
Planning	0.0	0.0	0.2	2.9	0.1	1.1
Selective Attention	0.0	0.0	0.7	11.8	0.2	4.7
Self-management	0.1	1.9	0.0	0.0	0.1	1.1
Subtotal, Planning	0.1	1.9	0.8	14.7	0.3	7.0
Monitoring						
Self-monitoring	3.6	90.4	3.0	52.9	3.4	75.6
Evaluation						
Self-evaluation	0.3	7.7	1.8	32.4	0.8	17.4
TOTAL, METACOGNITIVE	4.0	100.0	5.7	100.0	4.5	100.0
COGNITIVE STRATEGIES						
Repetition	0.5	4.0	0.8	4.8	0.9	4.3
Resourcing	0.5	4.0	2.0	11.5	1.0	6.8
Translation	6.5	48.0	7.8	45.2	7.0	47.0
Grouping	0.2	1.1	0.3	1.9	0.2	1.4
Deduction/Induction	0.6	4.5	0.7	3.9	0.9	4.3
Substitution	0.1	0.0*	0.0	0.0	0.1	0.0*
Imagery	0.8	5.6	0.5	2.9	0.7	4.6
Elaboration	3.1	22.6	3.3	19.2	3.2	21.4
Transfer	0.8	5.6	0.3	1.9	0.6	4.3
Inferencing	0.5	4.0	1.5	8.7	0.8	5.7
TOTAL, COGNITIVE	13.6	100.0	17.3	100.0	14.8	100.0
SOCIAL AFFECTIVE STRATEGIES**						
Question for Clar.	3.0	100.0	5.3	100.0	3.7	100.0
TOTAL, ALL STRATEGIES	20.6		28.3		23.1	

* Less than 1%.

** Social affective strategies of cooperation and self-talk are not included here; the think aloud interviews did not elicit these strategies.

NOTE: Numbers and percentages may vary slightly due to rounding.

APPENDIX

Average Frequency and Percent of Strategy Use
of Effective and Ineffective Spanish 1 Students During
WRITING, SPRING 1986

Learning Strategy	Effective (n=9) N	%	Ineffective (n=5) N	%	Total (n=14) N	%
METACOGNITIVE						
Planning						
Planning	5.0	41.7	7.2	43.9	5.8	42.6
Self-management	0.7	5.6	0.4	2.4	0.6	4.2
Subtotal, Planning	5.7	47.2	7.6	46.3	6.4	46.8
Monitoring						
Self-monitoring	4.2	35.2	6.2	37.8	4.9	36.3
Evaluation						
Self-evaluation	2.1	17.6	2.6	15.9	2.3	16.8
TOTAL, METACOGNITIVE	12.0	100.0	16.4	100.0	13.6	100.0
COGNITIVE STRATEGIES						
Repetition	0.2	1.7	0.4	2.7	0.3	2.1
Resourcing	0.1	1.0	1.8	12.0	0.7	5.3
Translation	3.4	27.4	6.0	40.0	4.4	32.4
Grouping	0.3	2.7	0.6	4.0	0.4	3.2
Deduction/Induction	1.2	9.7	0.4	2.7	0.9	6.9
Substitution	0.9	7.1	1.4	9.3	1.1	8.0
Imagery	0.6	4.4	0.0	0.0	0.4	2.7
Elaboration	5.0	39.8	4.4	29.3	4.8	35.6
Transfer	0.3	2.7	0.0	0.0	0.2	1.6
Summarizing	0.4	3.5	0.0	0.0	0.3	2.1
TOTAL, COGNITIVE	12.6	100.0	15.0	100.0	13.4	100.0
SOCIAL AFFECTIVE STRATEGIES*						
Question for Clar.	4.3	100.0	6.6	100.0	5.1	100.0
TOTAL, ALL STRATEGIES	28.9		38.0		32.1	

* Social affective strategies of cooperation and self-talk are not included here; the think aloud interviews did not elicit these strategies.

NOTE: Numbers and percentages may vary slightly due to rounding.

NOTE: The strategies of directed attention, selective attention, note-taking, auditory representation, and inferencing do not appear in this table because no student appeared to use them during this activity.

APPENDIX

Average Frequency and Percent of Strategy Use of Effective Spanish 1 Students During CLOZE ACTIVITY, SPRING 1986

Learning Strategy	Effective (n=10) N	%	
METACOGNITIVE			
Planning			
Planning	0.2	2.4	Figures are shown for only the
Directed Attention	0.2	2.4	effective students because
Selective Attention	0.2	2.4	only 2 ineffective students
Self-management	0.3	3.5	progressed through the
Subtotal, Planning	0.9	10.6	workbook to this activity.
Monitoring			
Self-monitoring	6.0	70.6	
Evaluation			
Self-evaluation	1.6	18.8	
TOTAL, METACOGNITIVE	8.5	100.0	
COGNITIVE STRATEGIES			
Repetition	0.7	1.6	
Resourcing	1.1	2.6	
Translation	16.2	37.9	
Grouping	0.1	0.0*	
Deduction/Induction	4.7	11.0	
Substitution	0.1	0.0*	
Imagery	0.5	1.2	
Elaboration	7.0	16.4	
Transfer	3.7	8.67	
Inferencing	7.7	18.0	
Summarizing	1.0	2.3	
TOTAL, COGNITIVE	42.8	100.0	
SOCIAL AFFECTIVE STRATEGIES**			
Question for Clar.	5.5	100.0	
TOTAL, ALL STRATEGIES	56.8		

* Less than 1%.

** Social affective strategies of cooperation and self-talk are not included here; the think aloud interviews did not elicit these strategies.

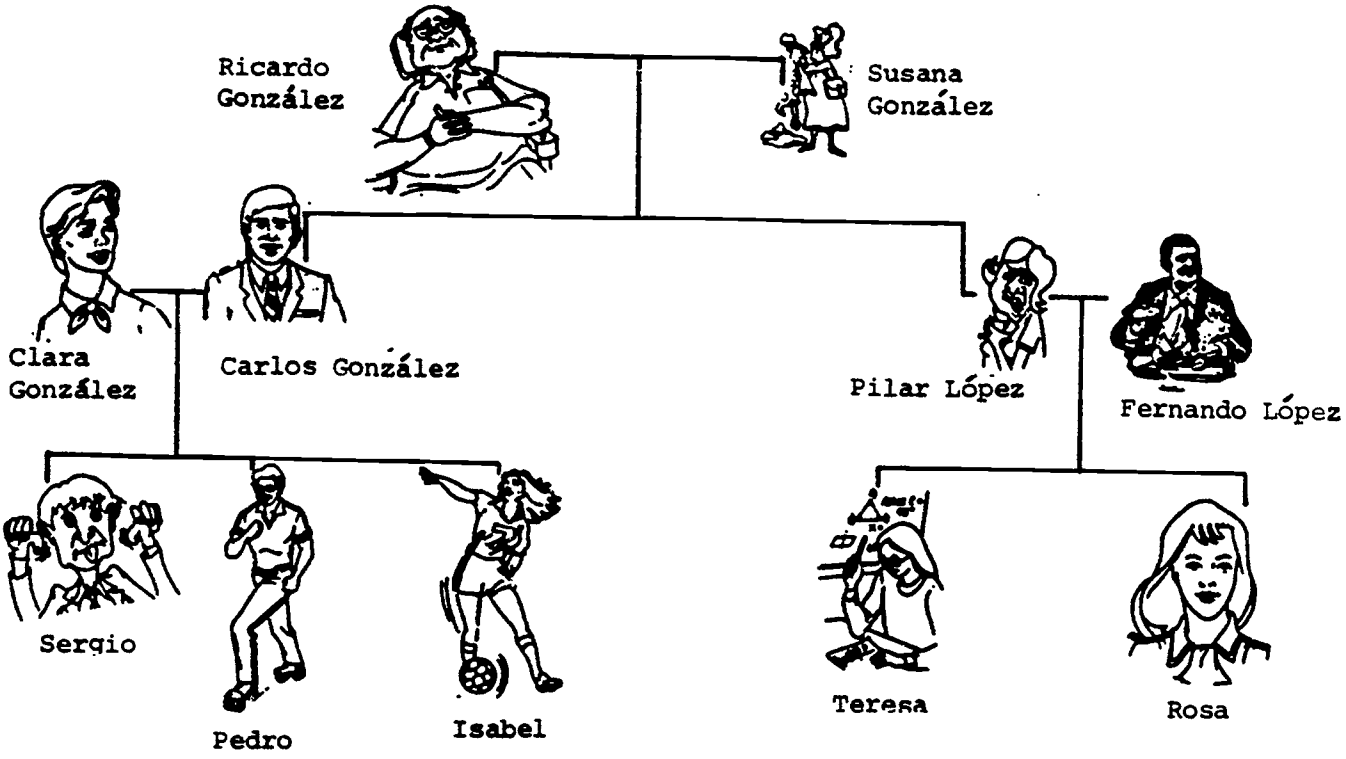
NOTE: Numbers and percentages may vary slightly due to rounding.

APPENDIX C

Spanish 1, Spring 1986
Student Workbook Pages:

Vocabulary,
"The Family Tree"

Reading/Grammar Cloze,
"A Typical Day for Juan and Rosa"



THE FAMILY TREE

Instructions: Each of the sentences below is missing a word. The sentences are based on the above family tree. Using the information presented in the family tree, fill in each blank space below with an appropriate word in Spanish to describe the family relationship.

1. Mi _____ es González.

2. El nombre de mi _____ es Susana González.

3. Hay tres hijos en mi familia: _____, _____, y yo.

4. Fernando López es mi _____. Pilar López es su _____.

5. Tengo dos _____. Se llaman Teresa y Rosa.

Pictures are drawn from Yorkey, R.C., Barrutia, R., Chamot, A.U., Rainey, I.D., Gonzalez, J.B., Ney, J.W., & Woolf, W.L. (1984). New InterCom. Boston: Heinle & Heinle.

Student Workbook

Activity 5
Grammar and Reading

Instructions: Below is a paragraph entitled "A Typical Day for Juan and His Sister Rosa." It describes Juan's day. Many of the verbs appear in their infinitive form. You are to conjugate these verbs into their action form. The first such verb is done for you as an example.

Also, some nouns are missing. These are marked by a blank line and the letter (N) (_____(N)). Try to fill in these blank spaces with an appropriate word. Think Aloud as you work!

Habla Juan:

Yo me levanto a las siete. Inmediatamente me baño (bañarse).

Rosa _____(bañarse) después de mí. A las siete y media, vamos a

la _____(N) para el desayuno. A las ocho salimos de casa y _____(ir)

a la escuela. Voy a mi _____(N) de matemáticas y Rosa _____(ir) a

su clase de historia. A las tres de la tarde regresamos juntos a la _____(N).

Mamá nos permite mirar el televisor hasta las _____(N). A esa hora, toda

la familia, incluso mi padre, se sienta a comer. Después de la cena, Rosa y

yo tenemos que _____(estudiar). Rosa es mejor estudiante que

yo; ella siempre _____(terminar) primero. A las diez en punto

ella va a dormir, pero yo no. Me acuesto a las once porque yo soy mayor.

(Source unknown.)

APPENDIX D

Spanish 3, Spring 1986
Student Workbook Pages:

Listening,
"Francisco Ramirez Velasco, minero"

Writing,
"A Busy Intersection"

Reading/Grammar Cloze,
"Un Viaje a Madrid"

Student Workbook
Level 3
Session 1

Activity 2
Listening to a Monologue

Introduction: You are about to listen to a monologue by a young man named Francisco Ramirez Velasco. He lives in South America. He is going to tell you a bit about himself and his country.

There are two pauses on the tape, one in the middle and one at the end. Each is marked by the sound of a soft bell. When the bell rings, we would like you to think aloud about how you are understanding the Spanish you hear.

Keep the following questions in mind as you listen.

1. What is Francisco's nickname in the village?

2. In what country does Francisco live? Where in this country does he live?

3. What does Francisco do for a living?

4. Does Francisco go to school during the day or at night? What subjects does he study?

5. How many students are in the program? What do they do for a living?

Script of the Listening Monologue
Spanish 3, Spring 1986

Me llamo Francisco Ramirez Velasco, pero en el pueblo donde vivo me llaman Pancho. Soy boliviano. Vivo en un lugar muy frío en las montañas de los Andes. (PAUSE)

En mi pueblo hay muchas minas. Bolivia es un país muy rico en productos minerales. Yo trabajo en una mina toda la semana de lunes a sábado. Soy minero. (PAUSE)

Yo no voy a la escuela durante el día con los otros muchachos del pueblo. Yo voy a una clase especial de siete a diez de la noche. En la clase estudiamos español, historia, y matemáticas. (PAUSE)

Hay más de veinte estudiantes en el programa nocturno. Todos son mineros. Trabajan en las minas muchas horas durante el día. (FINAL PAUSE)

Translation of Listening Monologue

My name is Francisco Ramirez Velasco, but in the village where I live they call me Pancho. I'm bolivian. I live in a very cold place in the Andes Mountains.

In my village there are many mines. Bolivia is a country that's very rich in mineral products. I work in a mine all week from Monday to Saturday. I'm a miner.

I don't go to school during the day with the other young men in the village. I go to a special class from seven to ten at night. In class we study Spanish, history and math.

There are more than 20 students in the evening program. All of them are miners. They work in the mines many hours during the day.

---

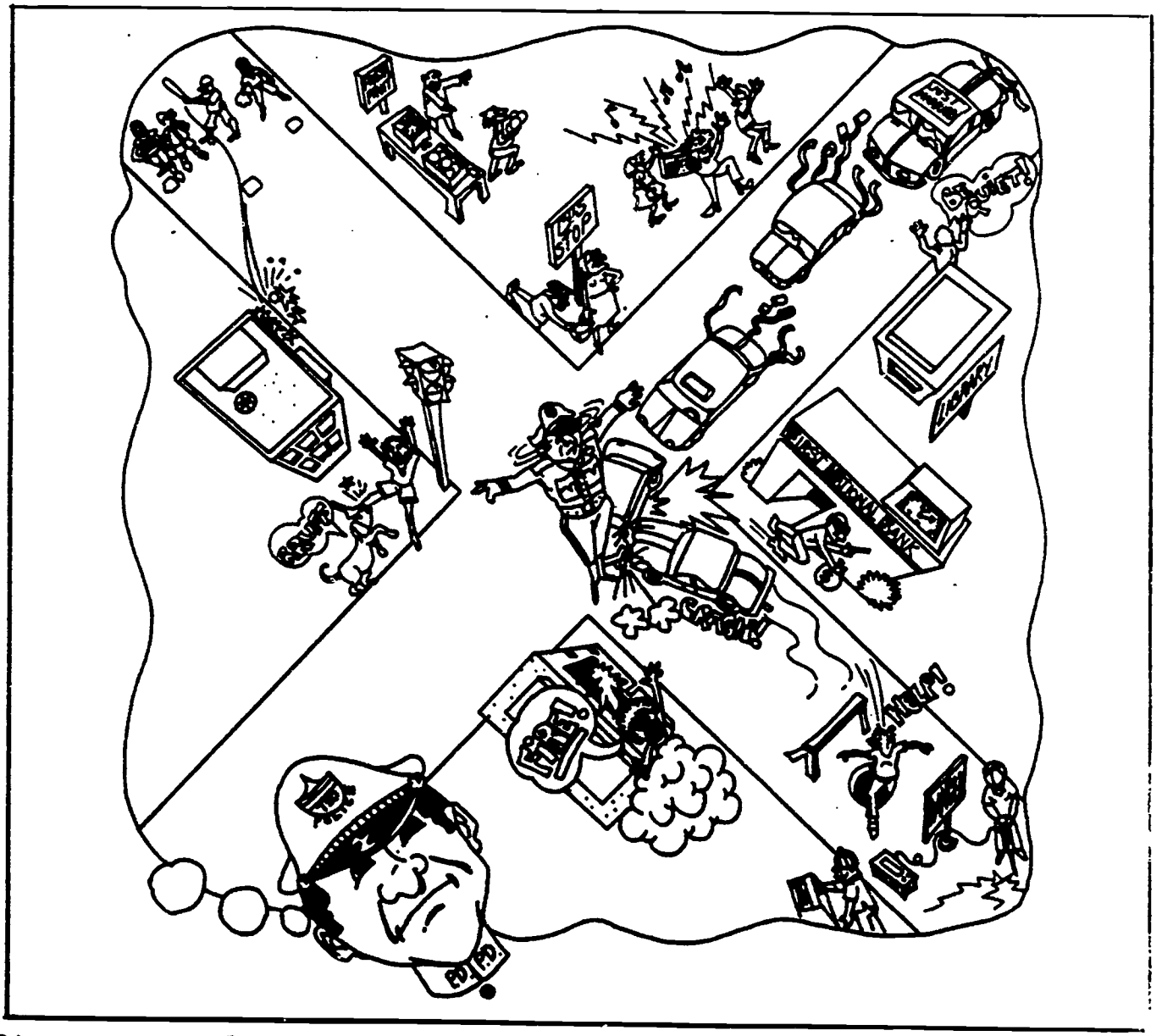
* Drawn from Lamadrid et. al (1974), page 116.

Student Workbook
Level 5

Activity 5
Writing in Spanish

Instructions: Look at the picture below. As you can see, there is something happening on every street corner and in the street itself. We would like you to pick a part of the picture to describe. You may describe more than one part, if you like.

Please write a short paragraph in Spanish describing the section of the picture that you choose. Think aloud as you work, saying what is going through your mind as you formulate each sentence in Spanish. Try to be as complete as possible. Work as you would normally work, if given a writing assignment in Spanish.



Picture drawn from Yorkey, R.C., Barrutia, R., Chamot, A.U., Rainey, I.D., Gonzalez, J.B., Ney, J.W., & Woolf, W.L. (1984). New InterCom 3 (p. 82). Boston: Heinle & Heinle.

Student Workbook
Level 3
Grammar and Reading

Activity 4
Reading and Grammar

Instructions: Below is a paragraph entitled "Un Viaje a Madrid." It describes Juanita's visit to Madrid. Many of the verbs appear in their infinitive form. You are to conjugate these verbs into their action form, if appropriate. Some verbs will be conjugated into the present tense, others into the past, still others into the subjunctive. The first such verb is done for you as an example.

Think Aloud as you work!

Habla Juanita Cotero:

El año pasado yo fui (ir) a Madrid para visitar (visitar) a mi prima Clara. Además de ser mi prima, ella _____ (ser) buena amiga también. Ella _____ (vivir) con su familia en una casa tan enorme que yo _____ (poder) tener mi propria alcoba. Durante el día Clara me _____ (llevar) en su coche por toda la ciudad. ¡Ahora yo conozco muy bien a Madrid! Nosotros _____ (divertirse) tanto que yo no _____ (querer) irme. Pero, al fin _____ (tener) que regresar a los Estados Unidos. Cuando yo me despidí de ella en el aeropuerto, ella me _____ (dar) un abrazo fuerte y me _____ (decir):

"Juanita yo espero que tú _____ (poder) visitarme el año que _____ (venir)." ¡Y eso es exactamente lo que yo voy a hacer!

Translation of Reading and Grammar Activity (Un Viaje a Madrid; A trip to Madrid)

Juanita Cotero is speaking:

Last year I went to Madrid to visit my cousin Clara. Besides being my cousin, she is also a good friend. She lives with her family in a house that's so big I could have my own room. During the day Clara took me all over the city in her car. Now I know Madrid very well! We had such a good time that I didn't want to leave. But, in the end I had to return to the United States. When I said good-bye to her in the airport she gave me a strong hug and told me: "Juanita, I hope that you can visit me next year." And that's exactly what I'm going to do!

APPENDIX E

Tables of Frequency
of All Strategy Use
by Spanish 3 Students
in Spring 1986:

Listening
Writing
Reading/Grammar Cloze

APPENDIX

Average Frequency and Percent of Strategy Use
of Effective and Ineffective Spanish 3 Students:
LISTENING, SPRING 1986

Learning Strategy	Effective (n=7) N	%	Ineffective (n=4) N	%	Total (n=11) N	%
METACOGNITIVE						
Planning						
Planning	0.4	3.6	0.8	8.1	0.6	5.0
Directed Attention	0.4	3.6	0.5	5.4	0.5	4.1
Selective Attention	3.6	29.8	1.3	13.5	2.7	24.8
Self-management	0.4	3.6	1.0	10.8	0.6	5.8
Subtotal, Planning	4.9	40.5	3.5	37.8	4.4	39.7
Monitoring						
Self-monitoring	5.4	45.2	5.3	56.8	5.4	49.8
Evaluation						
Self-evaluation	1.7	14.3	0.5	5.4	1.3	11.6
TOTAL, METACOGNITIVE	12.0	100.0	9.3	100.0	11.0	100.0
COGNITIVE STRATEGIES						
Repetition	0.3	1.8	0.5	5.7	0.4	2.8
Resourcing	0.0	0.0	0.5	5.7	0.2	1.4
Translation	0.9	5.5	1.0	11.4	0.9	6.9
Note-taking	4.3	27.3	1.5	17.1	3.3	24.8
Deduction/Induction	0.0	0.0	0.3	2.9	0.1	1.0
Imagery	0.9	5.5	0.8	8.6	0.8	6.2
Auditory Representat.	0.1	1.0	0.3	2.9	0.2	1.4
Elaboration	5.7	36.4	0.8	8.6	3.9	29.7
Transfer	0.9	5.5	1.3	14.3	1.0	7.6
Inferencing	2.4	15.5	1.8	20.0	2.2	16.6
Summarizing	0.3	1.8	0.3	2.9	0.3	2.1
TOTAL, COGNITIVE	15.7	100.0	8.8	100.0	13.2	100.0
SOCIAL AFFECTIVE STRATEGIES*						
Question for Clar.	1.1	100.0	2.0	100.0	1.5	100.0
TOTAL, ALL STRATEGIES	28.9		20.0		25.6	

* Social affective strategies of cooperation and self-talk are not included here; the think aloud interviews did not elicit these strategies.

NOTE: Numbers and percentages may vary slightly due to rounding.

APPENDIX
Average Frequency and Percent of Strategy Use
of Effective and Ineffective Spanish 3 Students:
WRITING, SPRING 1986

Learning Strategy	Effective (n=7) N	%	Ineffective (n=3) N	%	Total (n=10) N	%
METACOGNITIVE						
Planning						
Planning	11.1	29.0	5.3	28.1	9.4	28.8
Selective Attention	0.3	0.0*	0.0	0.0	0.2	0.0*
Self-management	0.1	2.6	0.3	1.8	0.8	2.5
Subtotal, Planning	12.4	32.3	5.7	29.8	10.4	31.9
Monitoring						
Self-monitoring	16.0	41.6	9.3	49.1	14.0	42.9
Evaluation						
Self-evaluation	10.0	26.0	4.0	21.1	8.2	25.2
TOTAL, METACOGNITIVE	38.4	100.0	19.0	100.0	32.6	100.0
COGNITIVE STRATEGIES						
Repetition	2.0	6.5	0.7	3.4	1.6	5.9
Resourcing	0.9	2.8	1.7	8.5	1.1	4.0
Translation	7.9	25.7	6.7	33.9	7.5	27.5
Grouping	0.6	1.9	0.0	0.0	0.4	1.5
Note-taking	0.1	0.0*	0.0	0.0	0.1	0.0*
Deduction/Induction	4.3	14.0	1.7	8.5	3.5	12.8
Substitution	4.4	14.5	0.7	3.4	3.3	12.1
Imagery	0.4	1.4	0.0	0.0	0.3	1.1
Elaboration	6.3	20.6	5.7	28.8	6.1	22.3
Transfer	2.1	7.0	1.0	5.1	1.8	6.6
Inferencing	0.7	2.3	0.0	0.0	0.5	1.8
Summarizing	0.9	2.8	1.7	8.5	1.1	4.0
TOTAL, COGNITIVE	30.6	100.0	19.7	100.0	27.3	100.0
SOCIAL AFFECTIVE STRATEGIES**						
Question for Clar.	5.7	100.0	8.0	100.0	6.4	100.0
TOTAL, ALL STRATEGIES	74.7		46.7		66.3	

* Less than 1%.

** Social affective strategies of cooperation and self-talk are not included here; the think aloud interviews did not elicit these strategies.

NOTE: Numbers and percentages may vary slightly due to rounding.

APPENDIX

Average Frequency and Percent of Strategy Use
of Effective and Ineffective Spanish 3 Students During
CLOZE, SPRING 1986

Learning Strategy	Effective (n=7) N	%	Ineffective (n=4) N	%	Total (n=11) N	%
METACOGNITIVE						
Planning						
Planning	0.4	2.2	0.5	5.4	0.5	2.9
Directed Attention	0.4	2.2	0.0	0.0	0.3	1.7
Selective Attention	0.4	2.2	1.0	10.8	0.6	4.1
Self-management	0.9	4.4	0.0	0.0	0.6	3.5
Subtotal, Planning	2.1	11.1	1.5	16.2	1.9	12.2
Monitoring						
Self-monitoring	14.1	73.3	6.3	67.6	11.3	72.1
Evaluation						
Self-evaluation	3.0	15.6	1.5	16.2	2.5	15.7
TOTAL, METACOGNITIVE	19.3	100.0	9.3	100.0	15.6	100.0
COGNITIVE STRATEGIES						
Repetition	0.3	0.1	0.5	2.2	0.4	1.2
Resourcing	0.0	0.0	0.5	2.2	0.2	0.1
Translation	9.1	27.1	6.3	27.8	8.1	27.3
Grouping	0.6	2.5	0.0	0.0	0.4	1.2
Note-taking	0.6	2.5	0.3	1.1	0.5	1.5
Deduction/Induction	11.0	32.6	7.0	31.1	9.5	32.2
Imagery	0.3	0.1	0.3	1.1	0.3	0.1
Elaboration	8.1	24.2	4.3	18.9	6.7	22.7
Transfer	0.6	2.5	1.0	4.4	0.7	2.5
Inferencing	1.9	5.5	1.5	6.7	1.7	5.8
Summarizing	1.3	3.8	1.0	4.4	1.2	4.0
TOTAL, COGNITIVE	33.7	100.0	22.5	100.0	29.6	100.0
SOCIAL AFFECTIVE STRATEGIES*						
Question for Clar.	4.4	100.0	5.8	100.0	4.9	100.0
TOTAL, ALL STRATEGIES	57.4		37.5		50.2	

* Social affective strategies of cooperation and self-talk are not included here; the think aloud interviews did not elicit these strategies.

NOTE: Numbers and percentages may vary slightly due to rounding.

APPENDIX F

Spanish 5, Spring 1986
Student Workbook Pages:

Reading/Grammar Cloze
"Los desaparecidos"

Writing
(see picture in Appendix D)

Student Workbook
Level 5

Activity 4
Reading and Grammar

Instructions: Below is a paragraph entitled "Los desaparecidos." Many of the verbs appear in their infinitive form. You are to conjugate these verbs into their action form. The first such verb is done for you as an example. Think Aloud as you work!

Casi cada día en los periódicos de Madrid o Barcelona se pueden leer artículos como éste: "Ha desaparecido (desaparecer) de la casa de sus padres el chico de dieciseís años, X. Lleva pantalones y suéter azules, y _____(ser) alto y robusto. Si puede identificar al muchacho por esta foto, _____(llamar) por teléfono a sus padres."

En el pasado, ésto _____(occurir) poco, y además era siempre en serio. El adolescente iba a otro país, a otra ciudad, _____(hacerse) un hombre, y cuando tenía una posición, una mujer, y a veces unos hijos, _____(volver) a la casa de sus padres, feliz de haber realizado estas cosas "por sus propios medios."

Pero ahora hay una diferencia fundamental. Hoy día, los adolescentes no _____(querer) escaparse a otro país ni a otra ciudad. El objetivo _____(ser) vivir en la misma ciudad de sus padres, pero en otro apartamento. El año pasado la mayoría de los jóvenes alemanes que _____(entrar) en la Universidad de Berlín _____(tener) su residencia aparte de sus padres, aunque en la misma ciudad.

Drawn from Rivers, W.M., Azevedo, M.M., Heflin, W.H., & Hyman-Opler, R. (1976). A practical guide to the teaching of Spanish (p. 208). New York: Oxford University Press.

APPENDIX G

Tables of Frequency
of All Strategy Use
by Spanish 5 Students
in Spring 1986:

Reading/Grammar Cloze

EXHIBIT III - 19

Strategies Showing Differences in Average Usage
Between Effective and Less Effective Spanish 5 Students
During the CLOZE, Spring 1986

Learning Strategy	Effective (n=2) N	%	Less Effective (n=2) N	%
Metacognitive Strategies				
Selective Attention	2.5	14.3	0.0	-
Self-monitoring	8.0	45.7	5.5	61.1
Self-evaluation	7.0	40.0	3.5	38.9
T[illegible]letacognitive	17.5	100.0	9.0	100.0
Cognitive Strategies				
Translation	5.0	18.6	10.5	39.6
Deduction/Induction	7.0	25.9	10.0	37.7
Elaboration	9.5	35.2	2.5	9.4
Inferencing	4.0	14.8	1.0	3.8
Other Cognitive	1.5	5.5	2.5	9.4
Total, Cognitive	27.0	100.0	26.5	100.0
Social/Affective Strategies				
Questioning for Clar/Verif	1.0	66.7	6.0	100.0
Self-talk	0.5	33.3	0.0	-
Total, Social/Affective	1.5	100.0	6.0	100.0
TOTAL, ALL STRATEGIES	46.0		41.5	

Note: Numbers and percentages may vary slightly due to rounding.

APPENDIX H

Spanish 4, Spring 1987
Student Workbook Pages:

Listening
"Prohibido Fumar en el Tranvia"

Writing
"A Crowded Hotel Lobby"

Drawn from Rivers, W.M., Azevedo, M.M., Heflin, W.H., & Hyman-Opler, R. (1976). A practical guide to the teaching of Spanish (p. 199). New York: Oxford University Press.

Listening Script for "Prohibido Fumar en el Tranvia"

Un tranvía va por la calle Cangallo en Buenos Aires. Un viejo con una pipa en la boca lo detiene en una esquina y sube. Paga sus diez centavos al cobrador y se sienta. Se sienta directamente bajo un letrero que dice: PROHIBIDO FUMAR EN EL TRANVIA. Sigue con la pipa en la boca. (PAUSE)

El cobrador lo nota y se acerca. "Perdone Ud., señor," dice el cobrador, "pero está prohibido fumar en el tranvía."
"Lo sé," responde el de la pipa. "Aquí tenemos un letrero que lo anuncia." Y señala el letrero. (PAUSE)

"Muy bien," continúa el cobrador, "pero si Ud. insiste en fumar, tengo que hacerle bajar del tranvía. Es el reglamento."
"No insisto en fumar," dice el viejo, que todavía tiene en la boca la famosa pipa, de la cual sube el humo en espiral. (PAUSE)

"Luego deje Ud. de fumar," responde el cobrador.
"No estoy fumando," vuelve a decir el pasajero.
"Pues, ¿no tiene Ud. la pipa en la boca?" pregunta el cobrador.
"Claro que tengo la pipa en la boca," dice el viejo.
"Y no tiene tabaco en la pipa?" pregunta el cobrador.
"Por supuesto," responde el otro. "Pero no estoy fumando." (PAUSE)

El cobrador dice, "¿Y no sale humo de la pipa?"
"Claro," vuelve a decir el viejo, "pero digo que no estoy fumando." Y luego añade, extendiendo un pie delante del cobrador, "¿Ve Ud. mis pies? Llevo zapatos, un zapato en cada pie, pero eso no significa que estoy caminando a pie." (PAUSE)

Ante la lógica del pasajero, el cobrador tiene que retirarse y no le molesta más. (FINAL PAUSE)

(Translation provided on the next page.)

Translation "No Smoking in the Streetcar"

A streetcar goes down the street Cangallo in Buenos Aires. An old man with a pipe in his mouth stops the streetcar on a corner and gets on. He pays his ten centavos to the conductor and sits down. He sits directly underneath of a sign that says: SMOKING IS NOT ALLOWED IN THE STREETCAR. He continues with the pipe in his mouth.

The conductor notices this and goes up to him. "Excuse me, sir," says the conductor, "but smoking is not allowed in the streetcar." "I know," responds he of the pipe. "Here we have a sign that says so." And he points to the sign.

"Very well," continues the conductor, "but if you insist on smoking, I'm going to have to make you get off the streetcar. It's the law."
"I'm not insisting on smoking," says the old man, who still has, in his mouth, the famous pipe,from which smoke is rising in a spiral.

"Then stop smoking," responds the conductor.
"I'm not smoking," repeats the passenger.
"Don't you have the pipe in your mouth?" asks the conductor.
"Of course I have the pipe in my mouth," says the old man.
"And isn't there tobacco in the pipe?" asks the conductor.
"Of course," responds the other. "But I'm not smoking."

The conductor says, "And isn't smoke coming out of the pipe?"
"Clearly," returns the old man, "but I tell you I'm not smoking."
And then he adds, extending his foot in front of the conductor, "Do you see my feet? I'm wearing shoes, a shoe on each foot, but that doesn't mean that I'm walking on foot."

Faced with the logic of the passenger, the conductor has to withdraw and he doesn't bother him anymore.

Picture used at all levels for writing, Spring 1987.

WRITING

Drawn from: World English 4: The HBJ English Program. (p. 94). New York: Harcourt Brace Jovanovich.