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ABSTRACT

This study investigated over a 3-year period the learning strategies high school students reported using for learning a second language. The learning strategies used across languages and modalities are described. The report is organized by instrument--questionnaires, small group interviews, individual think-aloud interviews--and presents the data for the various languages and levels of study accordingly. Students of all languages are consciously aware of the techniques they use to learn a language. When implementing learning strategies, teachers should build on students' existing knowledge of strategies. Students should be included in the instructional process by allowing them to identify and share their most effective techniques for different language tasks. Questionnaire data reveal that students can benefit from using strategies more often, but that in order to do so, students need to have the metacognitive knowledge of why and when each strategy is effective. Increased metacognition of how strategies work across the skill areas may help students make appropriate strategy choices. (Contains five Tables, 17 figures, and five appendices--the questionnaires, the group interview guide, student quotations from group interviews, the think aloud interview guide, and the learning strategies coding scheme for think aloud interviews.) (KFT)

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LANGUAGE LEARNING STRATEGIES USE BY SECONDARY FOREIGN LANGUAGE STUDENTS

Introduction

The Georgetown University/Center for Applied Linguistics National Foreign Language Resource Center, funded by a grant from the U.S. Department of Education, conducted research to investigate the types of learning strategies secondary foreign language students report using for learning a second language. The study collected data over a three year period (1993-1996) from students of Chinese, Japanese, German, Russian and Spanish. Three types of data collection were used: questionnaire, small group interviews and individual think-aloud interviews. This report describes students strategies use across languages and modalities and for each individual language and modality. Because each instrument collected different types of data for various languages and levels the report is organized by instrument and presents results for each.

Instruments

Information on strategies use can be elicited by a variety of methods: asking students to describe their strategy use retrospectively, observing strategies use while a student is working on a task, administering a strategies questionnaire, and maintaining student strategy learning logs throughout a language study program. Each data collection method contains strengths and weaknesses. For instance, on a questionnaire students respond to strategy items determined by the researcher; thus the scope of strategies is limited. However, a questionnaire allows researchers to focus on specific strategies and to make comparisons across students on individual strategy items.

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It is also easier to administer and score questionnaires for large subject populations.

Think-aloud interviews allow students to report all the strategies they are using for a given task, and the researcher can be assured of the validity of the strategies by actually observing student's behavior. However, the think-aloud only represents strategies use for a specific task, and if the task does not require a strategy, the strategy will not be observed. Think-aloud data is also more difficult to analyze consistently in comparison to questionnaire data as students do not always report individual strategic behaviors in clear, definable terms.

Open-ended student interviews, in which the researcher asks students to report on the types of strategies used for learning different language modalities, provide a broad range of techniques and students are able to explain their concept of strategies in their own words. However, in interviews students report only strategies they can remember at that time or those of which they are conscious of using. Interviews also risk the danger of including strategies students think they should be using versus those they actually use.

Learning logs require students to keep track of strategies over a period of time. They are useful as an assessment instrument for students and they can give a picture of students' strategy development. Logs, though, are logistically difficult to maintain and verify as they cannot be administered by researchers. Due to the advantages and limitations of each type of instruments, in this study researchers assessed strategies use by implementing three types of instruments, two of which included self-report retrospective strategies use and one which captured students' thought processes on-line while actually working on a language task. The triangulation of instruments implemented allowed researchers to create a broad picture student' strategies use. Table 1 provides a summary of details for each instrument.

Table 1. Instruments

Instrument	Administration Dates	Information Collected
Learning Strategies Questionnaire	Spring 1994	Self-reported retrospective types and frequencies of strategies use for different language modalities
Group Interviews	Spring 1995	Self-reported retrospective types of strategies students prefer and find effective for different language modalities
Student Think Aloud Interviews	Spring 1994 Spring 1995 Spring 1996	On-line types of learning strategies students report using while working on reading and speaking tasks in the target language

A more detailed description of instruments, data collection and analysis procedures is presented in each section of the report.

Learning Strategies Questionnaire (LSQ)

The LSQ was used to collect data on the types of strategies students report using and the frequency with which they use them. The format of the questionnaire was modeled on measures previously developed by the researchers to identify students' learning strategies use. It elicits strategies use for the modalities of reading, listening, and speaking as well as learning vocabulary. Questionnaires were identical across languages and administered by the classroom teacher with a maximum time of 25 minutes for completion. Students responded to the questionnaire by marking whether they used a strategy *almost always, usually, sometimes, rarely*, or *never*. Student responses were given numerical values from 0 to 4 with 0 representing the response *never* and 4 representing

the response *almost always*. (See Appendix A for a copy of the LSQ.)

To develop the questionnaire a set of focal strategies was determined based on student interviews and teacher input with the most frequently mentioned and taught strategies included. Learning strategies were selected to represent the processes of planning, monitoring, problem-solving and evaluating for the chosen modalities. Table 2 lists the strategies and definitions used by the researchers for developing and interpreting the questionnaire data.

Table 2. Strategy Names and Definitions

Strategies for Comprehending and Producing Language	
PLANNING	
Set goals	Understanding the task and deciding what to get out of it
Activate background knowledge	Bringing to mind information known about the topic, the world, and the language to help do the task
Predict/Brainstorm	Thinking of the kinds of words, phrases, and information that one can expect to encounter or to use, based on background knowledge and/or information encountered in the task
Selectively Attend	Choosing to focus on specific aspects of language or situational details that will help perform the task
REGULATING	
Ask if it makes sense	Checking understanding when comprehending or self clarity when producing
Use background knowledge	Comparing the message to known information to see if it makes sense; Focusing on what one knows how to say, including language structures, topics, and personal experiences
Visualize	Create an image that represents the message
Manipulate/ Act out	Manipulating tangible objects, role-playing, or pantomiming the situation to contextualize language
Self-Talk	Making positive statements to self to help get through challenging tasks
Cooperate	Working with others to complete tasks and/or give and receive feedback

PROBLEM-SOLVING	
Inference/Substitute	Guessing the meaning of unfamiliar language, filling in missing information, and substituting known language structures for unknown based on context clues, content, language
Ask questions to clarify	Asking for explanation, verification, rephrasing, or examples
Use resources	Using reference materials such as dictionaries, textbooks, and computer programs
EVALUATING	
Verify predictions and guesses	Checking whether predictions/expectations were met in the task
Summarize	Creating a mental, oral, or written summary of information
Check goals	Deciding whether goals were met for the task
Evaluate self	Evaluating how well language was understood or used in the task
Evaluate strategies	Judging how well strategies were applied to the task
Remembering Strategies for Vocabulary	
Manipulate/ Act out	Moving or holding related or symbolic objects while talking or thinking about the information; role-playing the meaning of the word or phrase
Visualize	Creating an image that represents the definition of the word and associating this image word is encountered
Imagine with keyword	Using keyword imagery method link pictures and words
Personalize	Making a personal association with the word
Group	Relating or classifying words according to attributes
Cooperate	Working with others to learn new words and phrases
Transfer/Cognates	Using what you know about language to help recognize and remember new words
Self-Evaluate	Testing oneself to see if words have been learned

Subjects. Students were drawn from Chinese, German, Japanese, Russian, and Spanish high school classes in the Washington DC Metropolitan area. All student participation was voluntary and only students from whom parental permission was obtained participated in the study. All the students

came from the same public school district and thus followed the same overall language curriculum implemented by the county. The curriculum was based on functional standards that students at each language level should be able to complete (e.g., by the end of level 1 students should be able to describe physical characteristics of people).

Table 3. Student numbers by language and level for LSQ

Learning Strategies Questionnaire	
Language and Level	**Number of Students**
Chinese 1-4	21
German 2	15
Japanese 1	49
Russian 1	27
Spanish 1	23

Results.To find out which strategies students used most, means were calculated across classes for individual items on the Learning Strategies Questionnaire. Figure 1 shows a ranking of vocabulary strategies, from those reported as most frequent to those reported as least frequent. The most frequent vocabulary strategies were self-testing, using cognates/transferring linguistic knowledge, and grouping similar vocabulary. Figure 2 ranks strategy means across speaking, listening and reading. Strategies used most often across tasks (Mean of 2 or higher on a scale of 0 to 4), included: using background knowledge; monitoring comprehension or production; inferencing; and selectively attending to information.

Figure 1

STUDENT USE OF STRATEGIES

VOCABULARY

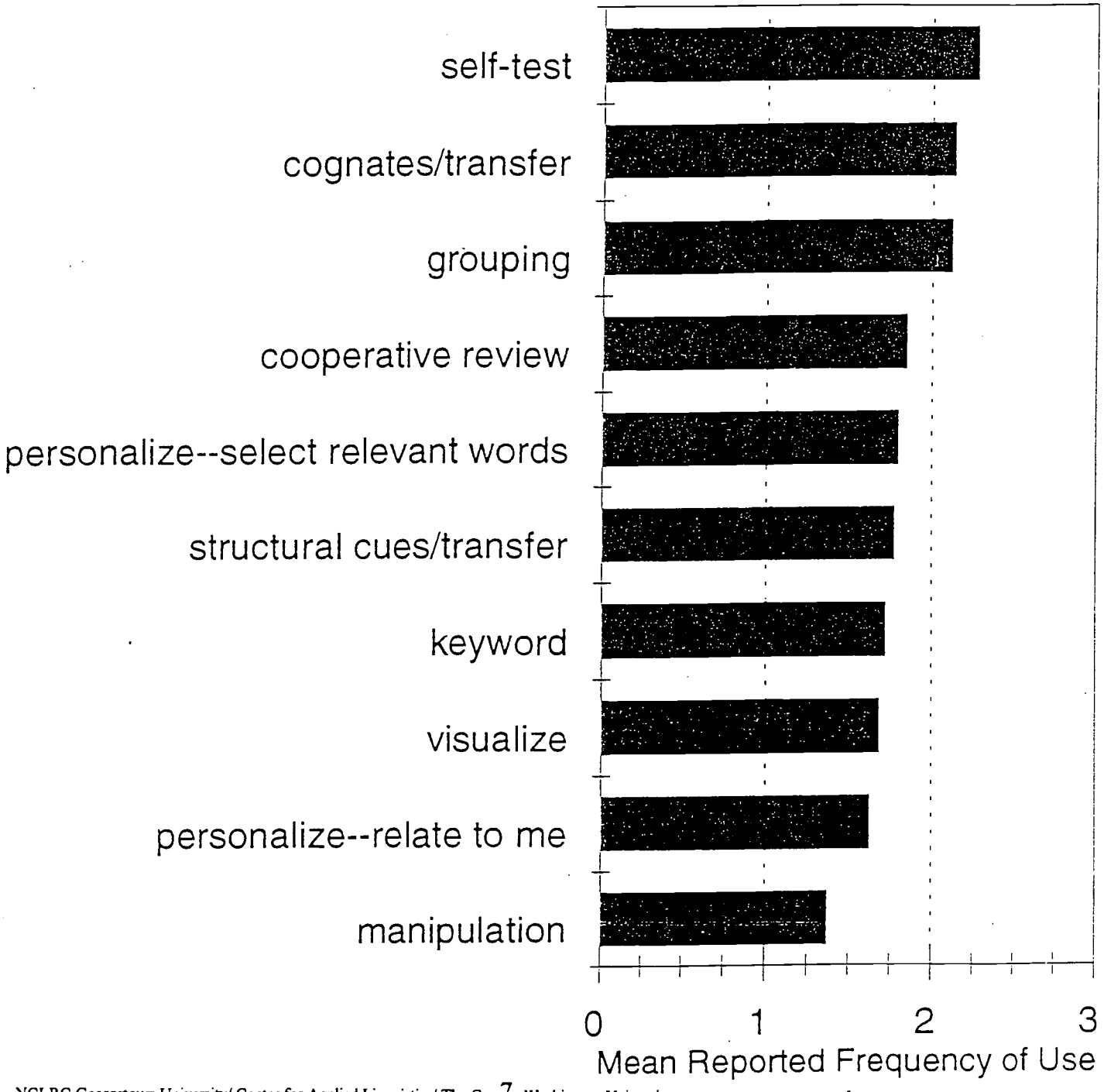


Figure 2

STUDENT USE OF STRATEGIES

ACROSS MODALITIES

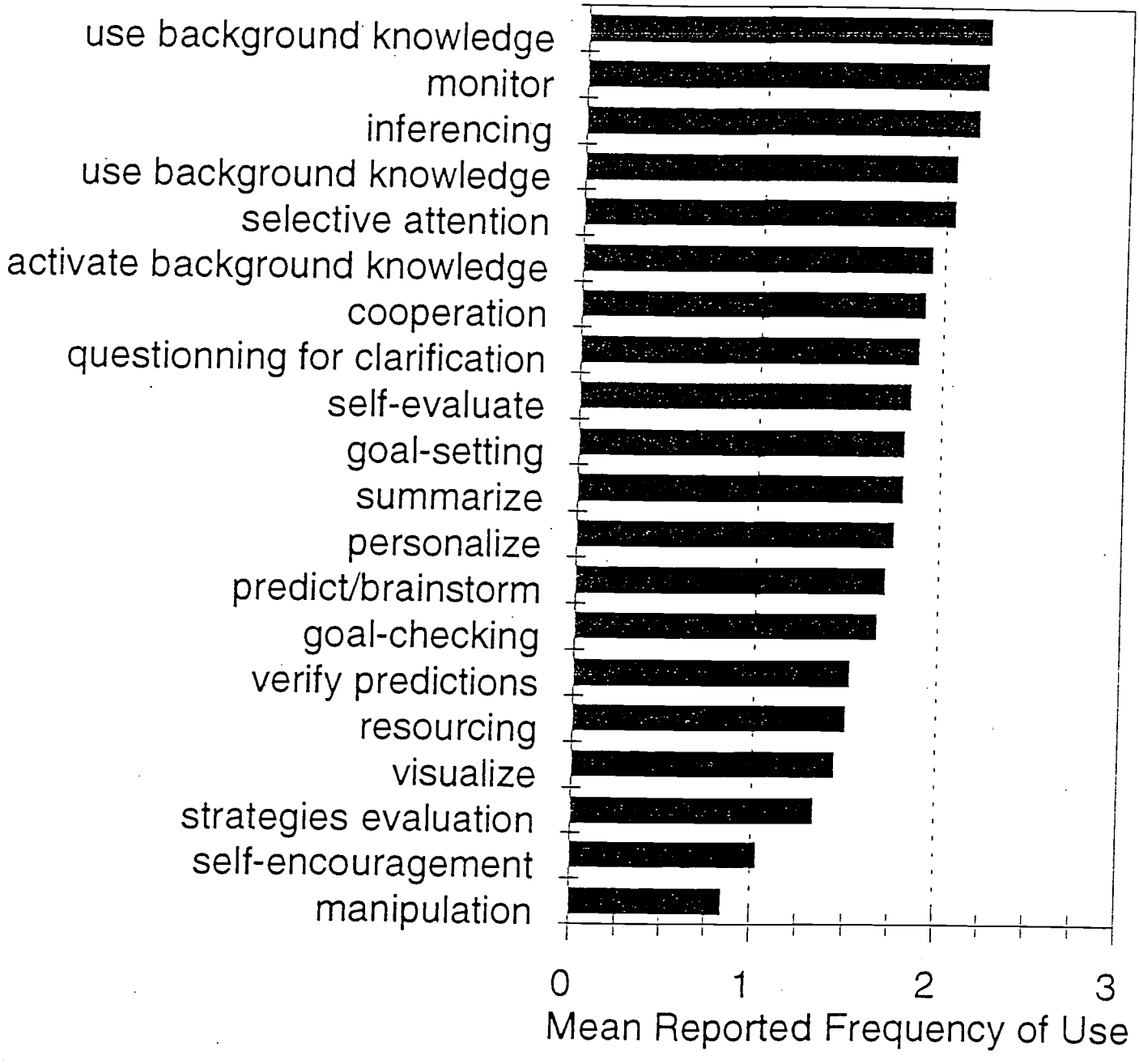


Figure 3 organizes strategies according to the processes of planning, regulating, problem-solving, and evaluating, and compares comprehension strategies with production strategies. Across classes, students reported using strategies at almost identical frequency for reading and listening; therefore, these were combined in Figure 3 by taking the mean of each strategy across reading and listening. In contrast, students used strategies differently for speaking than for comprehension, as shown in Figure 3. The following strategies were reported as more frequent for speaking than for reading and listening: questioning for clarification; personalizing; goal-setting; predicting or brainstorming; giving self-encouragement; cooperating; and manipulating objects/role-playing (although this was still the lowest-ranked strategy for each modality). Strategies used more often for comprehension than production included self-evaluating and visualizing.

The data was also manipulated to create graphs for strategies within a language to compare speaking, reading, and listening for the separate languages. The graphs (Figures 4, 5, 6, 7, 8) confirmed that there were few differences reported in strategies use between reading and listening, whereas strategies for speaking often differed in frequency from those for comprehension.

Figure 3

Students' Strategies Use

Speaking versus Reading/Listening

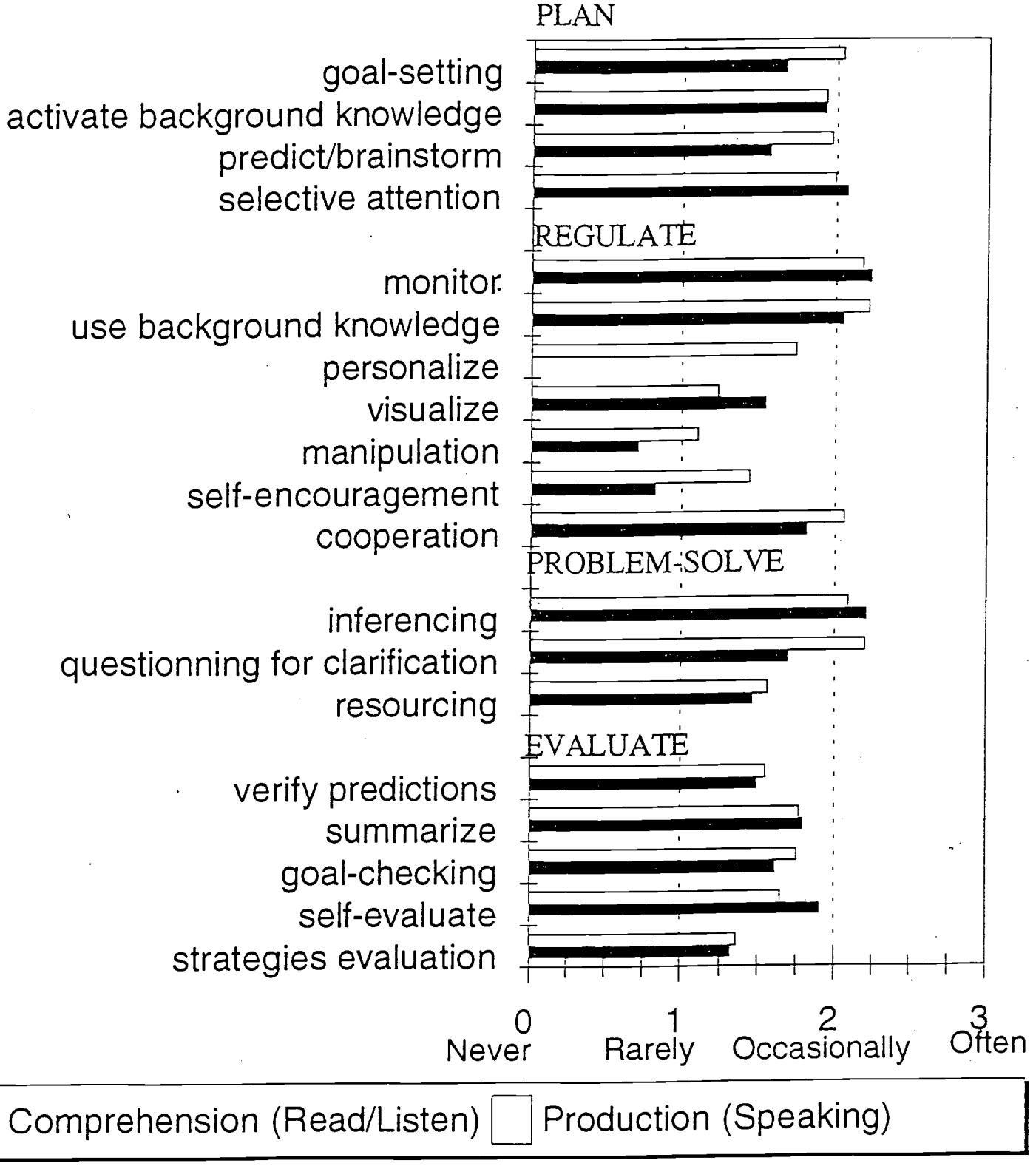


Figure 4

Chinese 1-4 Students' Strategies

Comparing Speaking, Reading, Listening

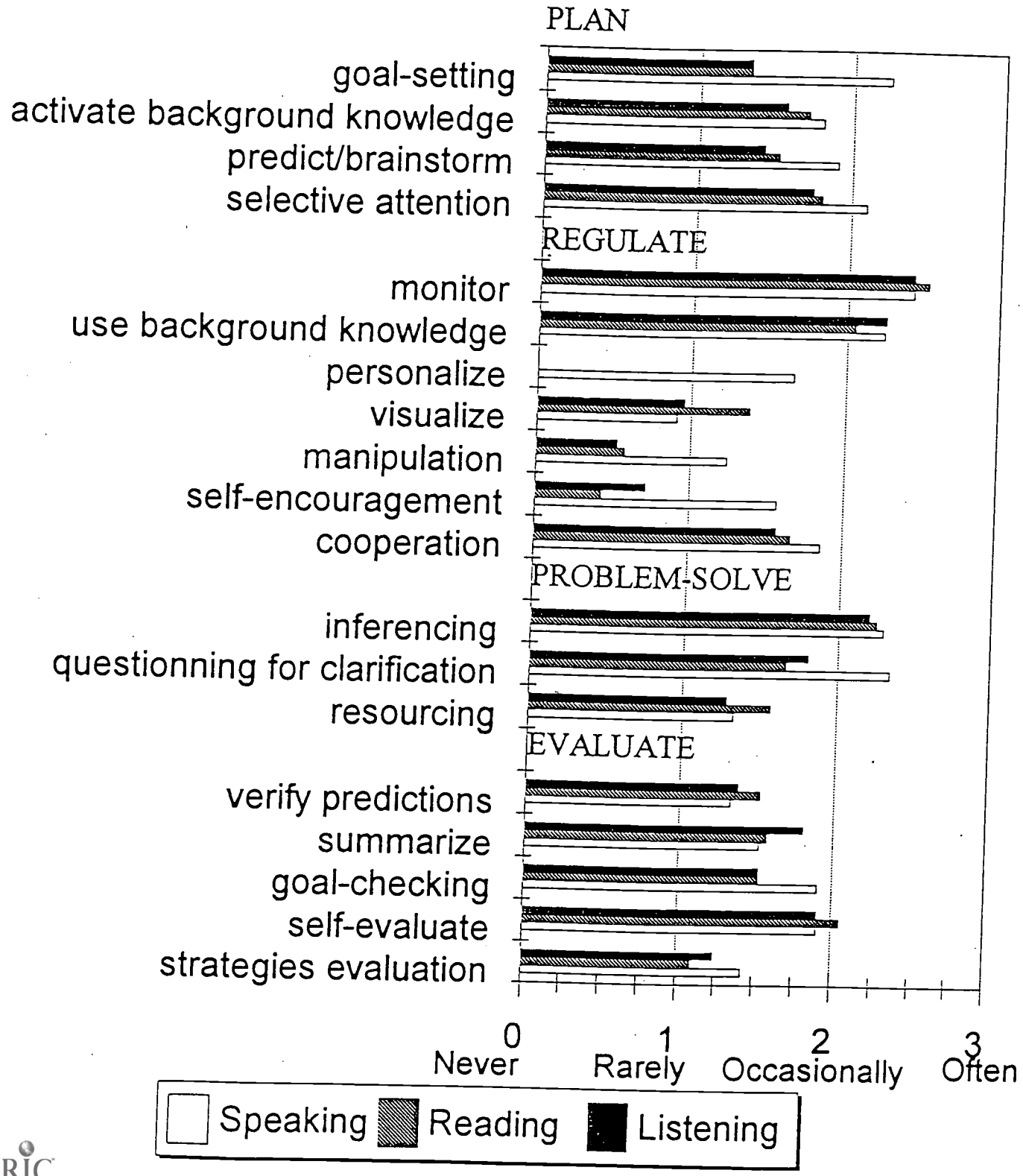


Figure 5

German 2 Students' Strategies

Comparing Speaking, Reading, Listening

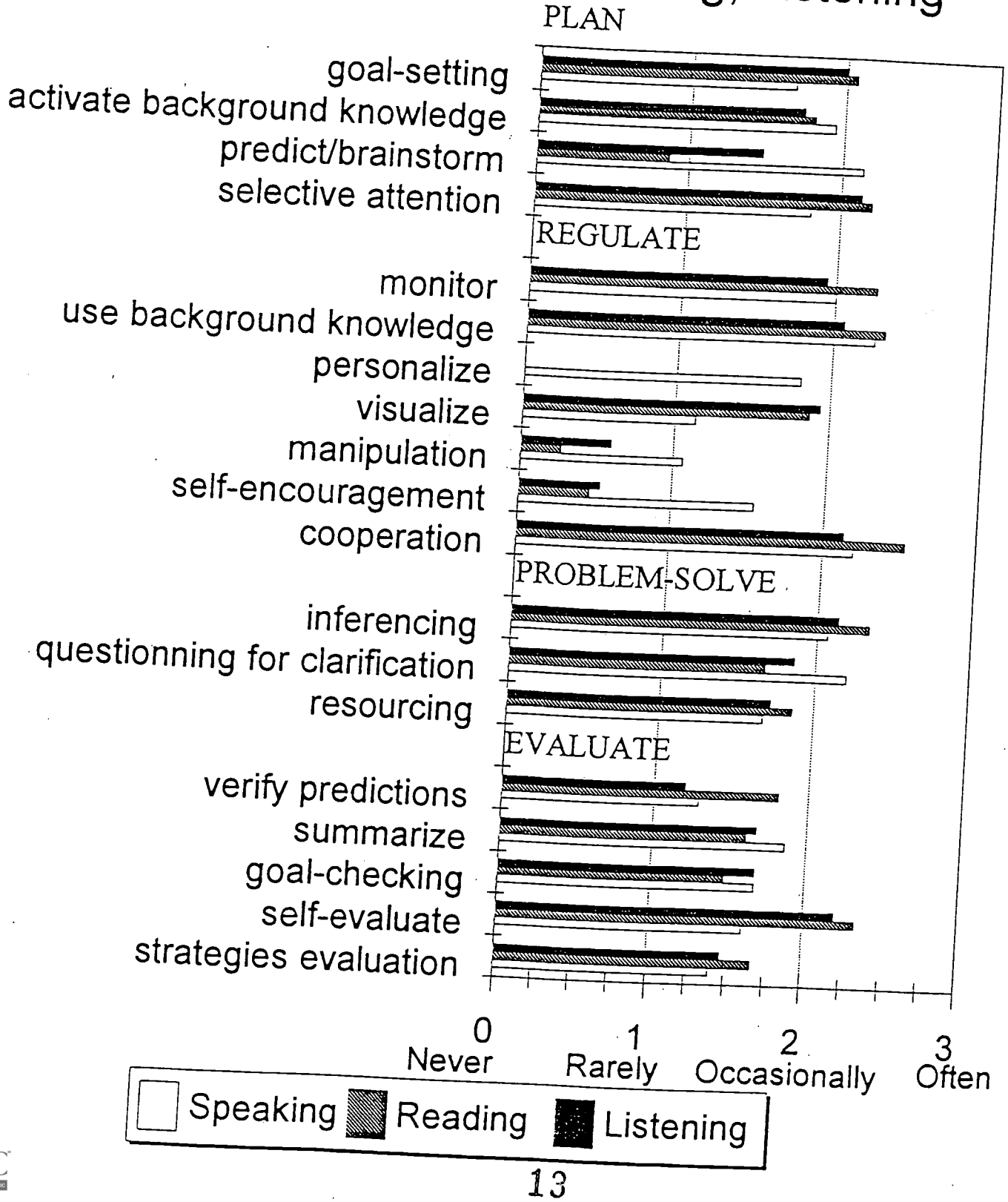


Figure 6

Japanese 1 Students' Strategies

Comparing Speaking, Reading, Listening

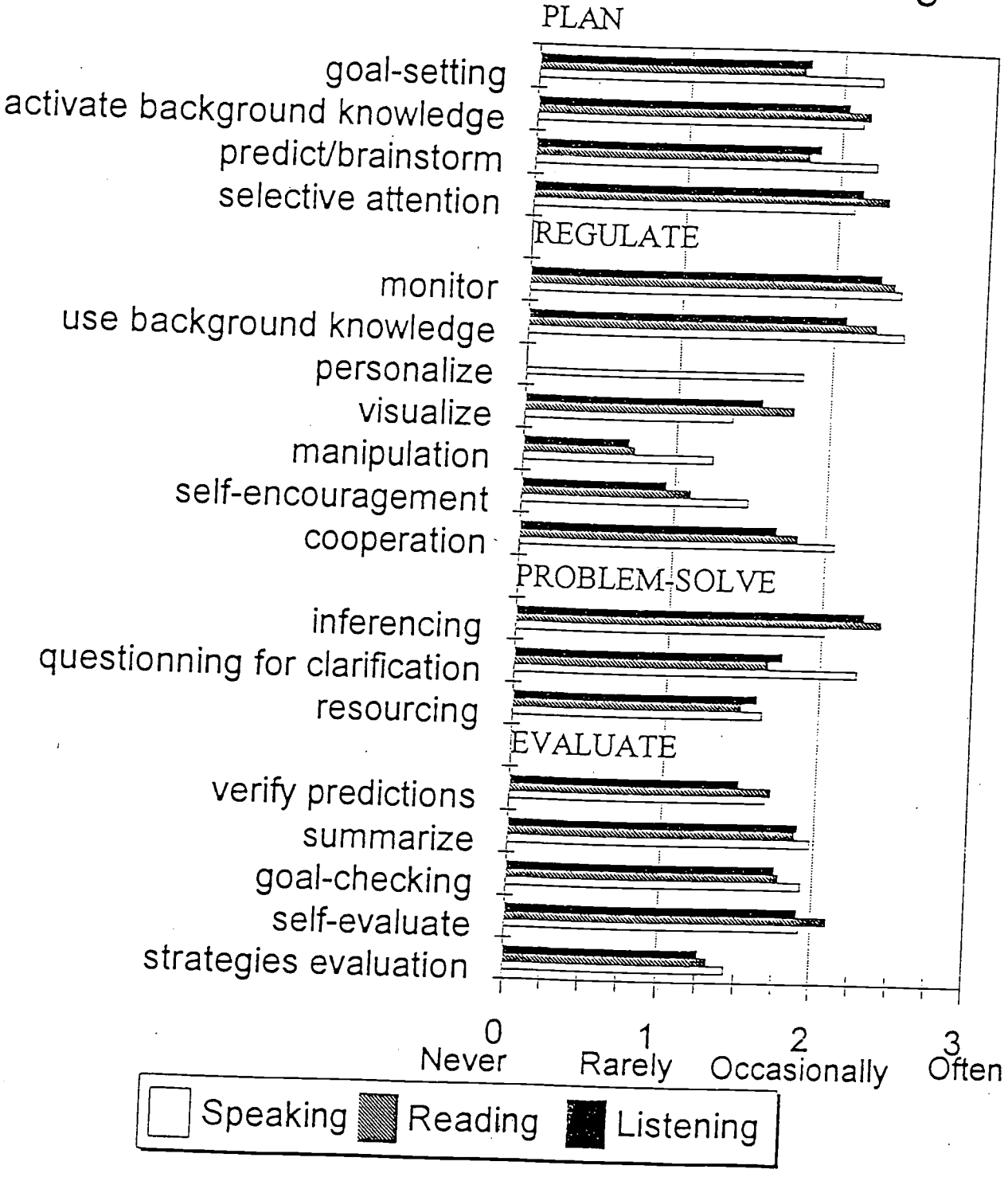


Figure 7

Russian 1 Students' Strategies

Comparing Speaking, Reading, Listening

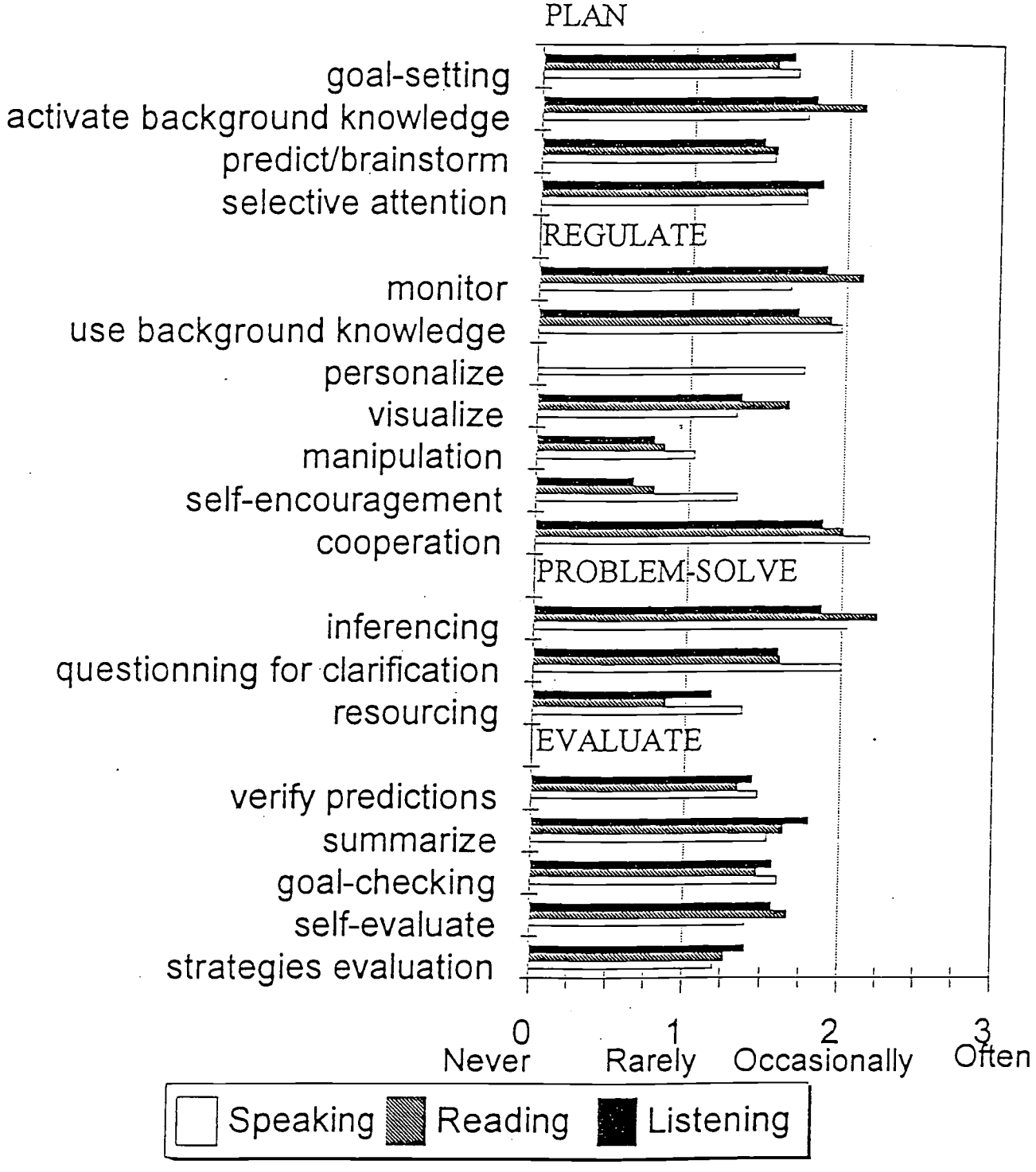
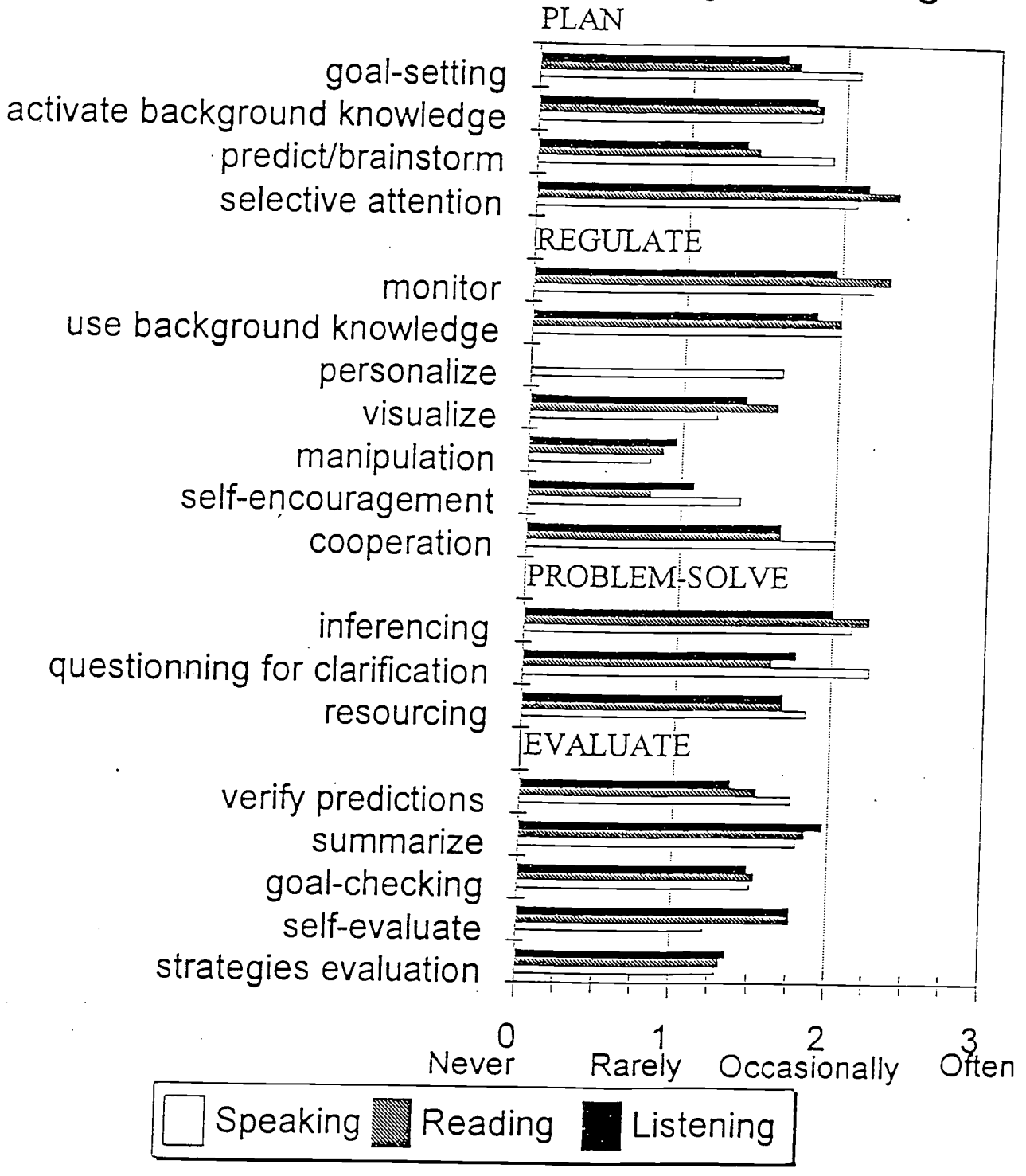


Figure 8

Spanish 1 Students' Strategies

Comparing Speaking, Reading, Listening



The questionnaire data was then analyzed to look at differences in strategies use across the different languages. Mean scores were calculated for each strategy item for the individual languages. Figures 9, 10, 11, 12 illustrate strategies differences for reading, listening, speaking, and vocabulary learning. It should be noted that these differences exist between participating classes only and the results are not necessarily generalizable to all students of these languages. Differences could be due to the tasks for a specific language class. However, the classes were all in one school district and thus had the same overall language curriculum objectives.

Figure 9

Reading Strategies Across Languages

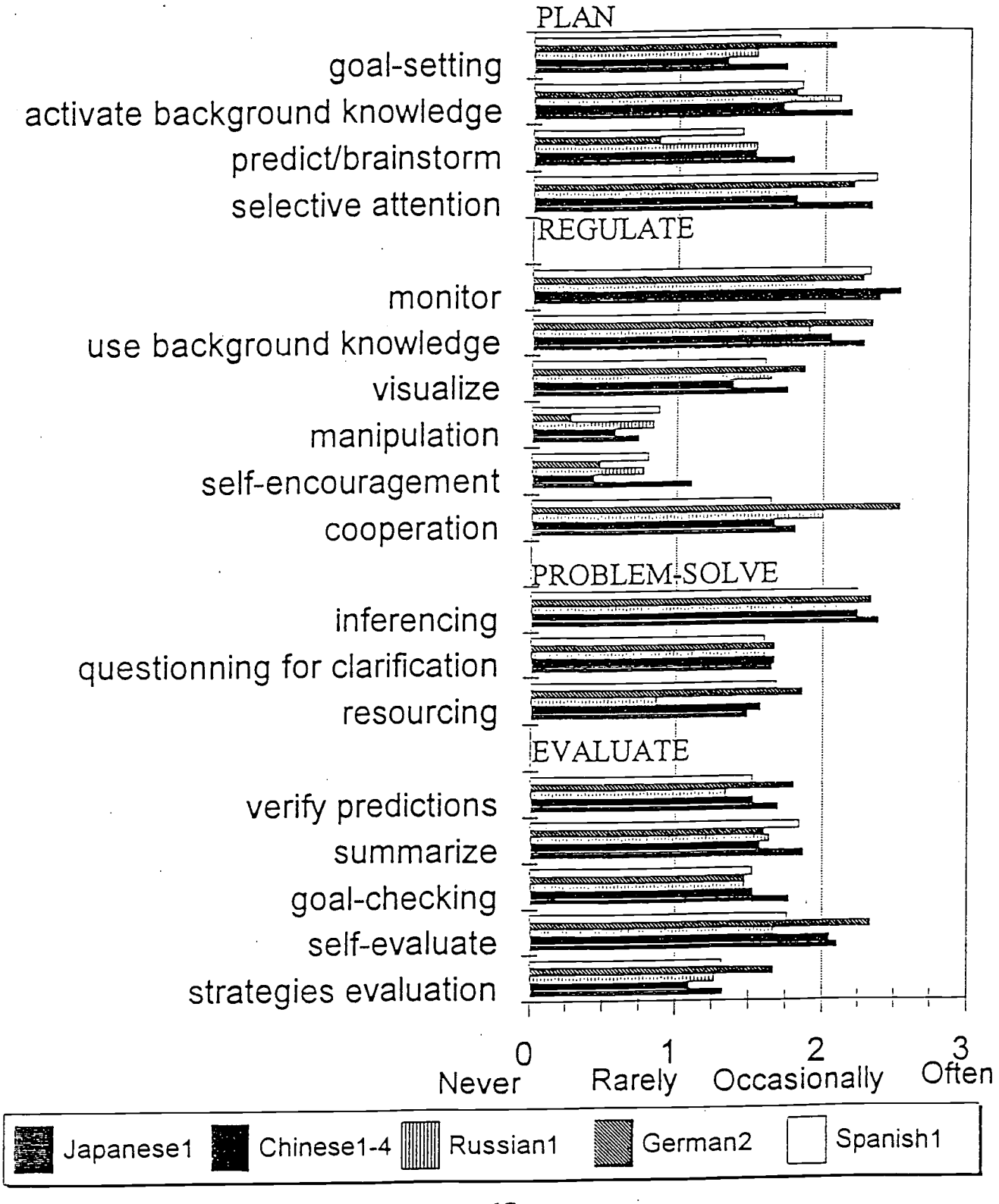


Figure 10

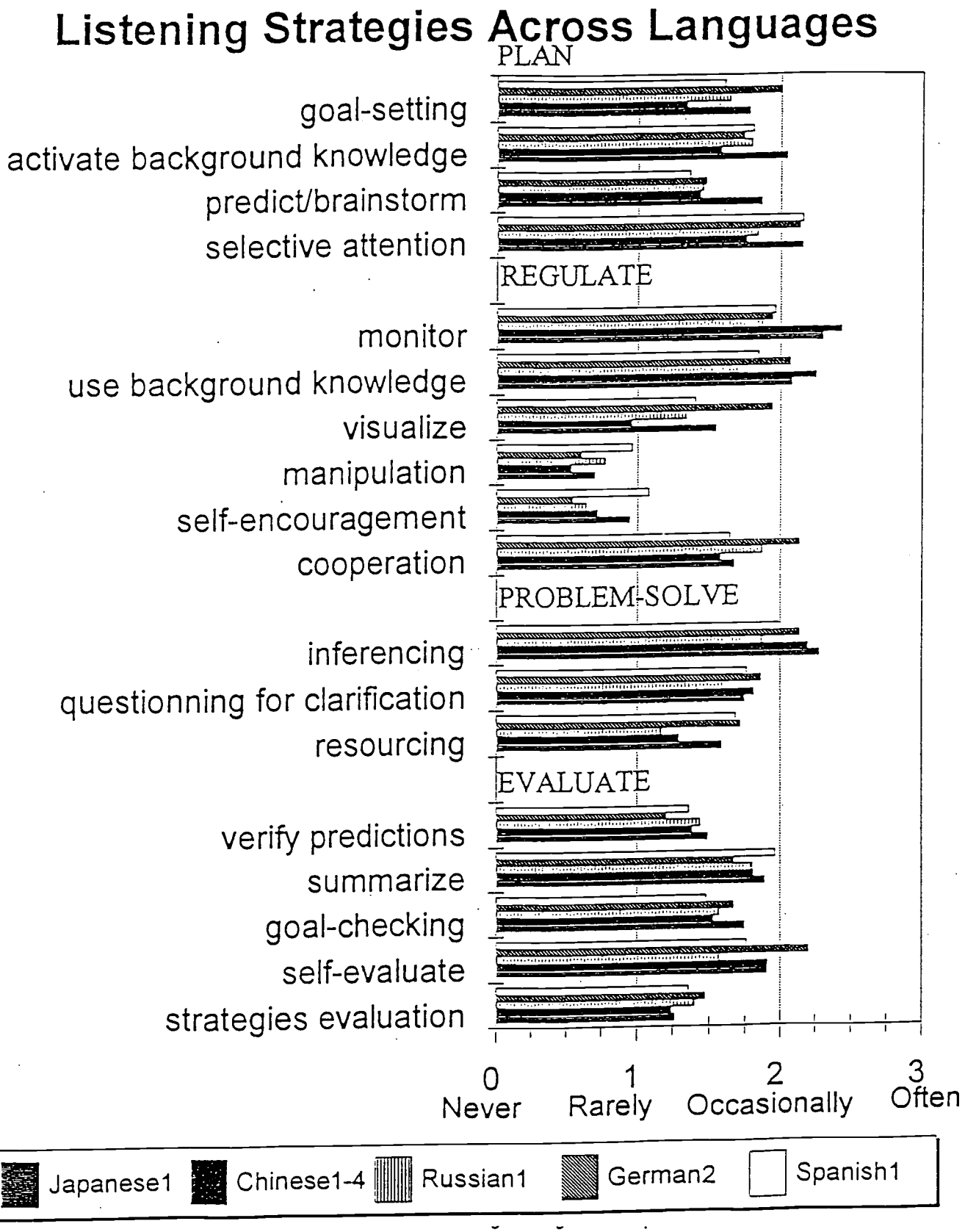

Listening Strategies Across Languages
PLAN
goal-setting
activate background knowledge
predict/brainstorm
selective attention
REGULATE
monitor
use background knowledge
visualize
manipulation
self-encouragement
cooperation
PROBLEM-SOLVE
inferencing
questionning for clarification
resourcing
EVALUATE
verify predictions
summarize
goal-checking
self-evaluate
strategies evaluation
0 Never
1 Rarely
2 Occasionally
3 Often
Japanese1
Chinese1-4
Russian1
German2
Spanish1

Figure 11

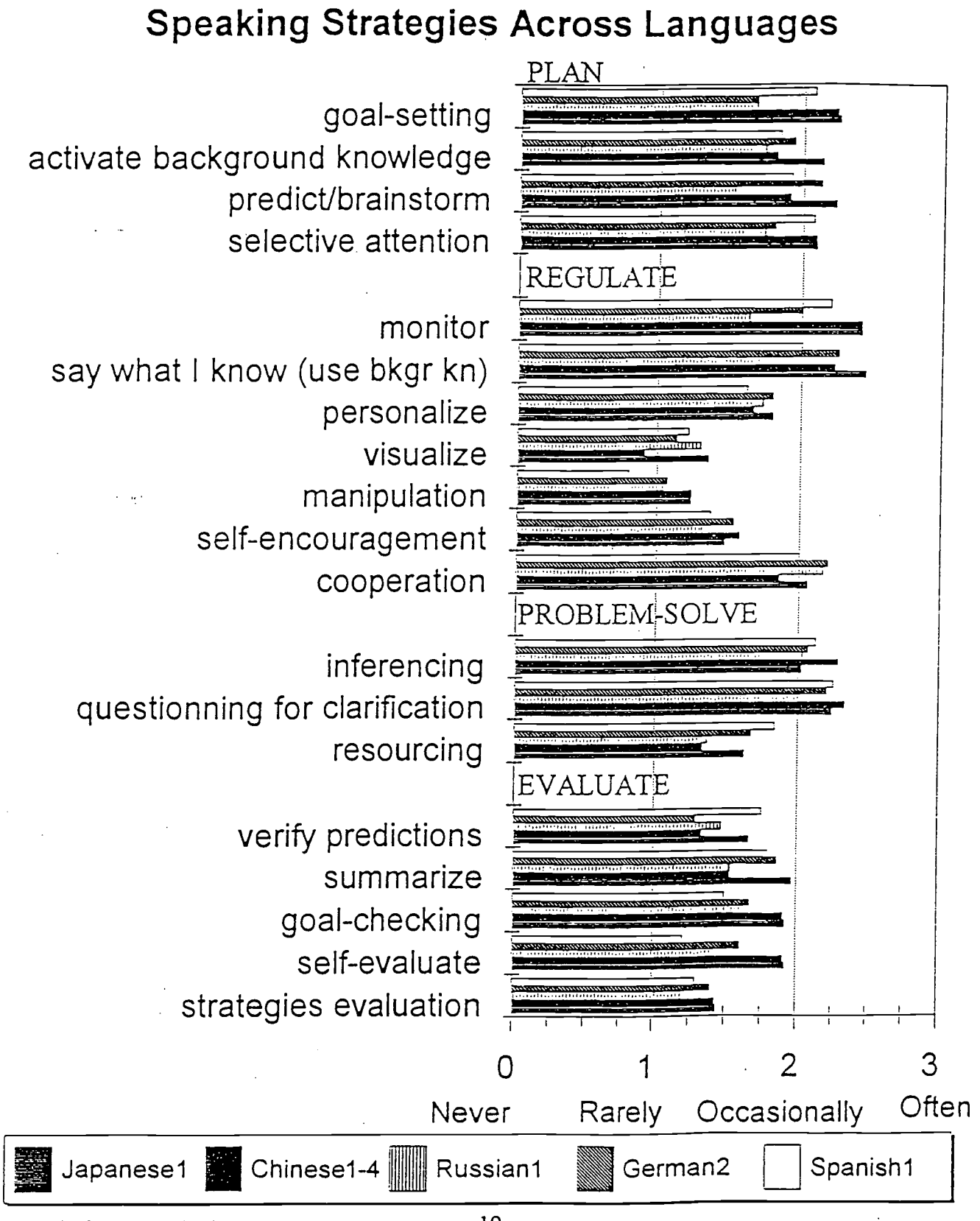
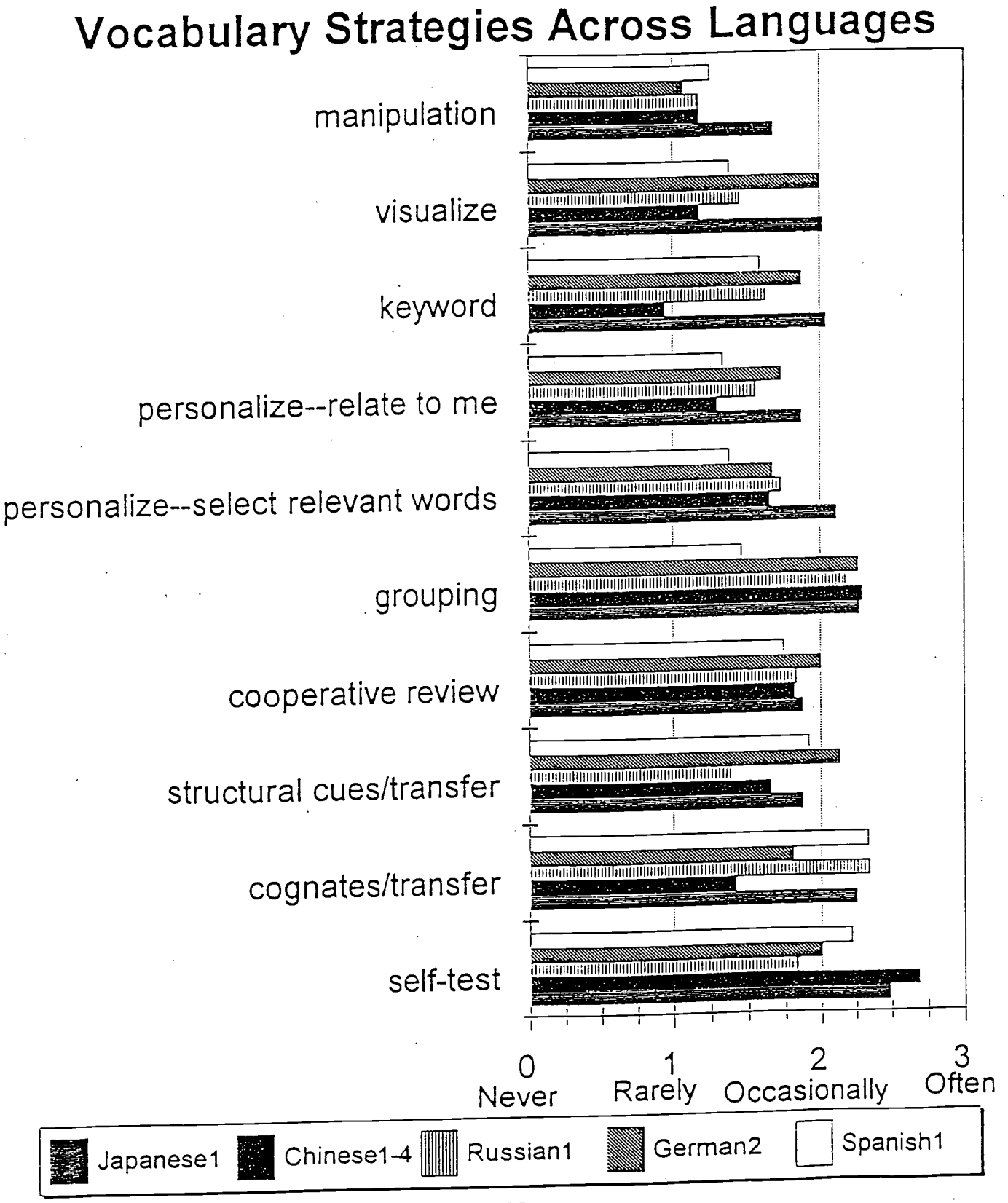

Speaking Strategies Across Languages
PLAN
goal-setting
activate background knowledge
predict/brainstorm
selective attention
REGULATE
monitor
say what I know (use bkgr kn)
personalize
visualize
manipulation
self-encouragement
cooperation
PROBLEM-SOLVE
inferencing
questionning for clarification
resourcing
EVALUATE
verify predictions
summarize
goal-checking
self-evaluate
strategies evaluation
0
1
2
3
Never
Rarely
Occasionally
Often
Japanese1
Chinese1-4
Russian1
German2
Spanish1

Figure 12



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Often the German class reported more frequent use of comprehension strategies. They used goal-setting, visualizing, cooperating and self-evaluating more often for reading and listening and visualizing more often for learning vocabulary. In contrast, they reported less use of the speaking strategies of goal-setting and selectively attending to information. They also used less resourcing for listening and less cognates for learning vocabulary.

In contrast to the German students, the Russian students often reported less frequent use of a strategy than did students in other classes. For example, they used less resourcing for reading and listening and less goal-setting, brainstorming, selectively attending to information and monitoring for speaking. The Russian students did, however, report a greater use of activating background knowledge when reading and cognates for learning new vocabulary.

The Japanese students used more activating background knowledge when listening and speaking and more predicting for listening. The Japanese students reported using manipulation, visualizing, key word method, and personalizing more frequently for learning vocabulary. The Chinese students less frequently used the vocabulary strategies of keyword and cognates than did most other classes, and the Spanish students were less likely than others to use grouping to learn vocabulary. Aside from the differences specified here, students across languages often reported using strategies in similar frequencies for similar tasks.

The questionnaire data indicates that students across the languages studied were able to recognize strategies they used. Some strategies were used more often than others. The strategies that students used most often may be easier to teach initially because many students will already be familiar with them. Discussing these strategies in class can increase students' awareness of the techniques and help those students who may not use them very often. Strategies that were less

often reported may need more instruction time as students may not be as familiar with these.

The analysis revealed that few strategies had a mean score of 2 or higher which would correspond to usually or almost always. Although it may not be realistic to always use a strategy, students could increase their use of many strategies. For instance, goal-setting and activating background knowledge were reported as only being used sometimes or usually by most students. If usage of these powerful learning strategies is increased, students may be able to become better self-directed learners, taking increasing responsibility for their own learning.

STUDENT GROUP INTERVIEWS

To address students' perceptions of learning strategies retrospectively, sixteen group interviews were conducted in the spring of 1995 in Japanese, German, Spanish and Russian high school classes. One researcher interviewed students in groups of 4-6 students. Questions focused on strategies students liked most and least for the four language modalities. This type of data collection allowed students to freely talk about the strategies they believed helped them most, thus students came up with strategies on their own. Although the interviews were conducted in English to ensure complete responses, students often gave examples in the target language. Discussions were audio taped and transcribed, then analyzed for strategies mentioned. Similar strategies were grouped and then counted for total number of times a strategy was mentioned. See Appendix B for interview questions and for a sample of how responses were organized for analysis.

Subjects. Subjects for the group interviews were drawn from foreign language high school and middle school classes in the Washington DC Metropolitan area. The students came from three different public school districts. Student participation was voluntary and only students from whom

parental permission was obtained were included in the study. Table 4 summarizes the languages and levels included in the group interviews.

Table 4. Student numbers for group interviews

Level	Language			
High School	German	Japanese	Russian	Spanish
Level 1	6	16		24
Level 2-4 combined class			18	
Level 4				14
Middle School				
Level 1		25		

Results from student group interviews. An important finding of the group interviews was that students were able to independently identify and discuss in groups of their peers strategies that they preferred and found effective for language learning. In other words, as with the questionnaire, students demonstrated that they were metacognitively aware of how they learned. Furthermore, although researchers asked students to describe their strategies for each modality, this analysis revealed that the strategies mentioned were used commonly among students across languages, levels, and modalities. Therefore, for this analysis the data was collapsed across the skill areas. Figure 13 illustrates the most frequently mentioned strategies across modalities and Figure14 shows the most frequently mentioned strategies for learning vocabulary. Appendix C contains sample student group interview quotes to illustrate how students described the techniques in their own words. Students usually gave an explanation of the strategy and an example of how they used it with a specific language task.

Figure 13

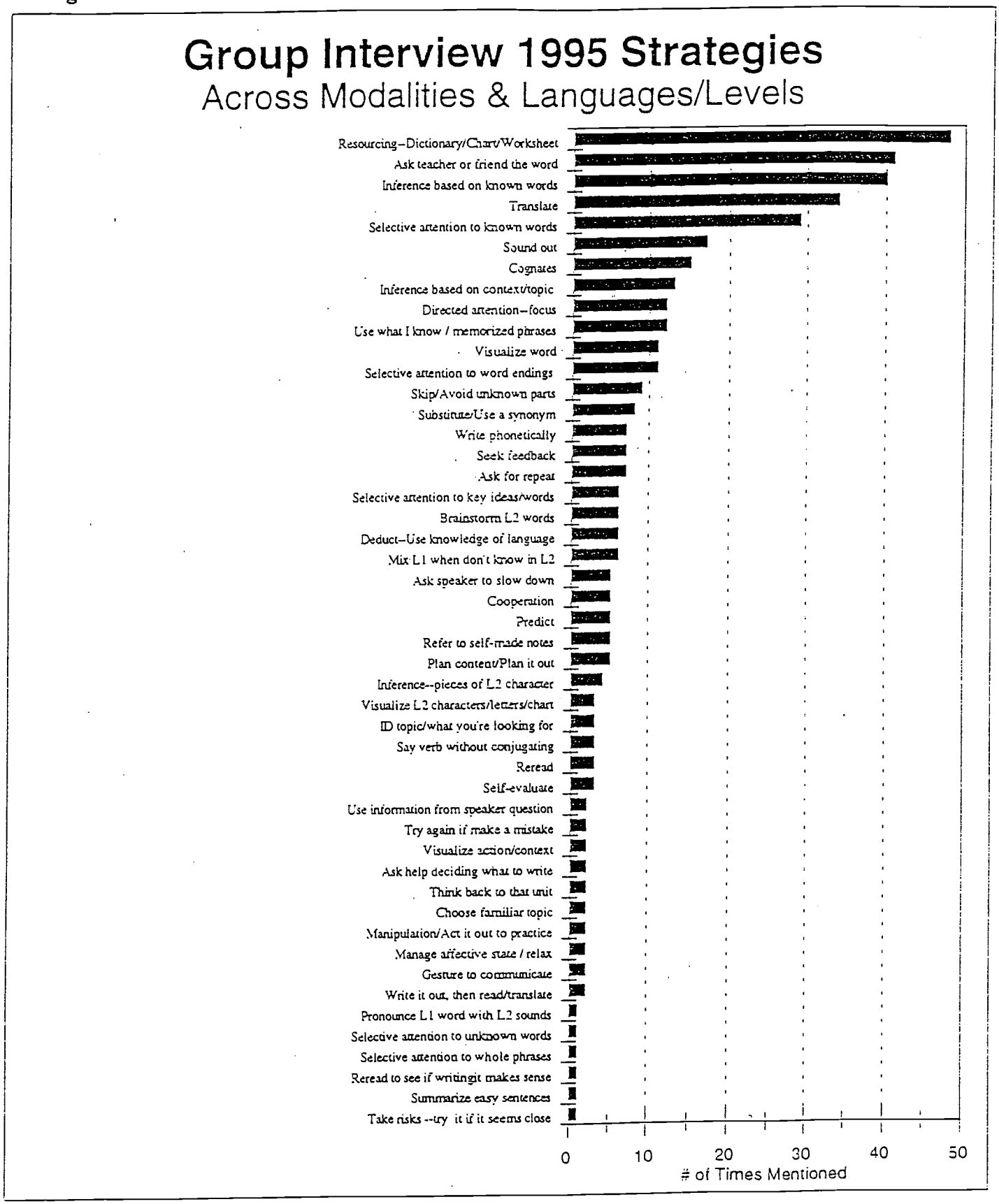

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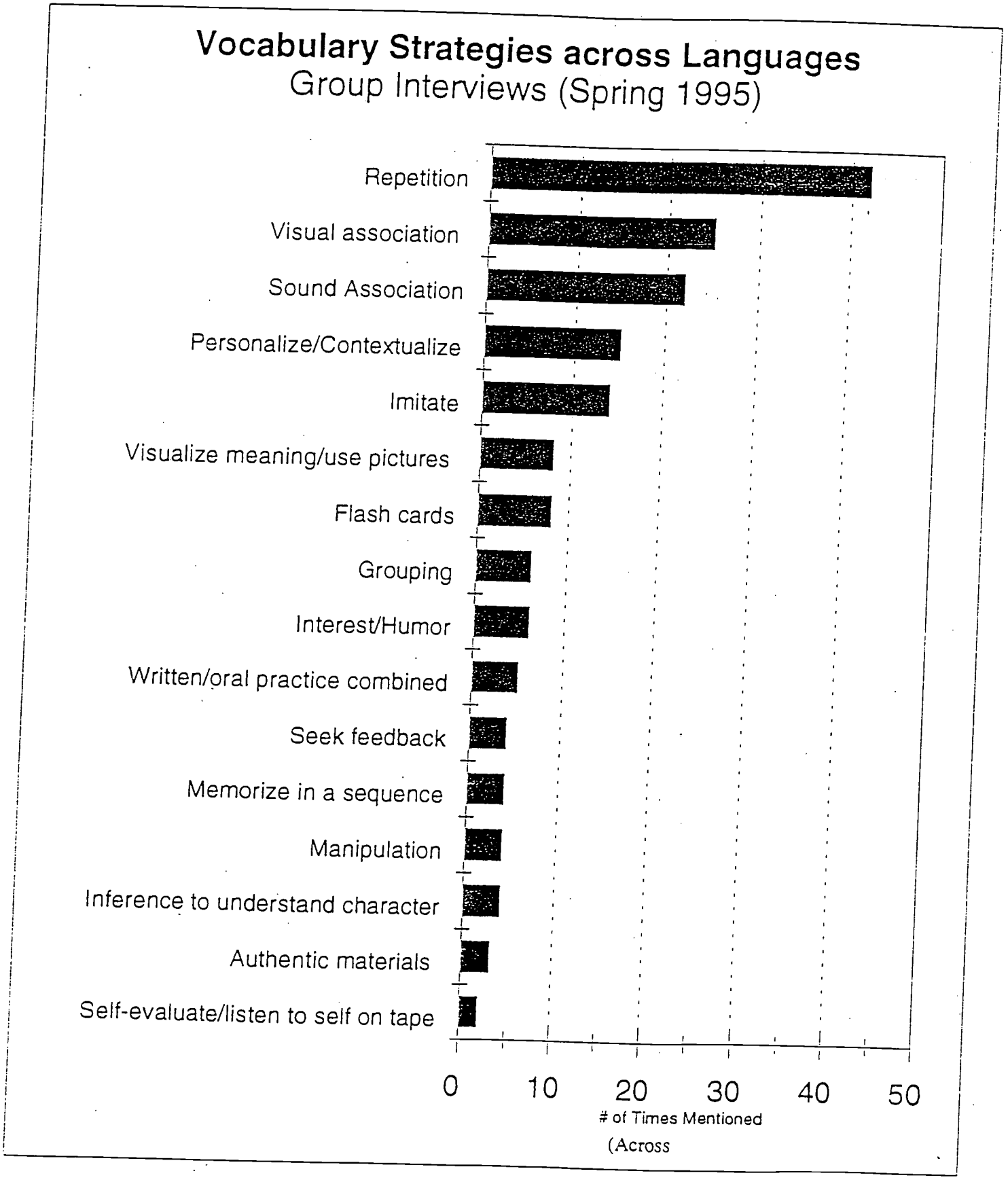
Figure 14

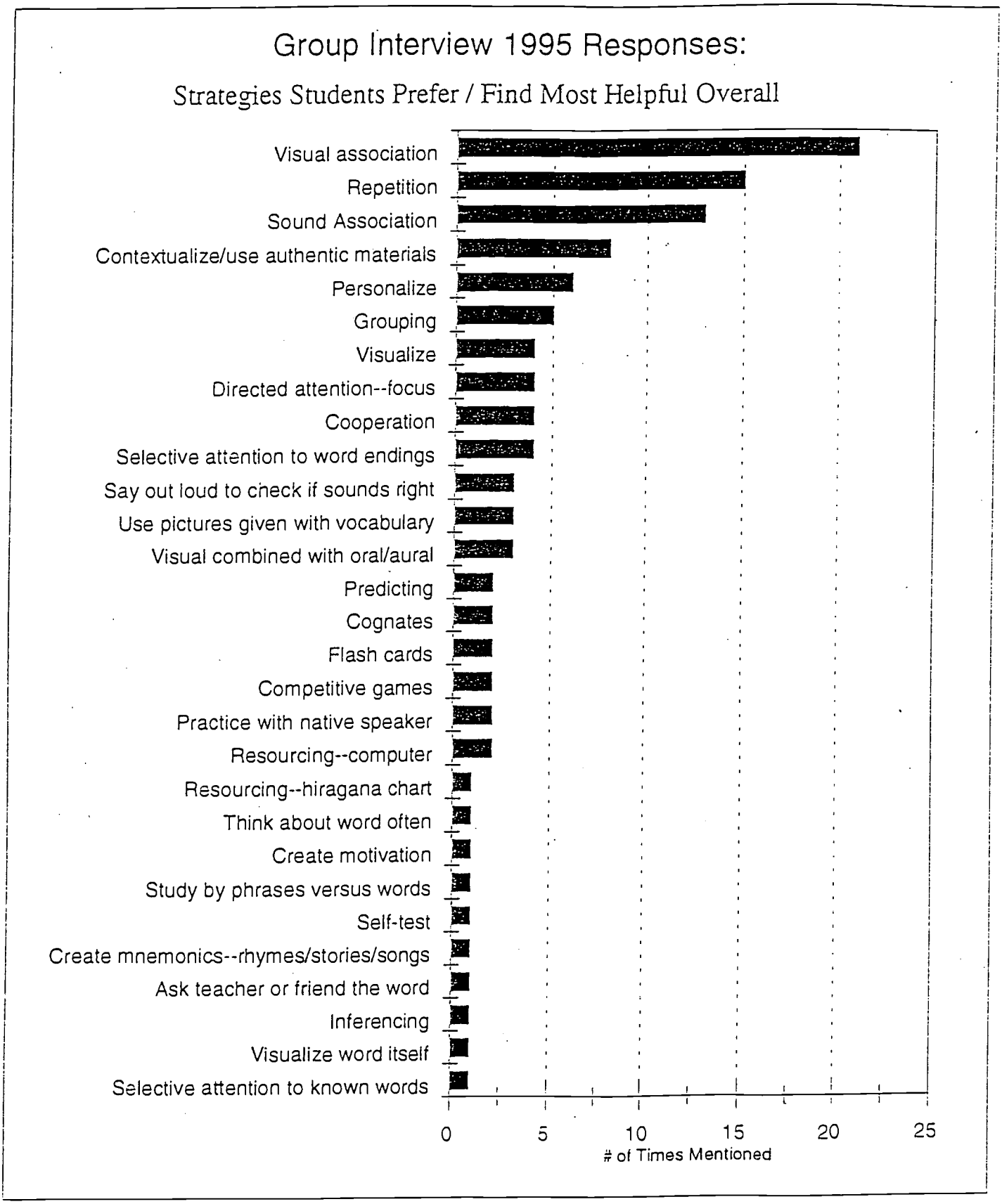

Vocabulary Strategies across Languages
Group Interviews (Spring 1995)
Repetition
Visual association
Sound Association
Personalize/Contextualize
Imitate
Visualize meaning/use pictures
Flash cards
Grouping
Interest/Humor
Written/oral practice combined
Seek feedback
Memorize in a sequence
Manipulation
Inference to understand character
Authentic materials
Self-evaluate/listen to self on tape
0
10
20
30
40
50
# of Times Mentioned
(Across

Not surprisingly, the most frequently mentioned strategies were resourcing, asking another person for help, translating, and repetition. However, students also mentioned more advanced strategies such as inferencing, selectively attending to known words, visualizing, and using sound association for remembering information. The wide variety of responses appearing in the interviews indicates that students are aware of their strategies and can verbalize the techniques used to learn a language. This has important implications for teaching strategies, as the first step in strategies instruction is to elicit strategies students already know. Perhaps students can value strategies instruction more if they feel that they have input in the instructional process. Furthermore, students can be expected to share with each other the strategies they find most effective. However, in view of the fact that students mentioned similar strategies across skills, teachers may want to emphasize how each strategy works for the different modalities. The explanation could include examples of why and when each strategy is effective.

At the end of each interview, researchers asked students to highlight the strategies they preferred and found most helpful overall for language learning. Figure 15 depicts the favorite strategies of students.

The strategies students found most effective overall include visual association, repetition, sound association, contextualizing and the use of authentic materials. These strategies involve a number of human senses and motivational factors. Students report learning language best when the methods of learning address student interests and sense stimuli.

Figure 15



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To identify strategies use for planning, regulating, problem-solving, and evaluating, student responses were grouped under each category by language. Figures 16 and 17 illustrate the strategies used by each language class for these strategic processes.

Figure 16

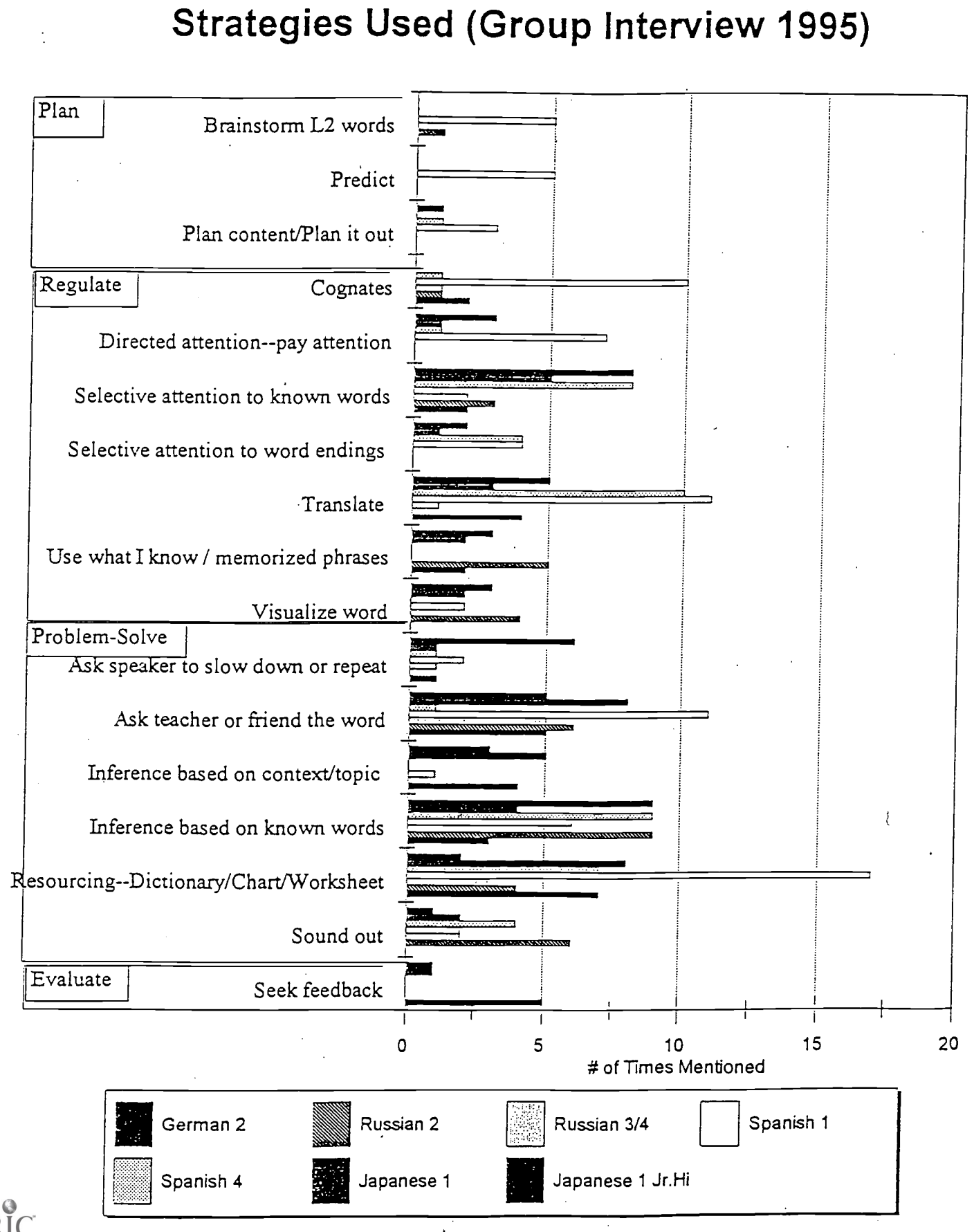
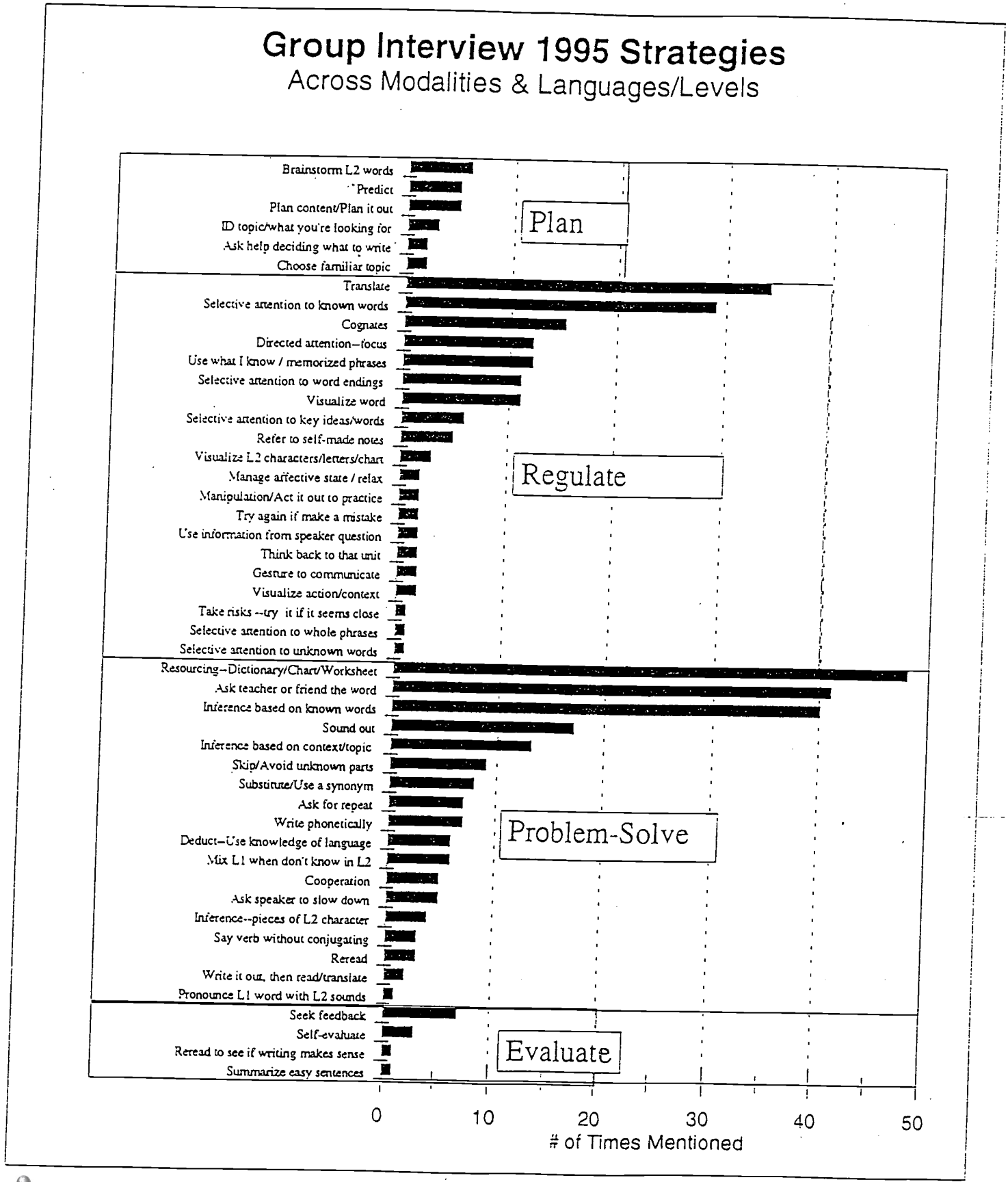

Strategies Used (Group Interview 1995)
Plan
Brainstorm L2 words
Predict
Plan content/Plan it out
Regulate
Cognates
Directed attention--pay attention
Selective attention to known words
Selective attention to word endings
Translate
Use what I know / memorized phrases
Visualize word
Problem-Solve
Ask speaker to slow down or repeat
Ask teacher or friend the word
Inference based on context/topic
Inference based on known words
Resourcing--Dictionary/Chart/Worksheet
Sound out
Evaluate
Seek feedback
0
5
10
15
20
# of Times Mentioned
German 2
Russian 2
Russian 3/4
Spanish 1
Spanish 4
Japanese 1
Japanese 1 Jr.Hi

Figure 17



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When asked retrospectively about strategies use, students reported using strategies most frequently for the regulating and problem-solving processes. These results contrast with those of the questionnaire data in which strategies use was reported evenly across the processes. However, the group interviews required students to think of strategies themselves whereas the questionnaire presented students with strategy choices. Perhaps students are not as aware of the strategies they use for planning and evaluating. These may be processes on which teachers need to focus for strategies instruction.

THINK-ALOUD INTERVIEWS

Think aloud procedures were designed to capture students' reported mental processing as they worked on two typical school tasks: reading an excerpt of authentic material in the target language and speaking by choosing a topic from a list provided by interviewers. Researchers worked with teachers to identify appropriate task levels for the reading text and identify speaking topics that were represented in the foreign language curriculum. The tasks were to contain new and challenging content, but were to be structured like familiar classroom tasks. Within the reading task for each language level, there were two possible levels of text difficulty. All students began with the easier task, but were moved up to the more difficult task if the first was too easy to elicit strategies use. Teachers introduced the concept of thinking aloud to their classes and explained the purpose of the research. Researchers randomly selected 6 students from each class for the think alouds- 3 highly effective language learners and 3 less effective language learners.

The team of researchers participated in developing a detailed interview guide for data

collection. The guide contained scripted information for the warm-up, practice, reading, and speaking section of the interview. In addition, it gave information on how to determine the correct reading level of a student, valid question prompts for eliciting strategies to ensure that strategies would not be cued by the interviewer, and a list of necessary materials and equipment. After studying the guide, interviewers participated in training sessions that included watching models of think aloud interviewing and receiving coaching as they conducted mock interviews with the scripts. (See Appendix D for the interview guide.)

Individual student interviews were then conducted with each student sample. Although the tasks were in the target language, the interviewer elicited strategies through questions in English so that all students would be able to freely verbalize their thought processes and not be confined by their knowledge of the target language. This was especially important because the series of think aloud interviews began with level 1 students. However, students at higher levels had the option of telling their thoughts in the target language. In the interview, the researcher first explained the purpose of the interview telling students they would be asked to describe their thoughts as they worked on the tasks.

After explaining how to think aloud, the interviewer modeled thinking aloud while solving a logic problem. The researcher then asked the student to try thinking aloud. For this practice, students worked through another logic problem and the interviewer prompted with questions like, "What are you thinking now? How did you figure that out?" Similar prompts were used for the data collection tasks, about 10 minutes of reading and 10 minutes of speaking. For all think aloud tasks, interviewers frequently gave open-ended prompts encouraging thinking aloud; they also requested clarification and elaboration of students' comments with questions like, "Why do you say that? How

does that help?"

Think aloud interviews were audio-taped, then transcribed verbatim. A team of researchers from a variety of backgrounds, some of whom were experienced with a variety of learning strategies models, analyzed the data using a grounded theory approach. Researchers independently studied subsets of the data across languages and levels to develop a coding scheme of strategies. Through discussion, the researchers analyses were integrated into a single coding scheme, which has been revised as necessary with further analysis. The coding scheme is in a table that identifies both metacognitive and cognitive strategies and includes an abbreviated code with a strategy term, description, and illustrative transcript excerpts for each code. Appendix E includes a copy of the coding scheme.

Researchers worked in pairs to apply the coding scheme back to the think aloud data, to describe the strategies use patterns for each student. For a classroom set of the data, a first researcher, who was a strategies specialist coded the data. Then the second researcher, a language specialist for that set of data, checked the codes and marked corrections, additions and disagreements. The pair then met to resolve discrepancies. One of the coders was also always the interviewer of the think aloud. The pair of researchers then recorded their tallies of the codes, resulting in a quantified description of the student's pattern of strategies use.

Subjects. High school students of Chinese, Japanese, Russian, and Spanish participated in the think-aloud interviews during both their first and second years of language study. Table 5 gives the number of students for each language. As can be seen in the table there was attrition in students numbers from level 1 to level 2 because students either moved or discontinued studying the language.

Table 5. Student numbers for think-aloud interviews

	Chinese	Japanese	Russian	Spanish
Level 1	5	11	12	12
Level 2	2	8	8	6

Results. Perhaps the most important result of the think-aloud interviews was the development of the strategies coding scheme representing all the types of behaviors students were observed doing or students reported using while working on authentic language tasks. Appendix E contains the complete list of strategies, definitions and student example quotes to illustrate how the strategy is used. The think aloud strategy scheme lends validation to the theory that students actually are aware of and use learning strategies for studying languages. The strategies listed in the scheme resulted from strategy use reported and described by students.

Using the coding scheme as an analysis tool, researchers conducted a MANOVA test collapsing across languages and including the factors of rating, year, and task. This paper reports on the significant effect of task (reading vs. speaking). The overall measure of strategies showed a significant effect for task in favor of reading. When strategies were divided into metacognitive and cognitive, both types of strategies showed this effect in favor of reading. That is, students tended to use more strategies for reading than for speaking, and this was true for both metacognitive and cognitive strategies.

Another overall measure included in this study was a measure of metacognitive awareness. This measure looked at comments that indicated an understanding of learning processes, the self as learner, task factors, and conditions in which strategies are more or less useful. Students made more metacognitive awareness statements during the reading task than during the speaking task.

Using the coding scheme, which organized strategies according to several types, an analysis was conducted to compare groups according to the number of strategies students used during the think-aloud. Comparisons of groups answered questions like, "Did students use background knowledge strategies more frequently for reading or for speaking?" The results showed several types of strategies differed by task. Students used planning strategies more for speaking than for reading. The strategies grouped under planning include previewing, using self-management (choosing a known topic and avoiding unknown topics and language structures), directed attention (consciously focusing one's attention during the task), self-cuing (urging oneself to think of more ideas or reminding oneself of the next step to take), repeating patterns (consciously repeating a previously used language structure to generate more content), and rehearsal (mentally thinking of words before speaking).

Think-alouds revealed that students used more monitoring strategies for reading than for speaking. There were several different types of strategies categorized under monitoring: monitoring strategy use (is the strategy working or not), monitoring whether what the text or speaker says makes sense, auditory monitoring (does something sound right when speaking or reading aloud to check comprehension of a word), verifying appropriateness/correctness of predictions and inferences, self-correcting (correcting perceived mistakes when speaking or correcting pronunciation and understanding when reading), and questioning for verification (either asking the interviewer if something is correct or posing questions to oneself).

Students also used selective attention more for reading than for speaking. Specific strategies grouped under selective attention include attending to known or key words, attending to the title or picture, focusing on linguistic features of words (e.g., word endings), skipping unknown words, and rereading parts of the text.

Background knowledge strategies were used more for reading than speaking. These strategies included making inferences or predictions, elaborating on parts of the task (e.g., a personal reaction to the task, relating information to something the student already knows).

Students used language knowledge strategies more for reading than for speaking. These include strategies such as deduction (using knowledge of the language to make guesses), decoding, substituting known words for unknown words, and semantic awareness (cognizance of alternative meanings of words and different connotations of words).

There are several possibilities why the think-alouds showed more strategies for reading than for speaking. First, it was probably easier for students to say their thoughts when reading because of the nature of the task. Students could read a bit, then stop and give their thoughts. Many students tended to read aloud and would say what they were thinking after a single word or phrase. The comprehension task also allowed students more time for reflecting on their thoughts. On the other hand, when speaking, students were trying to generate both content in the target language as well as their thought processes. The speaking task tended to be characterized by periods of silence in which students thought of what they could say in the language. Often, they were not thinking about strategies but simply what words they could put together to make a sentence.

Furthermore, the majority of students could read better than they could speak, so perhaps the speaking task was so challenging that many students did not have the content knowledge to generate strategies. However, this finding leads to the implication that students need more opportunities for practicing speaking. The questionnaire and group interviews indicated that students felt they needed and used strategies for speaking. This seems to be a skill area that needs particular attention in the classroom and strategies instruction for speaking could be invaluable in helping students to move into

the production stage of language.

More than any other instrument, the think-alouds revealed the complexity of strategies use. Frequently strategies were not used in isolation but in combination with other strategies as illustrated the following quote by a Russian student when reading a text.

> "First I'm going to look for words, root words that I know of...right there is the root word of to study and then institute I sounded it out in my head and it sounds the same as is in English and Spanish so I put it together and that word kind of looks like in the evening so I put it together so they probably study at the institute in the evening and that word right there it also kind of looks like technical in English so I'm guessing that that means the institute has something to do with technology."

The student begins using *selective attention* to look for known root words. Then he uses *language deduction* to construct the meaning of the word study by looking at the root. The strategies, *decoding* and *cognates* allow him to get the meaning of the word for institute of which he also *verifies* through his knowledge of Spanish. He uses *deduction* again to identify the word for evening and *cognates* to identify technology. He puts the whole thing together, *summarizing*, to see if the sentence makes sense to him. For trying to figure out one sentence, this highly effective, active student has used six different strategies for a total of eight strategy applications.

When teaching strategies, teachers need to be aware of how strategies work together so that they can model integrated strategies use for students. Although it may be overwhelming to teach students six strategies at once, after teachers have introduced a couple of strategies individually, they need to point out how these strategies work together.

CONCLUSION

One conclusion reached through the different types of strategies use data collection instruments is that students of all languages and levels are aware of techniques they use to help themselves learn a language. When implementing strategies instruction, teachers can build on students' existing knowledge of strategies. Rather than making it seem like strategies are a new idea, teachers can include students in the instructional process by asking them to identify and share their most effective techniques for different language tasks. The group interviews revealed that students are willing to talk to each other about their strategies and perhaps if strategies instruction comes in part from students, other students will be more motivated to try new strategies. Students can take turns modeling and demonstrating how they work through language tasks. As student responsibility in the class increases, so too does student ownership of the content increase as well as overall responsibility for learning.

The questionnaire data indicated that all students can benefit from increasing their frequency of strategies use. In order to do so, students need to have the metacognitive knowledge of why and when each strategy is effective. The think aloud and questionnaire data collection instruments separated comprehension from production tasks. However, in the group interviews student comments indicated that they saw strategies use identically across the modalities. Perhaps increased metacognition of how strategies work across the skill areas will help students make appropriate strategy choices.

The data in this report revealed an extensive range of strategy types. This does not necessarily mean that teachers need to include every strategy at the start of their instruction. Rather, teachers and students should look at the types of tasks in their curriculum and choose strategies for instruction

that match the materials to be learned. Strategies can be taught gradually so that students build up a repertoire over time, thus keeping strategies instruction manageable and interesting to students

APPENDIX A

LEARNING STRATEGIES QUESTIONNAIRE

LEARNING STRATEGIES QUESTIONNAIRE FOR SPANISH

Name in English:
Last:

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

First:

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Date: _____

Teacher's name:_____

Your level of study in Spanish (Circle one) 1 2 3 4 5

Directions: As part of a research project on language learning, we would like you to complete this questionnaire about what you actually do when performing certain kinds of tasks in Spanish.

The questionnaire describes different kinds of tasks you might encounter in your Spanish class. Below each task are statements describing learning techniques, practices, tools, or strategies you might use to help you perform the task.

For each kind of task, read the description. Then read each statement describing possible approaches. Circle one of the options (Never, Rarely, Occasionally, Often) to show how *often* you use the approach described.

The list is not complete, so if you do anything else, please jot it down on the lines provided at the end of each section.

There are no right or wrong answers. There are only answers that tell what you actually do.

Reading Spanish

Reading is a frequent activity you use for learning and using Spanish. You may often read texts such as dialogues, stories, advertisements, and articles in Spanish as part of classwork or on your own.

How often do you do each of the following to help you understand Spanish reading material that is challenging?

R1. I decide in advance what my reading purpose is, and then I read with that goal in mind.

Never *Rarely* *Occasionally* *Often*

R2. I decide in advance specific aspects of information to look for, and I focus on that information when I read.

Never *Rarely* *Occasionally* *Often*

R3. Before I read, I think of what I already know about the topic.

Never *Rarely* *Occasionally* *Often*

R4. Before reading, I try to predict what the text will be about.

Never *Rarely* *Occasionally* *Often*

R5. While I read, I periodically check whether the material is making sense to me.

Never *Rarely* *Occasionally* *Often*

R6. While reading, I decide whether the information makes sense based on what I already know about the topic.

Never *Rarely* *Occasionally* *Often*

R7. I imagine scenes or draw pictures of what I am reading.

Never *Rarely* *Occasionally* *Often*

R8. I act out the situation described in the reading (for example, using real objects to illustrate and put into context what I am reading).

Never *Rarely* *Occasionally* *Often*

R9. I encourage myself as I read by saying positive statements such as "You can do it."

Never *Rarely* *Occasionally* *Often*

R10. I work with classmates to complete assignments or solve reading comprehension problems.

Never *Rarely* *Occasionally* *Often*

R11. I use the context, like familiar words, pictures, and the content, to help me guess the meanings of unfamiliar words I read.

Never *Rarely* *Occasionally* *Often*

R12. I identify what I don't understand in the reading, and I ask a precise question to solve the problem.

Never *Rarely* *Occasionally* *Often*

R13. I use reference materials (dictionary, textbook, computer program, etc.) to help solve reading comprehension problems.

Never *Rarely* *Occasionally* *Often*

R14. After reading, I check to see if my predictions were correct.

Never *Rarely* *Occasionally* *Often*

R15. I summarize (in my head or in writing) important information that I read.

Never *Rarely* *Occasionally* *Often*

R16. I rate my comprehension by reflecting on how much I understood what I read.

Never *Rarely* *Occasionally* *Often*

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R17. After reading, I decide whether the strategies or techniques I used helped me understand, and I think of other strategies that could have helped.

Never *Rarely* *Occasionally* *Often*

R18. I check whether I accomplished my goal for reading.

Never *Rarely* *Occasionally* *Often*

Other approaches:

_____

_____

_____

Listening to Spanish

You may often listen to people speaking Spanish--your teacher, classmates, and native speakers (in person, on videotapes, and on cassettes), and you want to make sure you understand them.

How often do you do each of the following to help you understand what you hear in Spanish?

L1. I decide in advance what my listening purpose is, and I listen with that goal in mind.

Never *Rarely* *Occasionally* *Often*

L2. I decide in advance specific aspects of information to listen for, and I focus on hearing that information.

Never *Rarely* *Occasionally* *Often*

L3. Before I listen, I think of what I already know about the topic.

Never *Rarely* *Occasionally* *Often*

L4. Before listening, I try to predict what information I'll hear.

Never *Rarely* *Occasionally* *Often*

L5. While I listen, I periodically check whether the information is making sense to me.

Never *Rarely* *Occasionally* *Often*

L6. While listening, I decide whether the information makes sense based on what I already know about the topic.

Never *Rarely* *Occasionally* *Often*

L7. I imagine scenes or draw pictures of what I am hearing.

Never *Rarely* *Occasionally* *Often*

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L8. I act out the situation as I hear it (for example, using real objects to illustrate and put into context what I am listening to).

Never *Rarely* *Occasionally* *Often*

L9. I encourage myself as I listen by saying positive statements such as "You can do it."

Never *Rarely* *Occasionally* *Often*

L10. I work with classmates to complete assignments or solve listening comprehension problems.

Never *Rarely* *Occasionally* *Often*

L11. I use the context, like familiar words, pictures, and the content, to help me guess the meanings of unfamiliar words I hear.

Never *Rarely* *Occasionally* *Often*

L12. I identify what I don't understand about what I'm hearing, and I ask a precise question to solve the problem.

Never *Rarely* *Occasionally* *Often*

L13. I use reference materials (dictionary, textbook, computer program, etc.) to help solve listening comprehension problems.

Never *Rarely* *Occasionally* *Often*

L14. After listening, I check to see if my predictions were correct.

Never *Rarely* *Occasionally* *Often*

L15. I summarize (in my head or in writing) important information that I heard.

Never *Rarely* *Occasionally* *Often*

L16. I rate my comprehension by reflecting on how much I understood what I heard.

Never *Rarely* *Occasionally* *Often*

National Capital Language Resource Center, Georgetown University/Center for Applied Linguistics/The George Washington University

L17. After listening, I decide whether the strategies or techniques I used helped me understand, and I think of other strategies that could have helped.

Never *Rarely* *Occasionally* *Often*

L18. I check whether I accomplished my goal for listening.

Never *Rarely* *Occasionally* *Often*

Other approaches:

_____

_____

_____

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Speaking Spanish

Part of learning and using Spanish is being able to speak it. In class you may have to answer questions, talk to classmates, give reports and summaries, and give information about yourself. Outside of class you might have conversations with native speakers and friends.

How often do you do each of the following to help yourself speak Spanish?

S1. I decide my goal for speaking by thinking about what I want to communicate.

Never *Rarely* *Occasionally* *Often*

S2. I think about what information is most important to the listener so I can focus on it.

Never *Rarely* *Occasionally* *Often*

S3. Before speaking, I think of what I know about the topic.

Never *Rarely* *Occasionally* *Often*

S4. Before I start speaking, I brainstorm words and phrases I can use when talking.

Never *Rarely* *Occasionally* *Often*

S5. I try to figure out if I'm not making sense to the listener so I can correct myself.

Never *Rarely* *Occasionally* *Often*

S6. I focus on topics that I know how to talk about, and I use language structures I am familiar with, so that others can understand me.

Never *Rarely* *Occasionally* *Often*

S7. I practice talking about things that relate to my own life and personal experiences.

Never *Rarely* *Occasionally* *Often*

S8. I imagine or draw a picture or situation that I want to talk about to help guide me when I'm speaking.

Never *Rarely* *Occasionally* *Often*

S9. I use real objects or act out the situation to illustrate and put into context what I am talking about.

Never *Rarely* *Occasionally* *Often*

S10. I increase my confidence level by encouraging myself.

Never *Rarely* *Occasionally* *Often*

S11. I work with classmates to practice speaking Spanish.

Never *Rarely* *Occasionally* *Often*

S12. If I don't know how to say something, I substitute what I do know how to say.

Never *Rarely* *Occasionally* *Often*

S13. If I don't know how to say something, I ask a more proficient speaker how to say it.

Never *Rarely* *Occasionally* *Often*

S14. If I don't how to say something, I look it up in reference materials (dictionary, textbook, computer program, etc.).

Never *Rarely* *Occasionally* *Often*

S15. After speaking, I think about whether the words & phrases I brainstormed helped the listener understand me.

Never *Rarely* *Occasionally* *Often*

S16. I mentally or verbally summarize what I've just said to see if makes sense.

Never *Rarely* *Occasionally* *Often*

S17. After I speak, I rate how well I did.

Never *Rarely* *Occasionally* *Often*

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S18. I assess whether the strategies I used for speaking helped me, and I think of other strategies that could have helped.

Never *Rarely* *Occasionally* *Often*

S19. I check whether I have accomplished my goal in communication.

Never *Rarely* *Occasionally* *Often*

Other approaches:

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VOCABULARY LEARNING STRATEGIES QUESTIONNAIRE FOR SPANISH

Name in English:
Last:

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

First:

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Date: _____

Teacher's name: _____

Your level of study in Spanish (Circle one) 1 2 3 4 5

Directions: As part of a research project on language learning, we would like you to complete this questionnaire about what you actually do when you are studying Spanish vocabulary.

The questionnaire lists statements describing learning teachniques, tools, or strategies you might use to help you remember vocabulary.

Read each statement describing possible approaches, and circle one of the options (Never, Rarely, Occasionally, Often) to show how often you use the approach described.

This list is not complete, so if you do anything else to study and remember Spanish vocabulary, please jot it down on the lines provided at the end.

There are no right or wrong answers. There are only answers that tell what you actually do.

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Learning vocabulary in Spanish

Learning new words is a major part of learning Spanish. You have to learn vocabulary given to you by your teacher and in the textbook. You might also learn words that you want to know.

How often do you do each of the following to help you learn new words and phrases in Spanish?

V1. As I think about a Spanish word, I imagine or draw a picture of the object/idea the word represents.

Never *Rarely* *Occasionally* *Often*

V2. I think of something or someone in my life that the word reminds me of, and I remember that connection when I need to recall the word.

Never *Rarely* *Occasionally* *Often*

V3. I make a point of learning words that relate to my life.

Never *Rarely* *Occasionally* *Often*

V4. I group words that are similar or are related in some way.

Never *Rarely* *Occasionally* *Often*

V5. I hold or point to an object that the Spanish word represents while thinking or saying the word.

Never *Rarely* *Occasionally* *Often*

V6. I think of an English word that looks or sounds like the Spanish word, and I think about how the meanings are related.

Never *Rarely* *Occasionally* *Often*

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V7. I look for structural rules (prefixes, suffixes, roots, etc.) that give clues to the word's meaning.

Never *Rarely* *Occasionally* *Often*

V8. I think of an English word that sounds like the Spanish word, AND I get a picture in my mind to link the meanings of the English and Spanish words. (Example: When studying "pato," you might think of the English word "pot." To remember "pato" means "duck," you might imagine a duck wearing a cooking pot on its head.)

Never *Rarely* *Occasionally* *Often*

V9. I review new words with a classmate.

Never *Rarely* *Occasionally* *Often*

V10. I test myself to see if I have learned the words.

Never *Rarely* *Occasionally* *Often*

Other approaches:

_____

_____

_____

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APPENDIX B

GROUP INTERVIEW GUIDE

Appendix 4

GROUP INTERVIEW GUIDE
High School Students-Spring 1995

Introduction.

This is _____ *(Interviewers name)* conducting a group interview with _____ *(teacher's name and language--e.g., Alla Sonsev's Russian students)* at _____ *(name of school)* on _____ *(date)*.

As you probably remember, we're from Georgetown University Language Research Projects and we've been conducting studies to find out how people lear n foreign languages and what teachers can do to help students learn a language better. You may recognize some of us from visiting your classes.

Purpose of Interview.

Tod ay we're going to ask you some questions about the kinds of things you do when learning _____ (L2). I want you to think of all the strategi es, techniques, and any special tricks you have that help you most to learn _____. (*Focus on what students do, not what teacher makes students do.*) Try to tell all the things you do and think about when your studying in class or at home. The information you give us will help us to improve foreign language instr uction for students in the future and it can also help you by making you more aware of how you learn and how your classmates learn.

We're taping the in terview because we want to get your ideas but we won't be able to remember everything you say. All o f you will be anonymous on the tape so we hope you'll be honest and up front with us. Everybody ready?

Questions

Reading:

1. What strategies do you use most when you're reading _____?
   If students don't respond, use these follow-ups:
   - -What do you do to understand?
   - -What do you do if you don't understand? or it doesn't make sense?
   - -Give student example of reading material--story, an ad, a dialogue
2. Why do you use _____?
3. How does it help you learn _____ ?

Listening:

1. What strategies do you use most when you're listening to _____?
   If students don't respond, use these follow-ups:
   - -What do you do to understand?
   - -What do you do if you don't understand?
   - -Give student example of listening material--story, video, teacher, dialogue
2. Why do you use _____?
3. How does it help you learn _____ ?

Appendix *

Sample Data Organizing Chart for Student Group Interviews--Spring 1995

Reading

+ 3 Translate in my head
  2 Inference (1-- Figure out how the word is being used in the sentence?)
  1 Plan--identify topic first
  1 Selective attention--words I know
  1 sound out the words
  1 Repetition -- writing (to remember words) [VOCABULARY]
  1 Directed attention--Pay attention to the words
− [1 I can't do things orally; I'm a visual person.]

S: I just sound out the words and what Im focusing on when Im reading is what it means in English so Im kind of like translating it in my head. (How do you translate) Memorization. I write the word over and over and over. I just write the word and think what it means in English. Im more of a visual person. I cant really do things orally. It helps me remember and then I can translate things better and then I can read things better.

S: For me I read the words that I know. I just try and figure out the words I know and piece it together. Like if I read a paragraph in Spanish and I would first try and figure out what the topic is, find the topic...then I would look at the words and if I know some of the words, Id say it in English in my head and try to if this means this then that must mean that.

S: In my case Im really different from everybody else because I speak Portuguese and its really similar and I know a lot of stuff and what I do is I translate the word to English...

Speaking

1. What strategies do you use most when you're speaking _____?
   If students don't respond, use these follow-ups:
   -What do you do if you don't know how to say something?
   -How do you come up with what you're going to say?
   -Give student example of speaking--answeri ng questions, presenting a dialogue
2. Why do you use _____?
3. How does it help you learn _____ ?

Writing

What strategies do you use most when you're writing _____?
If students don't respond, use these follow-ups:
-What do you do if you don't know how to write something?
-How do you come up with what you're going to write?
-Give student example of writing--answering a question, writing a letter, report

2. Why do you use _____?
3. How does it help you learn _____ ?

If students have varying opinions about strategies, ask students to support their opinions. (e.g., why do you think this strategy helps more than that?)

Wrap-up

Which strategies helped the most/least? Why? (skill/modality areas?)
Which strategies did you like/dislike the most? Why?
Which strategies were you already using? Which strategies were new for you?

Close:

Thank you all very much for cooperating and sharing your ideas. You've given us some interesting information. We wish you success for the rest of the year.

Listening

+ 2 Translate
  2 inference based on known words
  2 Directed attention--Pay close attention to the words I'm learning
  1 selective attention known words
  1 visualize the words mentally
  1 write what I'm hearing, then read and translate
  1 cognates
  1 repetition (written and oral combined) [VOCABULARY]
- [none mentioned; 2 students said listening was harder because they are visual learners]

S: ... like predict what the words are saying. Like the words you know. ... There might be certain words in there that you know and you put them all together and maybe learn new words. If you like translate the words to English, theres like certain words that go together in sentences and you can understand what goes with them.
S: ...I know some Spanish words that sound the same as English words so Id use that. Some little stuff I know in Spanish so I would use those and try and figure out what theyre saying. ... By me knowing it I can piece what shes saying in my mind like see it in my mind like when shes talking, I would imagine what shes saying. It makes it easier for me to comprehend because Im more a visual person and it makes it easier for me. (Incomprehensible) It would stick in my mind.

Speaking

+ 1 Follow the textbook example, reading from the text
  1 Selective attention to word needed to respond
  1 L1 to L2 [Generate idea in English and translate]
  1 Writing words to memorize [VOCABULARY]
  1 repetition--oral to memorize words [VOCABULARY]
  1 directed attention [pay attention to teacher/text]
- [1 I read better than I speak]

S: If theres a question where theres an absolute, definite answer, like how are you feeling, then most of the time its written down and so Ill just read.... Like in our textbook its like follow the example and like the example is some specific answer and you just fill in the blanks and that really helps.... If its a story I go back to the story and I just copy down the answer. I focus on maybe a specific word that Im looking for and like "what is Julia wearing" then I look for Julias name in the story.

I: And what if you just have to speak Spanish like answer a question?

S: Like an opinion? I just sort of answer it. I think about what I am feeling myself and then I take that word from English say Im sad or Im happy and think of it in Spanish.

S: ... I just memorize the words. I say them over and over again and try and get the meaning of the word. Like in a story you try and find out what the story was about...

I: Lets say youre answering the question free and theres no story, then how do you come up with your Spanish?

S: ... I would just make up a word that would answer it. I know how to say "basketball" and "play" in Spanish. My own opinion. I answer with my own opinion.

Writing
+ 2 Brainstorm [Spanish] words I want to use
1 Brainstorm main ideas
1 L1 to L2--generate ideas in English and translate to Spanish
1 L1 to L2--write it in English then translate
1 substitute
1 "go look for" unknown words [dictionary]
- [none mentioned]

S: Usually theres a topic she gives us so I take that topic and I write it down like maybe some words I want to use or main ideas and then I just put that together in sentence format and I put everything together.
S: I would first write it in English like in my own words in English and then I would translate those words into Spanish with the words I wrote in English are most likely the words I would know how to say in Spanish also. Because if I write it in Spanish sometimes it might be confusing so I write it in English first so it makes more sense and sound right than it would in Spanish. I might think of a word and it might not sound right in Spanish so I write it in English and then I write it in Spanish.
S: ... sometimes when I have ideas that I want to write in Spanish and I dont know words, I go look for all the words that we use in class or something like that....
I: You said if you didnt know a word you think of other words?
S: I want to express an idea and if I dont know one word I would go to one similar to it.

Vocabulary [Included above; these students did not start distinct discussion on vocabulary.]

+ **Most helpful/liked strategies overall**	- **Least helpful/liked strategies overall**
2 Directed attention (focusing/pay attention) 2 Repetition (mental and written) 1 Visualizing words [1 likes all of them] S: Focusing and visually seeing the words. S: Studying the words, vocabulary. Just say them over in your head and write them down and say them in English and translate them and say them in Spanish and keep going over and over it until you can remember it.	2 repetition (written) 1 repetition (oral) [1 doesnt like being told which strategies to use; has own study habits] S: I really dont like when we have to like an assignment is do one of the strategies because I think that its good that shes showing us new study habits but up to now Ive already developed my own study habits and I like using the ones I already have so I dont really like using those.... it usually doesnt work for me because Im not in sync with it because Im already in sync with my own.

Strategies students said were **new** to them	Strategies students **used before** instruction

2 Prediction 1 The fan [Just stated names; no elaboration]	1 Repetition--writing 1 Predicted (but not consciously) S: Writing it over. I always really predicted but I never really thought of it so that kind of threw me off.

APPENDIX C

STUDENT QUOTES FROM GROUP INTERVIEWS

SAMPLE STUDENT GROUP INTERVIEW QUOTES: FREQUENTLY USED STRATEGIES

RESOURCING

- My computer, if you type a Spanish word, it will say it to you. If Im doing like a report and I dont know the Spanish word, I just type the English word and it gives it to me in Spanish, conjugated and everything.
- If there's a word you don't know, usually it will be on the side where the dialogue words are.
- ...get out my package [course materials] and look at what it is and try to figure out what the sentence structure is, and then and I try and write the sentence from there.
- She gives us the vocab sheets with different groupings on them so that you can, you know what goes together before you start trying to create a sentence.

ASK TEACHER OR FRIEND UNKNOWN WORDS

- Sometimes when we're reading, we just, we just stop and say, "What's this word mean?"

SELECTIVELY ATTEND TO KNOWN WORDS / INFER BASED ON KNOWN WORDS OR CONTEXT

- Sometimes also I use context clues with the Japanese. Like in our drill today it had [Teachers name] and 2 kanji characters so I knew exactly it was sensei because of the context clues.
- Deciding what youre looking for based on what you already know from the sentence what its about and also what part of speech youre looking for from whats around it. You can use the skills you learned in English class and grammar and stuff like that.
- Just pick out little words. Like the words in cartoons. When you can pick out little words, then you can pretty much guess what's going on. Like when the guy walked in the room and said "Ohio xxx" and he was bowing to the guy, you could guess that he was introducing himself, little things like that. And it keeps you aware of what's going on.

TRANSLATE

- I use my mind as a vocabulary in my mind, one half has Japanese and one half has English and it just matches up; so when I listen to Japanese I just find the word and the find the match to it.
- If I'm not really understanding, I try to translate it into English... and then I can continue along. But a lot of times if it's an easier sentence I can read along and while I'm reading I can translate it; but if I don't understand it, I'm going to take the time to stop and translate into English.
- I would [write] in English first....Then you can write it exactly in Spanish. Because in Spanish you can't sit there and say, "I want to say this." You have to write the sentence down because in Spanish you have to say certain things first. So you have to see the sentence first before you start translating.

ASSOCIATIONS--VISUAL, SOUND, PERSONAL, CONTEXTUAL

- Its strange but some [characters] actually look like different pictures.... Like "he" it looks like a little smiley face so I thought of he-he he, you know like laughter.
- I remember one from last year, like queso--cheese in a case. I use that a lot.
- For that one blue moon, you know theres a moon underneath of it and because of that song, "Blue Moon." Sound association.

•Association. Like you take some color like light blue, goluboy, associate blue with boy, thats part of the Russian word is boy, so you associate that with blue.
•Osso is for sound and otto is little brother, and my little brother is very noisy so thats the easier way for me to remember otto and sound. So thats like I use personal references a lot and if I focus even though if its really way out that and really stretching it or has very little to do with each, I at least try to make some effort to make the pictures look like what I remember because that way if you do something your mind is more liable to remember it...
• ... trying to visualize what wed actually be doing.... It helps to learn how, if you actually went out and were going to buy something in a store, how you would actually buy some sort of product in a store.

SOUND OUT
•What I have to do when I read Russian is I sound it out phonetically and I know the sounds of each letter so I go through and make the sounds.
•Say it first and see if it sounds like anything in English I mean cause if you know the alphabet you can pretty much read the word phonetically. [combining sound it out and cognates]

COGNATES
•It's a word that sounds the same--cognates. When you're reading and you see a cognate, you should know what that is. 'Cause if it's like [garaje], that's a garage. You should know that, so that gives you a little to know what it's talking about.
•Sometimes the Japanese word can sound a lot like the American word like "name" and "nami" you sort of remember it that way and other ones it just comes to you if you remember that this Japanese sound is this in writing and this in romaji and this in English.

REPETITION
•I like to repeat it over and over again. It helps me get the word right. It helps me to elaborate on how to get the accent right and how the word is actually put together. It helps me to know the word if I see it again or if I have to speak it again. It helps me to put it in my mind and leave it there for a while.
•I learned how to do that, write the word 5 times, in Spanish 1, in 7th grade and thats how I study now and it helps and I remember every vocabulary word.

USE WHAT I KNOW
• I normally use what we just finished learning, like with the animals, I might ask [my friend] what animal lives in this environment and things like that, so I remember the questions.
•Just whatever I think of. If I don't think of it, I don't talk about it. ... I talk about my dog a lot.
•I think that apparently the most obvious thing to do is only use vocabulary that you know.

DIRECTED ATTENTION
•I use ojos [directed attention] to get rid of distractions because I can't sit down and like read unless I'm by myself and alone. So if I can't do that, I just go into a little corner and read.
•I pay attention because when shes talking sometimes ... she makes like phrases saying

the vocab so I just pay really close attention to the words that Im learning.

SELECTIVE ATTENTION TO WORD ENDINGS

- I listen for the endings like -ii , like she said oishi is something thats describing something. I listen for all kinds of endings like deshta.
- Mines gafas too cause you have to find out if youre gonna use el or la, and you got to look at the ending of the word and, you know, if it ends in a youre gonna use la. So that helps a lot.

VISUALIZE WORD

- I can piece what shes saying in my mind like see it in my mind like when shes talking, I would imagine what shes saying. It makes it easier for me to comprehend because Im more a visual person and it makes it easier for me. ...Focusing and visually seeing the words.
- Picture the word in your mind and you just sound it out. I see the letters. I'm like that, too, if I see a word on paper, and it looks familiar to me, then I hear it. When I'm told to say it, then I'll picture it being on the paper and what the letters are.

SAMPLE COMMENTS ON DISLIKED STRATEGIES AND STRATEGY LIMITATIONS

FLASH CARDS / REPETITION

- ...the flash card things... that's what I did when I was little. It helps, I guess, but it's kind of like too easy. I'd rather learn a different way.
- .."Go home and say it over and over and over and over again to yourself." ....You say the word over and over again, but them after awhile you forget. [Another S: Like if you told a parrot to say a word, they could say it over and over again, but it doesn't mean anything to them.]
- Eco, you have to repeat yourself. And that's good on paper I think, but not when you keep saying the word over and over. It's just repetitive. It helps me when I'm doing it on paper, but not when I'm saying it. I'm not gonna remember it.

GROUPING

- La pandilla, which is like the group. And you're supposed to take words and you're supposed to group them in different categories, like if this is science, stuff like that. The reason I don't think that works if because it turns out what if that, none of the words have a common interest? Then you just have a word under each category, which is basically just the definition, so it doesn't end up working that well sometimes.
- Sometimes there are so many possible groupings and you could twist it around to be anything. Sometimes it's good, but sometimes you already know it.

ASSOCIATIONS (VISUAL/SOUND/PERSONAL)

- I'm not good with associating pictures with words or anything like that. I guess it's easier to do that, but it doesn't really help me as much as it does other people.
- Personalization because everybody has different personalizations and if you remember someone elses personalization you can get it mixed up with your own and thats kind of different with religions and stuff ;some people might have different things at home so...
- Sound because it usually doesnt go with the picture and it doesnt seem like it helps me.
- Because its a different alphabet, I dont think association works extremely well with memorizing words because whether it sounds like boy or not, it doesnt look necessarily like boy; but its part of speaking, the phonetic sound you associate sounds with.

GOOD QUOTES BUT LESS MENTIONED STRATEGIES

Brainstorm/Plan: Usually theres a topic she gives us so I take that topic and I write it down like maybe some words I want to use or main ideas and then I just put that together in sentence format and I put everything together.... Its helps me separate my ideas and really say what I want to say ...

Deduct: Well, if you know another language, you can try to figure out from knowing another language like Spanish....some words have the same root or something...

Self-Evaluate: Some people tape themselves.. and then they listen to it.

Substitution: When Im speaking and Im trying to say a word and I dont know a word but I know what Im trying to say, I just say words that describe that word like other words that describe it like if I wanted to say sangre, I would say what would happen when you cut your hand, what comes out. • You can use a synonym. Instead of saying "I'm having fun." you could say, "It was interesting."

Gesture/Negotiate Meaning: Sometimes you can use hand motions, like, to try and see if you can understand each other, like, if you're asking for, a, a church or something, you know, you can kind of, uh, say little words that you know that might help them or something.

Predict: We use la bola de cristal sometimes. It's a crystal ball, and you predict what's going to happen or which word will be used. And in reading something, like the first couple words you understand, you just predict what the sentence is talking about....It helps you finish the paragraph and then go back and check whether you were right or not.

Visualize meaning: I think about the action that's going on. Like if she says that someone's throwing a ball, then I think about that action and translate the words into Spanish words. I'll translate into English and then I'll use it in Spanish so if she says throwing a ball, I'm going to visualize someone throwing a ball so I can put that into the Spanish word. •If you could visualize what it is. If you actually have some sort of picture in your mind or right there for you. Then you actually if its some kind of animal then you an actually see what the word means.

Grouping: Yeah, la pandilla, to group words that maybe mean the same. Say, if you're reading it and you see that word. You know what it means, and you can use another word. • I like pandilla .... It's just like grouping words. It doesn't even have to be words that sound alike or mean the same thing, it could be like all the yo forms of all the different verbs we've ever learned. And that helps a lot because then you remember all of them. • It helps to put all the words in a category and you know what words go with other words. Like farm animals, you put them all in one group instead of mixing in adjectives.

Mental Rehearsal: I think of it in Japanese in my head because it's easier to say it instead of just translating it as you go along.

Manipulation: Like with pencil, every time I pick up a pencil, I think [the word] in my head.

Selective attention to information needed: I focus on maybe a specific word that I'm looking for and like "what is Julia wearing" then I look for Julia's name in the story.

Mnemonics: Make up weird rhymes. Like kaze is wind... somebody was crazy because they were going with the wind. Just little stupid stuff like that that makes me remember it. ....I use stories, ... I put a lot of things to music, and that helps me. When I'm at home, and on a test especially, just sit there and hum it to myself, and it comes real easily for me.

APPENDIX D

THINK-ALOUD INTERVIEW GUIDE

R17. After reading, I decide whether the strategies or techniques I used helped me understand, and I think of other strategies that could have helped.

Never *Rarely* *Occasionally* *Often*

R18. I check whether I accomplished my goal for reading.

Never *Rarely* *Occasionally* *Often*

Other approaches:

_____

_____

_____

Georgetown University Language Research Projects
Think-Aloud Script-High School Levels
Interviewer Guide (20 minutes) Spring 1996

I. **Introduction** (1-2 minutes)

Be sure to get this information on tape:

INTERVIEWER
STUDENT
TEACHER
LANGUAGE
LEVEL
DATE (include year)

Language Research Projects at Georgetown University is trying to learn more about how what students are thinking while they learn and practice *language*.
Today I'm going to ask you to think aloud while doing activities in *language*.
Someone may have done a similar interview with you last year.
This is not a test, and I don't really care about how good you are at *language*.
What I do care about is finding out the kinds of things you're thinking.
If we can start to understand what you and other students are doing while actually learning or practicing, we can develop ways to help other students who are learning *language*.

II. **Think-aloud with Language Activities** (Reading and Speaking)

Reading (7 minutes)
Now I want you to think aloud while reading a text in *language*.
Try and say as much as you can about the thoughts you're having while you do the activities.
It might help you to imagine it as talking to yourself.
Don't think silently, then edit what you thought before you speak.
I'm interested in knowing everything you do and think when reading.

Give student reading task.
Read directions (if there are any), but don't give background information about the text.

Don't focus on content when asking questions.
We're interested in reading processes, not comprehension of details.
Remind the student that it's not a test and right or wrong doesn't matter.
Try not to help the student too much.
Don't volunteer information about content.
Be careful not to lead the student into responses (put words in their mouth.)
If the text seems too easy/difficult for the student, replace with more appropriate level text.

Speaking (7 minutes)

Give student speaking task.

The next activity is speaking.
I'd like you to talk a little in *language* by introducing yourself to me and telling me a little bit about yourself. For example, you can tell me your name, age, where you live, etc.
You can also choose one of the topics on the sheet.
It's difficult to think aloud while speaking *language*, so you can think aloud however you wish. You can think aloud in either English or *language*.
You can tell me what you're thinking as you go along, stopping after each sentence and thinking back on the thoughts you just had, and you can tell me before you start talking in *language* what you are thinking.
Or you can talk in *language*, finish what you have to say, and then tell me what went through your mind as you were speaking.
What I'm interested in is how you go about speaking in *language*, the thoughts you have, etc.
Tell me as much as you can. Remember to tell me what you're thinking.
You can begin. *[Turn to Speaking Task Interviewer Questions, then return to this page.]*

Wrap-up
Thanks for taking time from your day to do this. I appreciate it.
We're learning a lot about how students approach *language* tasks, and your contribution is important to us.

Speaking Task Interviewer Questions

Interviewer can ask questions to guide student if s/he is extremely quiet, having difficulty thinking of anything to say, or is talking easily in L2 and needs to be pushed to a higher level. On the other hand, don't ask too many questions. Allow the student moments of silence because s/he may be thinking about what to say.

1. A day at school:

Where do you go to school?
What subjects are you studying?
What's a typical school day for you?
What's your favorite class? Why?
What do you plan to study next year?
Imagine you're talking to a potential exchange student. Describe your school.
What classes would you recommend? Why?

2. My family:

Who is in your family?
Tell me a little bit about them like where they work, how old are they,their names, etc?
Describe what they look like (appearance) and their personalities.
Compare some of the people in your family--appearance & personality.

3. My favorite hobbies:

What are your favorite hobbies?
Tell me about one of them.
How long have you *played softball*? What's your best memory of *playing softball*?
How would you encourage someone else to take up this hobby?

4. Summer vacation:

When does your summer vacation start/end?
What do you like to do during summer vacation?
What do will you do this year? What did you do last year?
Describe your best/worst vacation. What's your idea of a fun vacation?

5. My home:

Where do you live?
Can you describe your home for me? (e.g., How many rooms? Describe your room.)
Where do you want to live? Describe your dream house.

6. My favorite book, movie, actor, etc: What was it about? Why is it your favorite...

7. My best friend/ worst enemy; Why is this person your best/worst...?

Higher level structures: *narrating in past/future; supporting opinion; conditional; compare/contrast*

Student Worksheet
Think Aloud
Speaking

Instructions: How do you go about speaking a foreign language? We would like to know what sort of thoughts pass through your mind as you speak.

Because it is difficult to think aloud while you talk, you can say what's going though your mind however or whenever you wish. For example, you can stop after each sentence you say, and think aloud about how you came up with that sentence. Or you can think aloud before you speak. Pick whatever is most comfortable for you. You can think aloud in either English or the foreign language.

Topic: Introduce yourself in your foreign language and then talk about one of the topics below. You can choose another topic not on the list, if you want.

Topics:

A day at school
My family
My favorite hobbies/interests
Summer vacation
My home
My favorite book, movie, actor, etc.
My best friend/worst enemy

Remember to tell us what you're thinking as you go along. We're interested in knowing how you go about talking in your foreign language.

National Capital Language Resource Center, Georgetown/Center for Applied Linguistics/The George Washington University

SBB tascrpbs.s96 1/17/96

Think-aloud Prompts

[Prompts are in a hierarchy (broad to specific). Each time you prompt, try to start out broad, then ask more specific questions to get more information. Don't stick to asking questions in order. Be responsive to what the student is doing at the moment. (If the student does something specific, ask a specific question.]

Broad prompts (to get started/when student is silent):

-What are you thinking about? What's going through your mind?
-How are you doing this? How are you figuring this out?
-What are you looking at? Why?
-What do you understand so far? How did you get/know that?

Prompts to get more information:

-Is there anything else you are thinking?
-Can you tell me more?
-What were you thinking when you were silent a moment ago?

Prompts responding to what student has said or done:

[Restate what student has said.]
-How did you figure that out?
-Why do you say that? How do you know? How does that help?
-Why did you change your mind?
-Why did you decide to speak about this?
-How did you come up with that? Why did you say that?
-Is that working for you?

If student mentions unknown words:

-What are you going to do about that word?
-So, how will you figure it out?
[If student asks for information ("What does ___ mean?" or "How do you spell ___?"),
-How would you normally figure that out? *[If student is persistent, give the information]*
If student gestures, stares into space, writes, underlines: *[State (for tape) what S is doing]*
-I notice that you're _____. *See if student explains. If not, prompt more.*
-Is there a reason you are _____.
-What are you underlining? What does that do for you?

At end of task:

-Were you able to tell me out loud what was going through your mind?
-Is there anything you'd like to add about what was going through your mind as you worked?
-As you were doing this, what language were you thinking in?

APPENDIX E

LEARNING STRATEGIES CODING SCHEME

FOR THINK-ALOUD INTERVIEWS

Coding Reference/Index

(Numbers at left indicate "level" of each category in the hierarchy.)

1 METACOGNITIVE STRATEGIES

2 PLAN

3 Preview

4 Prev genre/organizing principle

4 Prev main idea/topic

3 Organizational planning

4 Sections

4 Aid organizational aid (web, list; unprompted only)

3 Self-management

4 know

5 know L2 selects topic because knows L2

5 know topic /interest

4 DA Directed Attention-focusing attention

4 RA read aloud/whisper for a purpose

4 Self-cue

4 Repeat pattern

4 Avoid what I don't know how to say; change topic

4 Rh Rehearsal ("lip"/think words before saying)

[METACOGNITIVE AND COGNITIVE; counting as metacognitive]

2 SA SELECTIVE ATTENTION

3 SAknwd (to known words)

3 SAkey (important words)

3 SAtitle

3 SApicture

3 SA# (numeral)

3 SAling linguistic features/word endings/ specific part of speech/ grammatical correctness

3 SApronunciation

3 Skip

4 Skip LB

4 Skip NI

3 Reread [no disagreement w/ Lookback]

4 Lookback

2 MONITOR

3 Strat +/- Monitor current strategy use

3 Msense Notes whether what is being read/said/written makes sense

4 Msense+ Makes sense; I understand.

4 Msense- This doesn't make sense.

3 Aud mon auditory monitoring [sounds right/wrong]

3 Verify Confirm/change an inference, prediction, cognate meaning

3 SC Self-correct errors or perceived errors

3 SQ/QVer self-questioning/hypothesizing answer & asking interviewer if correct

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1 COGNITIVE STRATEGIES

2 MAKE CONNECTIONS W/ BACKGR. KNOWLEDGE TO MAKE MEANING 14

3 Inference
- **4 Ititle**
- **4 Ipic** (picture)
- **4 I#** (numbers)
- **4 Iknwds** (known words)
- **4 Itext** (text clues)
- **4 Ilit/med**(literary/media kn)
- **4 Iwrld** (world)

3 Predict (based on:)
- **4 Pred title** (based on title)
- **4 Pred pic** (based on picture)
- **4 Pred #** (based on numeral)
- **4 Pred knwds** (known words)
- **4 Pred text** (context clues)
- **4 Pred lit/med** (literature/media)
- **4 Pred wrld** (general world knowledge)

3 Elaborate
- **4 Elab pers** [personal experience, judgment, emotional response to text]
- **4 Elab txt** [note connection between parts of text]
- **4 Elab pic** [talk about pictures]
- **4 Elab class** [talk about specific class activity/unit]
- **4 Elab wrld** [observations about world situations]
- **4 Elab lit/med** [connection to literary/media knowledge]
- **4 Vispic** [image: object/scene]
- **4 Role** [imagining self in story]

2 USE SPECIFIC LANGUAGE KNOWLEDGE TO SOLVE PROBLEMS

3 L2 knowledge
- **4 Deduction**
- **4 Decoding**
  - **5 Dec-mn** [mental decoding]
  - **5 DecChar** [character recognition/pronunciation]
- **4 Semantic** awareness [alternative meanings; connotations]
- **4 Substitute**

3 L1-L2 knowledge
- **4 Cognates**
- **4 Borrow** modify L1 word to fit L2 or clearly say with L2 accent; make up a word
- **4 Mix** [go back and forth from L2 to L1 words [HS speaking]

2 MANIPULATE INFORMATION

3 Retell

3 Summarize

3 Translate
- **4 Metatranslation**

2 RESOURCE [Dictionary, computer, text, own notes, video/audio, task info]

3 Chart [e.g., hiragana]

3 QI Question for information that is unknown or for general help--spelling, word meaning, translation

2 RECALL STRATEGIES

3 Sequence [recall by thinking through a memorized sequence]

3 Association -- Sound associations

3 Brainstorm L2 Vocab

3 Viswd/char visualize word or character

3 Aud recall hear words/say aloud to retrieve meaning

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1 METACOGNITIVE AWARENESS

Includes general awareness of task requirements or how one is approaching task

3 Automatic understanding in L2; don't need to translate

3 Easy / Hard [Assess task difficulty]

3 Tie to L1/L2 [Relate to L1 or another L2]

4 Contrast L1/L2

4 Interference of L1 or another L2

3 Why [strategy value]

4 When [conditional knowledge of when strategy is more useful or less useful]

3 Self awareness **(+/-/0)** [comments on own ability; not directly tied to how performing task (compare Monitor)]

3 Affect (state whether + or -) emotional reaction to doing task

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Rh Rehearsal Lip the words or think the words in my head before speaking Preparation for speaking	**Rh** "Sometimes as you think about it just like lip it so that it's sort of like you're pronouncing it, and all you have to do is put sound in it to make it to pronounce it." "I piece them together in a sentence before speaking whenever I can."
MONITOR Seeing how well you are making meaning; evaluating own performance	
Strat +/- Monitor current strategy use/approach + going well; strats work - not working; strats don't help me (M)	"But right now it's not going very well." "It has the same ending, but that doesn't help me at all." "...she wrote all the words on the board and I'm trying to picture them. I can't picture them, though." "Which might not be a good way of doing it"
M-sense +/- Comments about whether S understands; whether what is read/said makes sense +It makes sense; I get the main idea; I understand -It doesn't make sense [was PI] Something's confusing, or don't understand what whole thing means.	**Msense** As I'm understanding more information about the people he's talking about...//Oh, okay...//S: I was thinking if I say it, would it make sense? I come up with some words; I say this gonna make sense?// I usually have to read it 2 or 3 times to get the gist of what's happening. I might not know it all, but I get the main idea.// **Msense-** -"I don't know what that means, so I can't make sense out of the sentence."//"...But that's about all I got out of it."//-"Okay, I'm done. Ask me what it means, I won't tell you because I don't know."//-I'm pretty confused at this point.//
Aud mon auditory monitoring Using ear for language to make decisions; what sounds right.	I was going to say interesos but I wasn't sure if that was a word, so pasatiempos just kind of sounded right.
Ver Verify Checking an inference, prediction, translation Includes adjusting interpretation when new information is encountered (M)	"I was thinking of different 'p' words I know and seeing if it was that but it's not." "So maybe it's not robots because I don't think they'd be doing the same thing with robots.... [ver] "He is six) Is that how old he is?[SQ] It's a number (sixty). He's sixty. But that's not his age; I know the word for age...Oh (year). Yes, that's how old he is." (see context) "Oh! And it says it right up here that I completely missed at the top in bold." I did change my mind about that becasue it sees like the story is just beginning.... If they captured the criminal the story would be over. So I'm thinking "encontrar" is they're looking for, and now I know for a fact that it is to look for.
SC self-correction of errors or perceived errors, or corrections that make meaning more fluent (e.g., when translating) Student changes mind, rephrases something (esp. when translating). Does not necessarily mean student moves from a wrong to right meaning, pronunciation, grammar; just that student tries it a different way, is not satisfied with first attempt. Includes making meaning, grappling with translation, appropriate grammar, **(not when sounding out words for reading, unless changes tense or meaning)** (M)	Like "Cruce la plaza" is like he I crossed the plaza.// I thought that meant forward, obviously not, the front of [SC] the History...Natural History Museum [SC] I: ...Why did you change your mind? S: It wasn't forward because it wouldn't make sense [I] and frente is kind of like front [Icog] and it could have two dual meanings [metatrans].// I note or take notice of someone who is watching me.// At the end I stopped or I was in front of the Natural History Museum.//

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SQ/QVer Self-questioning / Questionning for Verification (Puzzle over something to make sense of it--working it out) QVer–Student has idea of answer and asks interviewer if it's right. (Does this mean, ____? ____, right?) (M)	"(He is six) Is that how old he is? It's a number (sixty). He's sixty. But that's not his age; I know the word for age...Oh (year). Yes, that's how old he is." What the hell?...Is this like...?// **Qver** ...(young) Is that 'young'?" I: Uh huh.
SA SELECTIVE ATTENTION Up-front or on-line focus on something--student must explicitly say "I'm looking for/at..." Also includes deciding whether or not something is important (see skip subcategory). **SAknwd** (words I know) [Double code when occurs w/ Iknwd] **SAkey** (important words; headings; bolded words) Sometimes S says key & means known. If S clarifies, then code as know or key. If no clarification, just code as SA. **SAtitle** **SApic** picture **SA#** (numeral) **SAling** Specific linguistic aspect--endings, verbs, nouns, particles; grammatical correctness **SApron** Search memory for correct pronunciation. (MC) [Selective attention is continued with skip categories (see next row).]	I: "I notice you're underlining words." **SAknwd** (words I know) "I'm looking for words I recognize and trying to figure out what the other ones mean in relation to the words [I know]."[SA/infe rence often together.]// "[Looking for] something easy to read."// I'm like picking out the key words that I do know... **SAkey** (important words) Checking for key words like the subjects and verbs. I just sort of look at the verb itself and get the meaning. "I'm looking for key words of relatives now because I know it's about a family type thing."[SA&prediction]// S: I'm looking for key words to pick up. I: What are key words? S: Like Latinoamerica that's pretty obvious. La problematica es diferente; that's pretty much telling you what is going to happen. What they're going to develop. "I want to know what that word is." **SAtitle** S: Yes, and I look at the title.//S: And if there's a title I look at that. **Sapic** I'm looking at the pictures **SA#** Telephone number...it must say telephone **Saling** S: Trying to think of other things to say. I: Ok, other things to say. Are you looking for something specific? What exactly are you looking for? S: Some adjectives.// S: How to put it together. I: How to put what together? S: Trying to use the right word, grammar, and make sure it makes sense ... I was trying to make sure that I conjugate the verbs right. **SApron** "To think about how to pronounce that word."// I: Why are your eyes closed so tightly? S: I cannot pronounce that word. [S: To learn how to speak more this way, a way that I could um, learn more. And how to pronounce some of the words better.]

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[These are subcategories of Selective Attention] **Skip**/Ignore/Read on Explicitly stating that I skipped something or I pay less attention to something. Also includes substituting filler word, like "something" or "blank" in mid-translation--but must move on, can't be stuck on it. **SkipLB** (look back) Might make sense later (Implies inference later on) Plans to come back later **Skip NI** Not important; related to selective attention. **Reread/Lookback** **Look back** = Go back to a previously read section, to look for information that will help with current problem [Look back in text to figure out/reread for specific information] **Reread** Rereading a sentence or whole text, not just individual words Includes multiple readings	**Skip** And then if it doesn't make sense, I just pretend I never read it.//I'll keep reading... **SkipLB** "I'll have to come back to that."//"I just go along because it might fill in the holes later on."//I:So what do you do when you don't know the words?//S: I skip. I just go over it and then I try to go back if I find something that I understand and see if it can do anything.//If there's a whole sentence I don't understand, I read the rest of the paragraph [skip/read on] and I go back and see what it could mean.// I just go over it and then I try to go back if I find something that I understand and see if it can do anything. // **SkipNI** See once again, you don't have to know that word.//It's not really important for me to read the conjugation.//"...But at least in class that should get me by"//"His name is Andrei something. I don't think I need to know that. It's just his name."//"I was thinking I don't need to describe three characteristics about the hair." **Look back** S: If I really need that, then I go back to it and think about it. **Reread** I'm going over the paragraph again and again.// I usually have to read it 2 or 3 times to get the gist of what's happening. I'd like read the whole once then read it again// Like when I read it, then I.have to go back over it.//

COGNITIVE STRATEGIES	
MAKE CONNECTIONS WITH BACKGROUND KNOWLEDGE TO MAKE MEANING	
Inference Pulling together elements not stated in text. Guessing based on some information; not just wild guessing. **Ititle** Infer based on title **Ipic** based on picture **[In narrative, helpful to note if student seems to guess based only on pictures or on picture in combination with text.]** **I#** (text-specific) **Iknwds** Take words I recognize in the text & try to make sense w/ those I don't know; if using strategy (not just describing it), must indicate which words the inference is based on. **Itext** context clues and text-based inferences from other parts of the same text **Ilit/med** inference based on literary knowledge; knowledge from media (TV, movie, song...) **Iwrld** World knowledge about topic/content, as well as logic, common sense (C)	**I** I'm not sure what "los belgas" is but that might be the people in Suiza; that's what I'm extracting from this.// I don't know but I guess I would assume fast from the context.//I think some big thing that he had to have chocolate or something. I guess he played an important role in chocolate and the history of humans//Maybe it was him but he was worried so he said he was someone else.// So obviously it means like he's going down the stairs fast cause he's scared.//I guess I figure out how it could fit into the context of the story. **Iknwds** "It's introducing somebody else I think... It looks like...well (is called) is 'name' I think and it looks like a name--Anna and whatever that last name is." "The words I recognize, try to make sense with those I don't know. It's like I recognize Moscow, so I figure it's either telling something about Moscow or something like that." "I was thinking of different 'p' words I know and seeing if it was that but it's not."[inference or predict/validate?]//Because the rest of the sentence is ... so it sounds like suddenly... **Ipic** "This one's by the beach. It's got big water here, sand, palm trees..." I: "You're **I#** "It's got the area code. It's got a bunch of numbers. It's got 3 in the first and 4 in the last...you know that's a telephone number. **Ilit/med** "...that the gods aren't always perfect or something like that. Or, maybe it's like the movie, The Gods Must Be Crazy, or something like that." (SB-C S4 HS). // "I think what all, what might be wrong with the gods, like they didn't get rain and a crop. Because the stories are always the same thing, you know, kinda like that." I: Stories in Spanish? S: Yeah (SB-C S4 HS)
Pred Predict What's next? What kinds of information am I likely to get later? **Pred title** **Pred pic** (picture) **Pred #** (numeral) **Pred knwds** (known words) **Pred text** **Pred lit/med** (literary or media) **Pred wrld** (C)	**Pred** "I was basically just thinking what words to say because I know it's about a family."// "So it's going to be about something electronic." "I'm looking for key words of relatives now because I know it's about a family type thing." [sel. attn. & predict]// When I read, I try to figure out what I'm reading, what it's about because that generally gives me an idea of what words could possibly be.// "It sounds like a robot. Maybe he's an engineer or something... school...So maybe...He teaches robotics at a school..." **Pred text** So earlier sentences help me figure out what the next ones are going to be about.// **Predlit** Maybe it's going to be like the movie "The Gods Must Be Crazy"

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Elab Elaborate Relating new information to what is already known Use background knowledge to construct meaning by making or remembering associations/connections Give info that is not in text Express a judgment about text situation **Elab pers** Comment about related personal experience; express judgment about something in text. Includes aesthetic reaction--emotional response to text content **Elab txt** Make a connection between 2 parts of text (connection is not explicit in text); notices text pattern; includes pointing out word that reappears in text. **Elab pic** elaborate about pictures **Elab class** Comment on specific class activity/unit that is related to something in text (not general, "We talk about this.") **Elab wrld** Comments about other observations of the world **Elablit/med** (literary knowledge) or drawing connection to another text/movie that S has read/seen. **Vispic** mental pictures based on something in the text (content/meaning) **Role** imagine oneself in character's role (C)	**Elab pers** I generally don't eat potatoes with papaya or chocolate!//I've kind of taken chocolate for granted.//I think of the museum in Washington that I know of with all the dinosaurs, and that's just the closest thing to this, and I just relate it. //Something's wrong with this guy. He's got psychological problems.//So this guy got really lucky.//That's a lot of chocolate. Sweet tooth I guess.//Oh, weird...the Aztecs have a myth about the divine origins of chocolate.// I: What are you thinking about as you read this? S: Getting hungry//Oh, yuck....This is disgusting.// It's pretty interesting. **Elab wrld** It's getting a little more complicated now, like being an American.//I: Does that make you think about anything? S: How different cultures can be. Here we are, we take chocolate for granted. We eat it and buy it in the stores, and they thought it was divine. **Elabtxt** I guess because the've been mentioning chocolate throughout the article so I figured it was chocolate there so it must be chocolate down here. **Elablit/med** And a lot of times the stories are the same, like the animals talk, and I'm not confused by that anymore. And they all have their general themes. So like now I know that this is one of their little mystery ones, like he was Senior Fuentes."//I just thought of something, the movie "The Invisible Man" I can sort of see the theme. With the color of the skin defining the person, that sort of thing **Elab class** We did something about immigration earlier in the year, and I'm thinking a little bit about that. // We were talking about chocolate in there also. Is that on purpose?//"I just try to remember because we do a lot of stuff with the family and she wrote all the words on the board and I'm trying to picture them." [also viswd]////"I'm like thinking about a ditto we did a long time ago...Like we had to draw ourselves and then we had to make a family tree and label it.//We sort of use it all the time and you sort of know what it means but you don't know exactly word for word...so basically you learn phrases at a time so you don't know what this word means so when you use just that word in a different context it's crazy. You don't know if this means "I" or "have.""//S: **Vispic** I: What are you thinking about when you remember it? S: What it looks like...The object **Role** I know I'm supposed to be in some Natural History Museum and interested in some prehistoric animals.//This says I ran up the stairs, and I don't see why I would do that any other...if the man just looked at me or anything like that I wouldn't be scared or run up the stairs.
USE SPECIFIC **LANGUAGE KNOWLEDGE** TO SOLVE PROBLEMS	
L2 knowledge	
Deduction Applying rules or knowledge of language (grammar rules, parts of speech, roots, prefix/suffix, text structure, sentence structure) to comprehend /solve a problem (C)	If I knew what "fija" meant, I could tell you what "fijament" meant..That's -ly. "I looked for an instance fijamently..."// "And everything changes in Russian (referring to the case system--nominative case) you can just sort of assume." "Plural with the family." "...try and piece it together by its positioning--where it is in the sentence and how it's being used." "That's 'pre'...before...It's a prefix. Well pre in English is before so I'm thinking that maybe it is in Russian. "//

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Decode Phonetic decoding as a strategy for reading **Decode-mn** mentally (emphasis on pronunciation, sound-by-sound) **DecodeChar** character recognition/pronunciation Includes actual pronouncing [May be an important step to recognizing cognates in Russian (& Japanese Hiragana?) because the character system is different from English.]	"I have to sit there and phonetically spell it out." "I'm trying to see how they are pronounced." **Decode** "When I'm pronouncing them I'm trying to get better at saying the word." **Decode-mn** "Say them through my mind. Say each letter." **Decode char** c) "I'm looking at the 'r'." "I'm trying to recognize the letter and putting them together, but it's hard because we're used to cursive, and then I'm like...."
Substitute Find another way to say it	
Semantic awareness Knows about alternative meanings and connotations of words	Sometimes words can have two dual meanings
L1-L2 knowledge	
Cog explicitly stated that it looks like an English (or another L2) word "It looks like..."; saying the L2 then the L1 cognate; includes student awareness of false cognate problem.	**Cog** "It sounds like just like calculator."//"They might sound like an English word, and then I'll sort of know what it means" "It sounds a lot like nous in French, which is our, so Our Family." // "It says eléctricas. I guess that's electrical (pause) worker."
Borrow Say L1 word w/ L2 accent Write an L1 word in katakana Make-up word w/ L2 accent/construction	**Borrow** "I have tyotyas[aunts with English plural s on end]."
Mix Use L1 word or form (or word from a different L2) when don't know in target language; includes code-switching	**Mix** la escuela de nursery (nursery school)
MANIPULATE INFORMATION	
Retell Paraphrase/restate text; includes stating just a few parts	
Summarize Restating main ideas of the text to give a sense of the text as a whole Requires selection of important points from everything S understood "It's talking about.." "They're saying...." "It has something to do with..." (C)	"In this paragraph they are obviously talking about food and the shipping it away and how much they made and who likes what."

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Translate Using L1 to comprehend target language (problem-solving) and grapple with meaning OR Generate ideas in L1, then try to translate it to target language Think of content in English, then figure out how to write it in L2 Code when S mentions translating. Lower levels translate the few words they can, and this is strategic; code each word/phrase S translates. Higher levels if continually translating--recode whenever interrupted by another strategy. [Not a strategy when it's an automatic process--don't code when verbatim and fluid or when seems to be done for interviewer's benefit] **Metranslation** includes student talking about need to switch word order; stating that words can have more than one meaning. (C)	**Metatrans** I'm dividing it into words and putting them together into English (restructuring)//(word order) jumbled up **Trans** "I'm thinking of my favorite relative is my sister...." "I want to say how old they are." "I'm trying to figure out how to say what school I go to."
RESOURCING Dictionary, Texbook Own notes, Computer Video/audio at home **Chart** (hiragana) **QI** Question for unknown information/ ask for general help / Asking for word or word meaning (What does ___ mean? What's the word for?)	**Res** I have to look up a lot of the words. I circle new words in dictionary. **QI** B) "What is that letter there? [illegible print?]"
RECALL STRATEGIES Strategies to recall information relevent to current task; not counting general study strategies unless tied to task [i.e., not just encoding; need retrival focus.]	
Sequence Recalls vocabulary/letter of alphabet by remembering a sequence	"I'm just trying to go through the numbers and remember what that is.
Association (sound) (C)	"Association with different things like (goloboy) is like blue for boy. (Zelyony) is green--lonely."// "I try to remember what words go with what words in English by whatever means of association or referencing I use in my mind."// "Mental notes I put in my mind to help myself remember certain things.... " S: Mi hermana menor and mi hermono, umm... I: When you say umm, what are you thinking about? S: Hamburgers.
Brainstorm L2 Vocab Think of what I know how to say in L2 (memory search)	**Brainstorm L2 vocab** "When I try to remember things in Russian I try to come up with the words in the back of my mind by associating them." (also association)

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Self awareness +/-/0 (positive, negative, or neutral self-statement) (M)]	**Self-** "I'm a slow reader."//"I'm really terrible with these verbs." //("Memory is my biggest problem in learning because I learn until the quiz or the final exam and then I forget everything before because we're going on to new stuff and it just sort of like slips my mind."//"Sometimes I have a little trouble putting all the words together or remembering some words. Some words just don't register very well, [+] but I try my hardest to remember how to say them."// S: Other times I don't have a specially good accent. ... Like sometimes I can say something and it's not going to sound very good.//S: I wish that I could already speak Spanish better so I wouldn't worry about my mistakes and stuff.//"I can't speak anything."//I think the best student should be doing this.//"I learn until the quiz or the final exam and then I forget everything before because we're going on to new stuff and it just sort of like slips my mind."/ **Self+** I like writing. I learn by writing stuff." **Self0** "Some people learn by hearing, some people learn by seeing, I learn by writing."//"That's how I learn. Look at pictures. That's how I normally do it."//"I'm an auditory learner."//For me it's easier to read when I'm not talking out loud, because it's more natural. I know some people when they read it out loud it's more comfortable, but I have to think about it and I can't always think and read at the same time. S: To learn how to speak more this way, a way that I could um, learn more. And how to pronounce some of the words better. (self-goal for speaking)
Affect +/- Emotional reaction to doing the task or to language learning (not to task content)[Must be explicitly stated by student] unmotivated; nervous	I'm just saying I don't take Spanish too much seriously anymore...When I don't have motivation I don't do too well...I just don't get into doing Spanish. It just doesn't excite me.//I guess I'm getting nervous because I don't know all these words here.//

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Viswd/char visualize the word or character to recall the word's spelling, pronunciation, or meaning	**Viswd** "I just try to remember because we do a lot of stuff with the family and she wrote all the words on the board and I'm trying to picture them." "Just trying to see how they look like... how they're spelled"//
Aud recall hear word mentally or say aloud to recall word meaning; sounds familiar/unfamiliar	Student says word twice, then "It sounds familiar..."
METACOGNITIVE AWARENESS General awareness of task requirements or how one is approaching the task.	
Automatic understanding in L2 without needing to translate	It's gotten to the point where I don't always have to sit and think, "Okay, this means this in English." Because I'm starting to think in Spanish a little bit.
Easy / Hard Assess task difficulty for self (M)	+ "This is easier because the products sound more like what they are in English." -"I'm thinking these are big words." -"Is this really level 1?" -"Wondering how I'm going to get all this read."
Tie to L1/L2 Relate to comprehension in L1 or another L2 **Cntrst L1/L2** Contrast with L1 or another L2 How task is different from working in L1 **Interference** of L1 or another L2 (M)	**Tie L1** In English I sometimes have to read it 2 or 3 times to get it. Sometimes I just try to basically get what's happening and them I go into detail afterwards. ...Well because it might give more detail but I get the main idea and whenever in any book, even in English, it's leading up to someone saying something like he said or he replied, it might say like how he said it but still I understand what he said. "It's sort of like looking at an English paper and recognizing the "ands" and "ors", but nothing in between" **Contrast L1/L2** So if in English it makes no sense, you generally think, "Well maybe I read it wrong. but in Spanish there's no way to tell if you read it wrong because it might be them or it might be you." **Interference** s: I guess there's a lot of English influence...Because when I try to translate it myself, I pretty much translate it literally...I think there's a lot of English influence going on here. I: A lot of English influence from you? S: Yeah, from me.//
Why (value knowledge)/ **When** (conditional knowledge) (& when not needed/helpful) Look for cue words in identifying when/why: If ... When .... It helps me... Because	"If the words are really long, I try to pronounce them in my head."//"Because if it sounds the same, you don't have to go through all the other techniques of learning because you know what it means."//(Tasks--reading v. vocab)"When I'm reading I..., but if you're learning the words...""They might sound like an English word, and then I'll sort of know what it means"//"This is easier because the products sound more like what they are in English. Because if it sounds the same, you don't have to go through all the other techniques of learning because you know what it means...it sounds the same...if you can read it you know what it means."//"It helps me. I hear it...instead of inside my mind, I hear it talking out loud." "When I'm pronouncing them I'm trying to get better at saying the word because our teacher is very fluent in Russian, and if I said it faster it might register to something she told us before."

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