Learning Strategies in Foreign Language Instruction

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ABSTRACT This paper summarizes the findings of a three year project which investigated the use of learning strategies by foreign language students and their teachers, and suggests specific classroom applications for learning strategy instruction. Three studies were conducted under this project: (a) a Descriptive Study, *which identified learning strategies used in studying foreign languages, (b) a* Longitudinal Study, *which identified differences in the strategy use of effective and ineffective language learners and analyzed changes in strategy use over time, and (c) a* Course Development Study, *in which foreign language instructors taught students how to apply learning strategies. Classroom applications discussed in the paper include guidelines for developing students' metacognition and motivation through the identification and discussion of their existing language learning strategies, and techniques for modeling and practicing additional strategies that can help students become more effective and independent language learners.*

Introduction

Learning strategies are techniques which students use to comprehend, store, and remember new information and skills. What a student thinks and how a student acts in order to learn comprise the non-observable and observable aspects of learning strategies. For example, in order to comprehend a listening text in a foreign language, a student might be thinking, "Am I understanding this? Does it make sense?" Using this type of comprehension monitoring to identify areas of difficulty, the student may take notes of words and expressions to be checked on later. The teacher would observe the note-taking strategy, but would only know about the self-monitoring strategy by asking the students what they were thinking while listening. Effective language learners know how to use appropriate strategies to reach their learning goals, whereas ineffective language learners are less expert in their strategy choice and use.

The purpose of this paper is to show how the findings of a three year project on learning strategies in foreign language instruction can be applied to the classroom to assist students in becoming more successful language learners.

Background

Investigations of learning strategies in second language acquisition have identified the strategies used by effective language learners (Bialystok, 2; Chamot et al., 7; Chamot et al., 8; Naiman et al., 17; O'Malley et al., 19; O'Malley et al., 20; Rubin, 23), and intervention studies in both first and second language contexts have sought to train students to use effective learning strategies (Barnett, 1; Cohen and Aphek, 10; Holec, 12; Hosenfeld et al., 13; O'Malley et al., 21; Wenden, 26). The strategy identification studies have shown that effective second and foreign language learners use a variety of appropriate metacognitive, cognitive, and social-affective strategies for both receptive and productive tasks, while less effective students not only use strategies less frequently, but have a smaller repertoire of strategies and often do not choose appropriate strategies for the task.

The strategy intervention studies have shown that while students can be trained to use learning strategies, they may have difficulty in transferring strategies to new tasks. A number of studies have suggested that learning strategy training needs to be conducted in

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conjunction with the regular course of instruction over an extended period of time, rather than as a separate intensive "how to learn" course (Campione and Armbruster, 5; Chamot and O'Malley, 6; Wenden, 26). The implication of this position is that teachers rather than researchers should be the deliverers of learning strategy instruction.

The Learning Strategies in Foreign Language Instruction Project

A three year project was carried out to investigate a number of aspects of learning strategy use by foreign language students and their teachers. Three studies were conducted under this project: (a) a *Descriptive Study,* which identified learning strategies used in studying foreign languages, (b) a *Longitudinal Study,* which identified differences in the strategy use of effective and ineffective language learners and analyzed changes in strategy use over time, and (c) a *Course Development Study,* in which foreign language instructors taught students how to apply learning strategies. The languages under study in the project were Spanish and Russian. This paper reports on the Spanish descriptive and longitudinal studies and on the complete course development study.

Descriptive Study. The participants in this study were 67 high school students drawn from first year, third year, and a combination fifth/sixth year Spanish classes. Teachers identified effective, average, and ineffective language learners at each level of study, and students at each level of study were interviewed in small groups according to these classifications. In the interviews, students were asked about any special tricks or techniques they applied to foreign language tasks, such as learning vocabulary, completing grammar exercises, listening and reading comprehension, oral and written production, and communicative encounters outside the classroom. Probing questions elicited information about what students did to prepare for these tasks, how they managed the tasks while engaged in them, and where appropriate, how they recalled or checked the tasks after completion. The interviews were tape recorded and then analyzed for occurrence of strategic processes and behaviors.

Strategies identified from the student interviews were classified following general principles developed in prior second and first language studies (Brown et al., 3; Brown and Palincsar, 4; Chamot and O'Malley, 6; O'Malley, et al., 20; O'Malley et al., 21). These principles classify learning strategies in three general categories:

Metacognitive, which are self-regulatory strategies in which learners are aware of their own thinking and learning, and plan, monitor, and evaluate their own learning endeavors;

Cognitive, in which learners work with and manipulate the task materials themselves, moving toward task completion;

Social and Affective strategies, in which students interact with the teacher or other students to solve a problem, or exercise some kind of affective control over their own learning behaviors.

The results of the descriptive study indicated that students at higher levels of study reported using, on average, more strategies than did beginning level students. Students at all levels of study reported using far more cognitive than metacognitive strategies. The metacognitive strategies used were predominantly planning strategies, rather than making use of monitoring or evaluation. At the beginning level Spanish study, students relied most on the cognitive strategies of repetition, translation, and transfer. At the intermediate and advanced levels, however, students began to rely increasingly on inferencing, while still continuing familiar strategies such as repetition and translation. Social and affective strategies were reported infrequently. In general, students reported using fairly traditional strategies, with few instances of the occurring of more cognitively active strategies such as grouping, substitution, imagery, elaboration, or summarizing (see strategy definitions in Table 1).

A contribution of the descriptive study was its examination of the learning strategies of all ability levels rather than concentrating on the "good" language learner, as most previous studies had done (see, for example, Naiman et al., 17; O'Malley et al., 20; Rubin 23). The somewhat surprising result was the discovery that students of all ability levels do use learning strategies. The notion that less effective students are at least acquainted with some learning strategies and more importantly, are able to report on their own mental processes related to foreign language study, provides a starting point for learning strategy instruction that can benefit those students whose present strategies are not leading them to significant success in learning a new language.

Longitudinal Study. Participants in the longitudinal study were students who had participated in the descriptive study as either effective or ineffective students (the middle group was not included). At the beginning of the study, 27 effective and 13 ineffective Spanish students at the beginning, intermediate, or advanced level were participating. At the conclusion of the study, four semesters later, attrition had taken its toll, and only 11 effective and 2 ineffective students remained.

In this study, students were interviewed individually and given typical language learning activities to p

form. These included filling in the missing words in a cloze activity, reading a passage, listening to a monologue or dialogue, and writing a paragraph about a drawing. Students were asked to think aloud while they worked on the tasks, or to recount their thoughts as they attempted to solve the problem presented.

Findings of the longitudinal study resulted in a refinement of the classification system for learning strategies, as presented in Table 1. Although the three basic categories of *metacognitive, cognitive,* and *social-affective* strategies remained unchanged, the complex ways in which particular strategies were applied led to additional descriptions of basic strategies used for specific kinds of tasks. An important discovery in metacognitive strategies was that self-monitoring not only occurred across all four language skills, but that this strategy could take many forms. For example, in comprehension monitoring, students monitored both visually and auditorially; in language production monitoring, students monitored for different language segments (word, phrase, sentence), for style, and for choice of strategy. In both reading and listening tasks, students also monitored by double checking early parts of a text against later parts in order to clarify comprehension problems they had specifically identified. In cognitive strategies, elaboration of prior knowledge and relationships between parts of the text indicated multifaceted use of this major learning strategy. Elaboration frequently co-occurred with strategies such as imagery, inferencing, and transfer, often appearing so closely related as to be inseparable. Due to the interviews being one-on-one, the only social-affective strategy used by students was questioning for clarification/verification, and this occurred infrequently.

TABLE 1

Learning Strategies and Their Definitions

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

1. *Planning:* Previewing the organizing concept or principle or an anticipated learning task ("advance organizer"); proposing strategies for handling an upcoming task; generating a plan for the parts, sequence, main ideas, or language functions to be used in handling a task.
2. *Directed Attention:* Deciding in advance to attend in general to a learning task and to ignore irrelevant distractors; maintaining attention during task execution.
3. *Selective Attention:* Deciding in advance to attend to specific aspects of language input or situational details that assist in performance of a task; attending to specific aspects of language input during task execution.
4. *Self-management:* Understanding the conditions that help one successfully accomplish language tasks and arranging for the presence of those conditions; controlling one's language performance to maximize use of what is already known.
5. *Self-monitoring:* Checking, verifying, or correcting one's comprehension or performance in the course of a language task. This has been coded in the think alouds in the following ways;
   - *Comprehension* monitoring: checking, verifying or correcting one's understanding
   - *Production* monitoring: checking, verifying, or correcting one's language production
   - *Auditory* monitoring: using one's "ear" for the language (how something sounds) to make decisions
   - *Visual* monitoring: using one's "eye" for the language (how something looks) to make decisions
   - *Style* monitoring: checking, verifying, or correcting based upon an internal stylistic register
   - *Strategy* monitoring: tracking use of how well a strategy is working
   - *Plan* monitoring: tracking how well a plan is working
   - *Double Check* monitoring: tracking across the task previously undertaken acts or possibilities considered
6. *Problem Identification:* Explicitly identifying the central point needing resolution in a task, or identifying an aspect of the task that hinders its successful completion.

7. *Self-evaluation:* Checking the outcomes of one's own language performance against an internal measur of completeness and accuracy; checking one's language repertoire, strategy use or ability to perform th task at hand. This has been coded in the think alouds as:

   - *Production* evaluation: checking one's work when the task is finished
   - *Performance* evaluation: judging one's overall execution of the task
   - *Ability* evaluation: judging one's ability to perform the task
   - *Strategy* evaluation: judging one's strategy use when the task is completed
   - *Language Repertoire* evaluation: judging how much one knows of the L2, at the word, phrase, sentenc or concept level.

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

1. *Repetition:* Repeating a chunk of language (a word or phrase) in the course of performing a language tas
2. *Resourcing:* Using available reference sources of information about the target language, including dic tionaries, textbooks, and prior work.
3. *Grouping:* Ordering, classifying, or labeling material used in a language task based on common attribut recalling information based on grouping previously done.
4. *Note-taking:* Writing down key words and concepts in abbreviated verbal, graphic, or numerical form assist performance of a language task.
5. *Deduction/Induction:* Consciously applying learned or self-developed rules to produce or understand th target language.
6. *Substitution:* Selecting alternative approaches, revised plans, or different words or phrases to accompli a language task.
7. *Elaboration:* Relating new information to prior knowledge; relating different parts of new informatio to each other; making meaningful personal associations to information presented. This has been cod in the think aloud data in the following ways:

   - *Personal* elaboration: Making judgments about or reacting personally to the material presented
   - *World* elaboration: Using knowledge gained from experience in the world
   - *Academic* elaboration: Using knowledge gained in academic situations
   - *Between Parts* elaboration: Relating parts of the task to each other
   - *Questioning* elaboration: Using a combination of questions and world knowledge to brainstorm logic solutions to a task
   - *Self-evaluative* elaboration: Judging self in relation to materials
   - *Creative* elaboration: Making up a story line, or adopting a clever perspective
   - *Imagery:* Using mental or actual pictures or visuals to represent information; coded as a separa category, but viewed as a form of elaboration.

8. *Summarization:* Making a mental or written summary of language and information presented in a tas
9. *Translation:* Rendering ideas from one language to another in a relatively verbatim manner.
10. *Transfer:* Using previously acquired linguistic knowledge to facilitate a language task.
11. *Inferencing:* Using available information: to guess the meanings or usage of unfamiliar language ite associated with a language task; to predict outcomes; or to fill in missing information.

Social and Affective strategies involve interacting with another person to assist learning, or using effective cont to assist a learning task.

1. *Questioning:* Asking for explanation, verification, rephrasing, or examples about the material; asking f clarification or verification about the task; posing questions to the self.
2. *Cooperation:* Working together with peers to solve a problem, pool information, check a learning ta model a language activity, or get feedback on oral or written performance.

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Diff. types of lang. tasks elicited diff. strategies.

3. *Self-talk:* Reducing anxiety by using mental techniques that make one feel competent to do the learning task.
4. *Self-reinforcement:* Providing personal motivation by arranging rewards for oneself when a language learning activity has been successfully completed.

A number of factors seemed to influence students' choice of learning strategies in the longitudinal study. For example, the objectives of the particular language course had an impact on student strategy use. Students in classrooms emphasizing grammar apparently preferred strategies such as deduction and translation, whereas students in classrooms focusing on proficiency tended towards strategies such as inferencing and substitution. Other factors influencing strategy use were: prior language study, type and degree of difficulty of the task, and motivation.

Major differences between effective and ineffective students in the longitudinal study were found in the range of strategies used and the way in which individual strategies were applied. In general, more successful students used learning strategies more often, more appropriately, with greater variety, and in ways that helped them complete the task successfully. Less effective students, on the other hand, not only had fewer strategy types in their repertoires, but also frequently used strategies that were inappropriate to the task or that did not lead to successful completion of the task. Effective students were more purposeful in their approach to a task than ineffective students; they monitored their comprehension and production for overall meaningfulness rather than for individual components and effectively used their prior general knowledge as well as their linguistic knowledge while working on a task.

Additional findings of the longitudinal study indicated that different types of language tasks elicited different strategy applications. Some strategies were applied to a variety of language tasks. For example, self-monitoring and elaboration were important for all language tasks analyzed, including vocabulary learning, listening comprehension, cloze exercises, and writing. Inferencing was used, predictably, for listening and reading comprehension. The writing tasks elicited the metacognitive strategies of planning and self-evaluation, and cognitive strategies such as substitution and summarizing, in addition to elaboration.

Case studies were made of eight exceptionally effective Spanish students over the four semester period to analyze in depth their strategic processing and general approach to language learning (Chamot et al., 9). Two of these highly effective language learners were at the beginning level of Spanish, two were at the intermediate level, and four were advanced level students. Longitudinal data were available for these students for reading, listening, and writing.

The analysis of the reading data indicates that these effective students read in Spanish very much as they read in English. They suffered the constraints of inadequate L2 vocabulary and, as a result, some parts of a text were too difficult for them, but they proceeded to search for meaning by constituent groups rather than by single words, and deployed strategies that characterize good readers in general, such as: the tracking of understanding (translation, summarizing, self-evaluation), awareness of comprehension breakdowns (self-monitoring), and the willingness and ability to remediate such breakdowns when necessary. Their principal remediation strategies were: inferencing, elaboration (particularly between parts of the passage and of world knowledge), and deduction.

In the listening tasks, these highly effective students used the printed comprehension questions provided before listening to get a mind set on what they were going to hear and to call up what they already knew about the topic (elaboration) in order to predict possible content (inferencing). They then listened through the filter of their mind set, using the questions to focus on important content (selective attention) while continuing to call up relevant information (elaboration) to help themselves understand the text, and correcting or confirming their predictions as they listened (self-monitoring). The questions also provided an incentive for utilization of the information in the listening texts and in a classroom setting would undoubtedly help students organize and recall the incoming information if note-taking were practiced as well.

Writing in Spanish for these eight exceptionally effective students appeared to follow the same processes used for writing in English, namely, planning, composing, and reviewing (Hayes and Flower, 11). Although the eight students studied were at three different levels of study, they showed similarities in their approach to and execution of writing in Spanish. For example, they were able to direct their attention to the task without allowing themselves to become distracted, they tried to think and generate ideas in Spanish while writing, they stayed within their known vocabularies rather than looking for translations of English words or phrases, they substituted alternate words or phrases when they could not immediately recall the intended words, and they continually generated new ideas rather than being deflected by

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problems. The principal strategies used by these students for writing were planning, self-monitoring, deduction, and substitution. Elaboration, although a key strategy in other activities, was not so prominent in writing, probably because the type of task (writing about a picture) did not require extensive memory searches. However, world elaborations were important in helping students to produce compositions that made sense, while the overall cohesion of the composition was facilitated by elaboration between parts. Students clearly applied knowledge of the writing process that they had gained in their native language to the process of writing in Spanish.

Course Development Study. The third study completed in the *Learning Strategies in Foreign Language Instruction* project investigated the feasibility of incorporating learning strategy instruction in the foreign language classroom. Classroom observations were conducted of four of the instructors whose students had participated in the descriptive and longitudinal studies, and descriptions were developed of the way in which strategy instruction was presented and practiced. Participating instructors selected listening, reading, and speaking tasks in which to embed strategy training.

The principal strategies taught for listening comprehension were the following:

- *Selective Attention:* The instructor told students to focus on specific items while listening, such as nouns, unknown words that they can ask for clarification about, numbers, important words that carry meaning, intonation contours and stressed words, language function of the word or phrase.
- *Elaboration:* The instructor pointed out what students already knew and suggested how they could use this academic or world knowledge to make an inference about the meaning of an unknown word.
- *Inferencing:* The instructor first focused on strategies such as selective attention, elaboration, transfer, or deduction, and then suggested that students make inferences based on information elicited from these strategies.
- *Transfer:* The instructor called attention to similar English words and cognates to suggest meanings of new words; she also pointed out similarities in the root of a new word to that of a known word in the L2.

The principal strategies taught for reading comprehension were the following:

- *Inferencing:* The instructor identified and named the strategy based on students' descriptions of ways in which they used context both at the sentence and discourse levels to guess the meanings of unknown words.
- *Deduction:* The instructor elicited from students their application of grammatical rules (in both L1 and L2) to identify the form of unknown words in the text, which led to guesses about the type of word it would be (e.g., adverb, place noun, etc.).
- *Elaboration:* The instructor recognized and encouraged student use of prior knowledge, both academic and real world, to make decisions about probable meanings.
- *Transfer:* The instructor elicited from students recognition of cognates and similar-sounding words in L1 that could be applied to understanding the new words in L2.

The principal strategies taught for the speaking task were the following:

- *Substitution:* The instructor told students to use synonyms, paraphrases, and gestures to get across their meaning in the text retelling task.
- *Cooperation:* The instructor had students work in small groups on the speaking assignment, and encouraged them to help each other with this task.
- *Self-Evaluation:* The instructor provided opportunities for students to check how well they had made themselves understood and to discuss their communicative effectiveness.

Each participating instructor had an individual way of providing learning strategy instruction. All provided direct rather than embedded strategy training, informing students of the purpose and value of the techniques they were asked to try. The instructors for reading comprehension and speaking identified the strategies by name, whereas the listening comprehension instructor described the behavior recommended without giving it a specific name. As students were severely limited in their foreign language proficiency, all strategy instruction and discussion was given in English.

A major instructional implication emerging from the course development study was that learning strategy instruction can be implemented by the foreign language teacher, rather than by researchers exclusively, as had been the case in prior second language learning strategy training studies (Hosenfeld et al., 1981; O'Malley et al., 21). The success of such training, however, is dependent on a number of factors, including teacher interest, development of techniques for instructing students in the effective use of learning strategies, and the ability to provide a motivational framework that can convince students of the value of learning strategies.

Applications and Implications

This section suggests ways in which the findings of the descriptive, longitudinal, and course development studies can be applied to the classroom, and discusses implications from these studies for future research directions in foreign language learning strategies.

In general, findings of the *Learning Strategies in Foreign Language Instruction* project indicate that all students, no matter what their degree of success in learning a foreign language, have some cognitive control over their learning efforts and are able to describe their own mental processes. The main differentiation between the more effective students and the less effective ones was in the way in which strategies were used and the greater range of different types of strategies used by effective students. What this indicates for foreign language instruction is that teachers can profit from their students' awareness and use of learning strategies to show them how to develop new and potentially more powerful strategies and broaden use of strategies already in place.

Because new strategies take time to acquire and may initially seem burdensome to students, teachers need to plan activities that will motivate students to try new strategies and that will provide sufficient practice opportunities to enable students to internalize the new strategies. Based on the instructional sequences suggested in the literature (e.g., Hosenfeld et al., 13; Jones et al., 14; O'Malley and Chamot, 18; Weinstein and Underwood, 25), a learning strategy instructional framework might include the following steps: identifying students' current strategies, assessing their strategy needs, planning strategy instruction, direct teaching of strategies for different language skills, providing extensive opportunities to practice using the strategies, evaluating strategy use, and helping students transfer strategies to new tasks. Findings of the three studies conducted in the *Learning Strategies in Foreign Language Instruction* project suggest a number of specific classroom activities for each of these steps.

Identifying Students' Current Strategies. Three major purposes can be achieved through the identification of strategies students are already using for different foreign language tasks. First, students develop metacognitive awareness as they describe their own thinking processes and discover those of their classmates. Second, as students discuss their learning strategies with their peers, they discover new strategies and new applications of familiar strategies. Finally, teachers can assess the strengths and weaknesses in students' current strategy use and use this information to plan strategy instruction.

In the descriptive study students' current strategies were identified retrospectively through group interviews. The disadvantage of retrospective interviews is that students may not report their strategy use accurately — they may forget to mention some strategies (especially those that have become so automatic that they may be operating on a subconscious level), and they may claim to use strategies that they do not in fact use with any frequency. On the other hand, a retrospective interview allows the student to reflect on all phases of a learning task — from initial presentation by the teacher or textbook, through various kinds of study situations, and finally to the utilization of what was learned by successfully completing a communicative exchange or formal assessment activity. In the longitudinal study, students' on-line processing was tapped because they reported their thoughts while actively working on a language task. The advantage of the think-aloud interviews is that students have immediate access to strategies operating in short term memory and can report on sequences of strategies used to solve a specific problem. The disadvantage of think-aloud interviews is that they do not permit a sampling of all the strategies a student might use in understanding, studying, and recalling new information. Teachers might wish to use both retrospective interviews and think-aloud interviews to discover the strategies their students are currently using. These interviews could be supplemented with individual strategy diaries, in which students record the strategies they use for foreign language assignments and also for other subjects. These diaries would then be shared and discussed in class, and students could decide whether strategies used for other subjects could be applied to foreign language study.

Both retrospective and think-aloud interviews can be conducted as group activities in the foreign language classroom. Students can work in small groups, with one student acting as the interviewer and another as the recorder. For the retrospective interview, the interviewer is provided with an interview guide similar to that used in the descriptive study (see Appendix A). As each student has a turn to answer the questions, the recorder writes down the answers. A similar approach can be used for think-aloud interviews, except that instead of answering questions about a learning task, students take turns actually performing the task and reporting their thoughts as they do so. The information gathered through these interviews can be analyzed by the students themselves in a number of ways. One type of analysis can look for examples of strategies that, although expressed differently by different students, actually describe similar processes or behaviors. Another type of analysis would involve identifying the different strategies used for each different type of language task, and then deter-

mining which strategies are used consistently across tasks. Students could also identify specific problems that tend to occur in the different tasks, and identify the strategies that are most useful in solving those problems. Another type of analysis which students can make is to compare the strategies reported by their group in retrospective interviews for given tasks to the strategies actually used for the same tasks during the think-aloud interview. Results of each group's analysis of its learning strategies can then be compared, and a class profile developed.

This type of active student involvement in the strategy identification process can help build students' motivation and an understanding of their own cognitive processes, both of which are necessary for learning strategy instruction to have a beneficial effect on students' acquisition of the new language.

Assessing Students' Strategy Needs. Once students' current learning strategies have been identified, teachers need to decide which additional strategies should be taught and which of the strategies currently used can be expanded and fine-tuned. Some cognitive learning strategies characteristically operate in second language contexts. For example, strategies such as translation, repetition, linguistic transfer, and deduction and induction of grammatical rules are so much a part of what foreign language students may already be doing that the teacher may wish to focus on expanding students' range of strategies rather than refining well-known strategies already in use. All students can benefit, however, from using strategies such as self-monitoring for comprehension, elaboration of prior knowledge, and making inferences, although individual preferences for certain strategies can be expected. In addition, study skill strategies such as note-taking, summarizing, and using resources are as useful in the foreign language classroom as they are for other types of academic learning.

Findings from the descriptive and longitudinal studies indicate that, in general students used a much smaller proportion of metacognitive strategies than cognitive strategies, and that most of the metacognitive strategies used were planning strategies. A teacher might want to provide instruction and practice in using metacognitive strategies, especially comprehension monitoring ones (which were a distinguishing characteristic of the more effective students), and self-evaluation strategies, which have been found to positively influence motivation (Jones et al., 14; Paris, 22). Since the students interviewed in the descriptive and longitudinal studies reported few social or affective strategies, a teacher might want to help students use cooperation as a strategy, not only because it assists motivation and learning in general (Slavin, 24; Kagan, 15), but because it can also provide communicative practice in the new language (Chamot and O'Malley, 6; Kagan, 16).

Thus, the foreign language teacher can assess student needs for strategy instruction by analyzing the strategies currently being used, evaluating their degree of success, and using the findings of learning strategy research in both first and second language contexts as a guide to determining strategies that have the greatest potential for improving student learning and motivation.

Planning Strategy Instruction. Having decided on the strategy needs of a group of students, the teacher must then plan which strategies to teach, how to initially present the strategies, the types of practice opportunities to give students, and the follow-up activities that will help the students internalize the new strategies. In order to conduct this planning, the teacher needs to consider student strategy needs in conjunction with the general course objectives and specific demands of the learning tasks students are asked to perform. The longitudinal study demonstrated that both of these factors strongly influenced the types of strategies students used.

In general, the initial presentation of the new strategy or combination of strategies should include a brief statement about why the strategy is important and how it is expected to assist students. Then, the teacher may plan to model the strategy through a think-aloud, demonstrating the steps involved in approaching and completing the language task. For example, the teacher might say, "Let me tell you what I do when I write an essay in Spanish. First, I spend some time planning. I ask myself some questions, such as: What do I know about this topic?" (Teacher writes *Elaboration of Prior Knowledge* on the board.) "Then I jot down in Spanish every related idea that comes to me." (Teacher does so.) "Then I ask myself who will be reading my essay? What do they already know? What do they want to find out? What interests them? This makes me think of new ideas, which I also jot down, and also makes me realize that some of the ideas I've jotted down are not really relevant to this particular audience — so I cross them out." (Teacher adds some ideas, crosses out others.) "Now I'm ready to organize and plan my essay." (Teacher writes *Organizational Planning* on the board.) The teacher would continue in this way to describe the strategies that the students will later practice for themselves.

The same type of modeling can be done for any type of language task so that students can gain an understanding of the thought processes involved in using the new strategies.

After planning the initial presentation of the new

strategies, teachers should plan for immediate practice by the students. After practicing the new strategies in class, students can be instructed to use them for a homework assignment and take notes of their own strategy use for a class discussion the next day. (Students should be encouraged to evaluate the effectiveness of their own strategy use on an ongoing basis.) After students have practiced and discussed the new strategies on several similar types of language tasks, the teacher should gradually reduce the reminders to use the strategies to promote independent strategy use. However, because the acquisition of new strategies is a slow process, teachers should plan to recycle strategies and remind students to use them until they have firm evidence that students are in fact using them independently.

Conclusion

The preceding descriptions of learning strategy instructional sequences are only some of the many possible ways in which teachers can provide their students with tools for better language learning. Much work still needs to be done in foreign language classrooms in order to find out what type of instruction in learning strategies is most beneficial to students. What the *Learning Strategies in Foreign Language Instruction* project has shown is that students of all levels and abilities use strategies when working with a foreign language, but that differences exist in *how* the strategies can be used and that these differences seem to contribute to differing degrees of success in language learning. Effective use of strategies appears to lead to more effective language learning, particularly the use of certain core learning strategies (i.e., self-monitoring and elaboration). The intention of the learning strategy identification research which has guided the present study is to discover the strategies of the most effective foreign language students and to identify ways in which these effective strategies can be taught to the less effective foreign language students. Such learning strategy instruction can be expected to increase the ability of all students to acquire the complex cognitive skill of a foreign language.

NOTES

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REFERENCES

1. Barnett, Marva A. "Teaching reading strategies: How methodology affects language course articulation." *Foreign Language Annals* 21 (1988): 109-19.
2. Bialystok, Ellen. "The role of conscious strategies in second language proficiency." *Canadian Modern Language Review* 35 (1979): 372-94.
3. Brown, Ann L., John D. Bransford, Roberta A. Ferrara, and Joseph C. Campione. "Learning, remembering, and understanding," in John H. Flavell and E.M. Markham, eds., *Carmichael's manual of child psychology*, Vol. 1. New York: Wiley, 1983.
4. _____, and Annemarie S. Palincsar. "Inducing strategic learning from texts by means of informed, self-control training." *Topics in Learning and Learning Disabilities* 2 (1982): 1-17.
5. Campione, Joseph C., and Bonnie Armbruster. "Acquiring information from texts: An analysis of four approaches," in Judith W. Segal, Susan F. Chipman, and Robert Glaser, eds., *Thinking and learning skills* (Vol. 1). Hillsdale, NJ: Erlbaum, 1985.
6. Chamot, Ana Uhl, and J. Michael O'Malley. "A cognitive academic language learning approach: A bridge to the mainstream." *TESOL Quarterly* 21 (1987): 227-49.
7. _____, _____, Lisa Küpper and Maria V. Impink-Hernandez. *A study of learning strategies in foreign language instruction: First Year report.* Rosslyn, VA: Interstate Research Associates, 1987.
8. _____, Lisa Küpper, and Maria V. Impink-Hernandez. *A study of learning strategies in foreign language instruction: Findings of the Longitudinal Study.* McLean, VA: Interstate Research Associates, 1988a.
9. _____, _____, and _____. *A study of learning strategies in foreign language instruction: The third year and final report.* McLean, VA: Interstate Research Associates, 1988b.
10. Cohen, Andrew D., and Edna Aphek. "Retention of second language vocabulary over time: Investigating the role of mnemonic associations." *System* 8 (1980): 221-35.
11. Hayes, John R., and Linda S. Flower. "Identifying the organization of writing processes," in Lee W. Gregg and Erwin R. Steinberg, eds., *Cognitive processes in writing.* Hillsdale, NJ: Lawrence Erlbaum Associates, 1980.
12. Holec, Henri. "The learner as manager: Managing learning or managing to learn?," in Anita Wenden and Joan Rubin, eds., *Learner strategies in language learning.* Englewood Cliffs, NJ: Prentice-Hall, 1987.
13. Hosenfeld, Carol, Vicki Arnold, Jeanne Kirchofer, Judith Laciura, and Lucia Wilson. "Second language reading: A curricular sequence for teaching reading strategies." *Foreign Language Annals* 14 (1981): 415-22.
14. Jones, Beau F., Annemarie S. Palincsar, Donna S. Ogle, and Eileen G. Carr. "A framework for strategic teaching," in Beau F. Jones, Annemarie S. Palincsar, Donna S. Ogle, and Eileen G. Carr, eds., *Strategic teaching and learning: Cognitive instruction in the content areas.* Alexandria, VA: Association for Supervision and Curriculum Development, 1987.
15. Kagan, Spencer. *Cooperative learning: Resources for*

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