USE OF LANGUAGE LEARNING STRATEGIES: A SYNTHESIS OF STUDIES WITH IMPLICATIONS FOR STRATEGY TRAINING

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This article addresses two questions: What strategies do good language learners use? What factors affect choice of language learning strategies? To answer these questions, the author reviews and synthesizes existing research on language learning strategies, including a number of new and unpublished studies.

This article centers on two important and interrelated questions: What strategies do good language learners use? What factors affect choice of language learning strategies? Although evidence regarding the first question has been extensively published, the second question offers an even greater wealth of research answers, not all of which are widely known. Our purpose is to synthesize published and unpublished research evidence touching on both these questions and to offer implications for strategy training.

Learning strategies are operations used by the learner to aid the acquisition, storage, or retrieval of information, according to one familiar definition (Rigney, 1978). Language learning strategies are behaviors or actions which learners use to make language learning more successful, self-directed, and enjoyable. For simplicity’s sake, we will use the term “language learning strategies” in relation to more formal language learning and less formal language acquisition; learning strategies are relevant to both.

WHAT STRATEGIES DO GOOD LANGUAGE LEARNERS USE?

Good language learners use more and better learning strategies than do poor language learners. Rubin (1975) suggested the good language learner is a willing and accurate guesser; has a strong, persevering drive to communicate; is often uninhibited and willing to make mistakes in order to learn or communicate; focuses on form by looking for patterns; takes advantage of all practice opportunities; monitors his or her own speech as well as that of others; and pays attention to meaning. Rubin (1981, 1987) also identified strategies contributing to language learning success either directly—e.g. inductive inferencing, practice, memorization—or indirectly—e.g. creating practice opportunities, using production tricks. Naiman et al. (1975) named six strategies of good language learners: selecting language situations that allow one’s preferences to be used; actively being involved in language learning; seeing language as both a rule system and a communication tool; extending and...
revising one's understanding of the language; learning to think in the language; and addressing the affective demands of language learning.

Finally, Oxford (forthcoming) has synthesized earlier work on good language learning strategies in general (see above; also Ramirez, 1986; Stern, 1983) and in relation to each of the four language skills (e.g. Tyacke and Mendelsohn, 1986; Hosenfeld, 1977b; Papalia and Zampogna, 1977). The resulting strategy system suggests that good language learners use strategies in six broad groups: metacognitive, affective, social, memory, cognitive and compensatory. Good language learners manage their own learning process through *metacognitive strategies*, such as paying attention, self-evaluating, and self-monitoring. They control their emotions and attitudes through *affective strategies*, such as anxiety reduction and self-encouragement. They work with others to learn the language, using *social strategies* like asking questions and becoming culturally aware. They use *memory strategies*, such as grouping, imagery, and structured review, to get information into memory and to recall it when needed. They employ the new language directly with *cognitive strategies*, such as practicing naturalistically, analysing contrastively, and summarizing. Finally, they overcome knowledge limitations through *compensatory strategies*, like guessing meanings intelligently and using synonyms or other production tricks when the precise expression is unknown. Keeping in mind the research on good language learning strategies, let us turn to factors affecting the choice of language learning strategies.

**WHAT FACTORS AFFECT CHOICE OF LANGUAGE LEARNING STRATEGIES?**

Many factors influence learning strategy choice: language being learned; duration; degree of awareness; age; sex; affective variables, such as attitudes, motivation level/intensity, language learning goals, motivational orientation, personality characteristics, and general personality type; learning style; aptitude; career orientation; national origin; language teaching methods; and task requirements.

*Language being learned*

The language being studied has an influence on the strategies that are used. Chamot and her colleagues (1987) found that students of Russian reported greater strategy use than students of Spanish. Likewise, Politzer (1983), in examining the learning strategies of students of French, Spanish, and German, discovered that students of Spanish engaged in fewer positive strategies than did students of the other languages. However, it is likely that language of study interacts with a host of other variables. For instance, brighter or more strategy-wise students might tend to take Russian (or other difficult languages) rather than Spanish, which is known to be easier for English speakers. Teachers of various languages, especially if they are native speakers, might use different teaching methods, which are likely to influence students' learning strategies. Students might be learning different languages for different purposes, which will be reflected in choice of strategies.

*Duration*

Duration includes both course level and number of years of language study. Duration sometimes implies proficiency level, but proficiency level is not necessarily measured precisely in the studies mentioned here.
As language students progress to higher course levels, they use somewhat different strategies, according to several researchers. For instance, Politzer (1983) discovered that course level influenced foreign language learning behaviors (strategies), with higher-level students using more positive strategies. Chamot et al. (1987) found that cognitive strategy use decreased and metacognitive strategy use rose as the foreign language course level increased, but social-affective strategy use remained very low across all course levels. The specific kinds of cognitive and metacognitive strategies also shifted somewhat across course levels.

McDonough and McNerney (reported by Tyacke and Mendelsohn, 1986) discovered that more advanced language learners diminished their use of less useful strategies and geared their strategy use more directly to the language learning task at hand. In another study (Nyikos, 1987) university students showed developmental trends in strategy use, with decreasing and increasing use of various strategies as the semesters progressed. Tyacke and Mendelsohn's (1986) diary study showed that lower-level students generally depended much more on their teacher and on the linguistic code than did higher-level students.

Bialystok (1981) found differences in strategy use as learners advanced in French. Formal practice with rules and forms was less and less effective as students advanced, but functional practice with authentic, communicative language displayed no such limitation. The findings of Oxford and Nyikos (1989) support Bialystok's result; these researchers discovered that foreign language students who had studied the new language for a minimum of four or five years used communication-oriented strategies (i.e. functional practice strategies and conversational/input elicitation strategies) significantly more often than did less experienced students.

Advancement in course level or years of study does not necessarily mean that students use better strategies in every instance. Cohen and Aphek (1981), in studying English speakers who were learning Hebrew, discovered that both good and bad learning strategies appeared across course levels. Nevertheless, most of the research does indeed show that, in general, the more advanced the language learner, the better the strategies used. At least three possible explanations exist. First, language students might spontaneously develop new and better strategies as they become more advanced. Second, the nature of the task requirements might change (often becoming more communicative, though not necessarily!) in higher-level courses, and students might respond with strategies tailored to the task requirements. Third, students with poorer strategies might perform worse than students with better strategies and therefore drop out of language study before reaching higher level courses.

**Degree of awareness**

Metacognitive awareness also influences strategy use. What learners know about themselves and about their own learning process—for instance, kinds of language used, proficiency level, the outcomes of learning, and learners' own proficiency, feelings, aptitude, physical state, age, learning style, social role, character, and personal theory of language learning—can affect their use of language learning strategies (Wenden, 1986b).

Researchers dispute learners' level of "strategy awareness". Nyikos (1987) found that learners used only a narrow range of strategies and were generally unaware of the strategies they used. Tyacke and Mendelsohn (1986) reported a diary study in which only one of
the learners showed increasing awareness of strategies as they became more advanced. In contrast, Chamot and her colleagues (1987) discovered that even ineffective learners were aware of and used a number of strategies, with the only difference between effective and ineffective students being that the effective learners reported greater frequency and greater range of strategy use. These conflicting results might be explained by use of different research methods in the studies above.

**Age**
Very few studies have explored the effect of age on choice of language learning strategies, although age (albeit a rather narrow age span) is sometimes implied by course level. Ehrman and Oxford (1989) and Oxford (1986) studied adult language learners, who seemed to use somewhat more sophisticated language learning strategies than did younger learners in other studies; however, the motivational orientation of the adult learners, who were learning languages for immediate career purposes, might have been a greater factor than age. Leaver (forthcoming) directly examined the results of age as a factor in strategy choice by comparing the strategies used by adults and children learning foreign languages. She concluded that their differences in strategies were due not to age but to the way that these individuals gained their language skills: the younger subjects in a natural way and the adults in a classroom setting.

**Sex**
Most researchers have not investigated sex differences in language learning strategy use, or have ignored the sex differences they found. Politzer (1983) reported that females used social learning strategies significantly more often than males—a difference which was dismissed without any explanation, but which might be associated with women’s stronger social orientation.

However, sex differences in strategy use may be more important and more prevalent than previously thought. In a study of adult language learners, Ehrman and Oxford (1989) found that females, compared with males, reported significantly greater use of language learning strategies in four categories: general study strategies, functional practice (authentic language use) strategies, strategies for searching for and communicating meaning, and self-management strategies. Oxford and Nyikos (1989) found that females, as contrasted with males, used language learning strategies significantly more often in three of five possible strategy factors: formal rule-based practice strategies, general study strategies, and conversational/input elicitation strategies. These sex differences in Ehrman and Oxford (1989) and Oxford and Nyikos (1989) might have been associated with women’s greater social orientation, stronger verbal skills (including proper rule usage), and greater conformity to norms, both linguistic and academic, demonstrated by earlier research. Nyikos (1987) discovered significant sex differences in her training study of the use of mnemonic strategies for German vocabulary learning among university foreign language students. After training, men outperformed women in the color-plus-picture mnemonic combination, which was explained as potentially relating to men’s greater visual–spatial acuity. However, women surpassed men in the color-only condition, which was explained by women’s documented interest in color as an attractor.

In short, the sex difference findings to date show that in typical language learning situations
women use significantly more learning strategies than men and use them more often; but that after strategy training, men and women both show distinct strategy strengths. For a more complete discussion on these four studies, see Oxford et al. (1988).

**Affective variables**

Several affective variables are important in choice of language learning strategies: attitudes, motivational level/intensity, language learning goals reflecting motivational orientation, specific personality traits, and general personality type.

**Attitudes.** Attitudes strongly influence language learning in general and therefore are likely to influence the choice of strategies. Bialystok (1981) found that learners' attitude was highly influential in choice of language learning strategies—more influential than language aptitude. Little other empirical research has been done on the influence of attitudes on strategy choice, but Wenden (1987) has convincingly argued that unless negative attitudes toward learner self-direction are changed, no amount of training in better learning strategies will have a sustained effect on learning strategy use.

**Motivational level/intensity.** "The prime determining factor [in language learning success] is motivation" (Gardner, 1985: p. 83), because motivation, along with attitudes, determines the extent of active personal engagement in language learning. Despite this well-known fact, few language learning strategy studies have examined the role of motivational level/intensity on strategy choice.

In one of these rare studies, Oxford and Nyikos (1989) found that of all the variables measured, motivational level had the most powerful influence on reported use of language learning strategies. Motivational level significantly affected the tendency of language students to use (or not use) strategies in four out of five factors: formal rule-related practice strategies, functional practice (authentic language use) strategies, general study strategies, and conversational/input elicitation strategies. Highly motivated learners used these types of strategies significantly more often than did less motivated learners.

Even when communication-oriented strategies are encouraged, students may reject those strategies—possibly due to low motivation. University learners of Spanish, taught by communicative methods and possessing abundant naturalistic practice possibilities, stuck to highly traditional language learning strategies, like using the dictionary as a basis for learning words, and avoided authentic practice (McGroarty, 1987). We speculate that the problem was low motivation for language learning. (Complementary explanations might be that the students were not able to switch gears when they encountered a new language teaching method, or their language learning goal might not have been communicative competence.)

**Language learning goals reflecting motivational orientation.** In the Oxford and Nyikos (1989) study mentioned earlier, the most popularly used strategies were formal rule-related practice strategies and general study strategies. Least popular were functional practice (authentic language use) strategies, which involved a greater personal investment in the target culture and demanded more extracurricular effort in finding naturalistic practice opportunities. These results were attributed to what appeared to be a purely instrumental
motivation for language learning, reflected in the overriding goals of most students in the sample: to fulfill the language requirement and to earn good grades in a highly traditional academic environment which stressed analytical rule-learning skills. Developing communicative competence was not a goal of most of the students; this might have been the case with McGroarty's (1987) sample mentioned above.

Two other related studies provide insights about the effects of motivational orientation on learning strategies, although motivational orientation was only indirectly observed in those studies. Ehrman and Oxford (1989) and Oxford (1986) found much more frequent use of functional practice (authentic language use) strategies among two sets of adult language learners, who were learning foreign languages for career reasons. These learners appeared instrumentally motivated to learn a new language, rather than integratively motivated to identify with people of the target culture. None the less, their instrumental motivational orientation led them to use communication-oriented strategies, in contrast with the instrumental motivational orientation toward grade-getting demonstrated by the university students in the Oxford and Nyikos (1989) study.

Politzer (undated) studied the language learning strategies of Oriental and Hispanic graduate students learning English. He found that they were instrumentally rather than integratively motivated to learn the language, that instrumental motivation accounted for course gains, but that little evidence existed for a link between strategies used and motivational orientation (instrumental vs integrative). However, in a different study, Politzer and McGroarty (1985) stressed the importance of language learning goals in determining strategy use; a given strategy might be viewed as differentially appropriate for various language goals. As an example, Politzer and McGroarty stated that the strategy of asking a teacher how an expression is used might be associated with the goal of developing aural/oral communication skills but might not be seen as relevant for a student whose language learning goal is to develop skill in reading technical literature.

Thus, mixed findings exist about the influence of language learning goals and motivational orientation on language learning strategy use. Clearly this is an area needing greater exploration.

**Personality characteristics.** Some personality characteristics are long-term traits, while others are more situationally related to the demands and pressures of given language learning circumstances. The relationship between personality characteristics, either long-term or situational, and language learning strategy choice has not been fully or systematically mined.

Lack of inhibition has often been named as a personality characteristic of good language learners. Rubin (1975) suggested that good language learners are uninhibited and willing to appear foolish or make mistakes in order to communicate and learn; see Oxford (forthcoming) for a demonstration of how these personality features can be encouraged through the use of affective strategies, such as self-encouragement. In examining the language learning strategies of good university-level foreign language learners, Reiss (1985) found that these good learners were not as uninhibited as anticipated and that they paid more attention to form than meaning. Nevertheless, they did use some "good language learning strategies", such as using guessing and taking advantage of practice opportunities.
The personality trait of inhibition might have been situational, related to the academic university environment.

Bailey (1983) used learner diaries to examine personality features of anxiety and competitiveness, which often appeared related. Although Bailey was not looking directly at language learning strategies, her evidence suggests that these personality characteristics were reflected in language learning behaviors. For example, strong competitiveness and anxiety caused some learners to give up active efforts toward learning the language but caused other learners to try harder.

General personality type. Ehrman and Oxford (1989) studied how overall personality type, as measured by the Myers-Briggs Type Indicator (MBTI), affects the language learning strategies of adults. In this study, extroverts reported significantly greater use of affective strategies and visualization strategies than did introverts, but introverts reported significantly more frequent use of strategies involving searching for and communicating meaning. Compared with sensing people, intuitive people used significantly more strategies in four categories: affective, formal model-building, functional practice (authentic language use), and searching for and communicating meaning. Feeling-type people, compared with thinkers, showed significantly greater use of general study strategies. Perceivers, defined as those who do not need to come to closure rapidly, used significantly more strategies for searching for and communicating meaning than did judgers, who require more rapid closure; but judgers showed significantly more use of general study strategies than did perceivers. Obviously, there are some important linkages between personality type and learning strategies which need to be further studied.

We have just described a number of affective variables related to language learning strategy use. Now we will turn to a cognitive variable, learning style, which has much in common with general personality type as measured by the MBTI.

Learning style
The MBTI is sometimes viewed as a measure of learning or problem-solving style as well as personality type. Thus, Ehrman and Oxford’s (1989) study reveals something about the relationship between language learning strategy use and learning style. However, the MBTI measures only certain aspects of learning style: extroversion/introversion, intuition/sensing, feeling/thinking, and perceiving/judging. There are many other aspects of learning style, such as field independence vs dependence (ability to separate the background details from the main features), learning modality preferences (aural/visual/kinesthetic/tactile), reflection vs impulsivity, social vs independent learning preferences, right vs left brain dominance, and so on. It is likely that a strong relationship exists between the individual’s use of learning strategies and the individual’s learning style; the former refers to specific behaviors and the latter to more general learning and problem-solving tendencies. Sadly, little research has been dedicated to the relationship between learning strategy use and learning style. A possible exception is a current, multi-year Language Skill Change Project conducted by the Defense Language Institute and the Army Research Institute. This study is measuring at least one of these learning style aspects (field independence vs dependence), with the future possibility of correlating it with learning strategy use.
Aptitude

Aptitude has not been extensively studied as a predictor of language learning strategy choice. As mentioned earlier, Bialystok (1981) considered aptitude in her study of high school language learners but found that it was not as influential as attitude in terms of the strategies chosen by students. On the other hand, Politzer (1983) suggested that intelligence (i.e. general aptitude) might relate to self-reported language learning behaviors (strategies), as well as to language achievement. Leino (1982) analyzed foreign language learning strategies and found that individuals of high conceptual levels (which reflect high intelligence or aptitude) were much more able to give descriptions of their strategies than individuals with low conceptual levels.

Career orientation

Depending on the age and status of the subjects, career orientation might mean field of specialization (usually university major) or current career position. Several studies have shown that career orientation influences choice of language learning strategies. Politzer and McGroarty (1985) found that field of specialization (engineering/science vs social science/humanities) had a significant effect on strategy choice of ESL students, with engineers avoiding language learning strategies usually viewed as positive; these researchers also noted an overlap with national origin, since many of the engineers in their sample were also Oriental.

In their study of foreign language learners, Oxford and Nyikos (1989) discovered that students' university major directly affected strategy use. Humanities/social science/education majors used two different categories of strategies—-independent strategies and functional practice (authentic language use) strategies—significantly more often than did students majoring in other areas.

Ehrman and Oxford (1989) found that current career position influenced foreign language learning strategy choice. Professional linguists used a wider variety of strategies than did adult language learners and native-speaking language teachers not trained in linguistics. Specifically, professional linguists used significantly more of the following general categories of strategies: functional practice (authentic language use), searching for and communicating meaning, formal model-building, and affective strategies.

Reid (1987) found that ESL students' fields of specialization, influenced learning modality preferences (visual, auditory, kinesthetic, tactile), which, as already mentioned, are probably related to choice of language learning strategies.

National origin

Numerous studies have shown that national origin or ethnicity has a strong influence on the kinds of strategies used by language learners. For instance, Oriental students seem to prefer strategies involving rote memorization and language rules (Politzer, undated; Politzer and McGroarty, 1985; Tyacke and Mendelsohn, 1986) as opposed to more communicative strategies. Orientals, compared with Hispanics, responded less positively to strategy training (Russo and Stewner-Manzanares, 1985; O'Malley et al., 1985a; O'Malley et al., 1985b). Sutter (1987) found that if the learning strategies being trained were opposed to the learners' initial strategy preferences, especially those related to national origin or cultural background,
disaster resulted; Sutter found it necessary to "camouflage" the new strategies under the guise of old, familiar ones.

Differences in learning strategy use by national origin caused Politzer and McGroarty (1985) to ask whether our conceptions of good language learning strategies might be ethnocentrically biased. The answer might lie in what we perceive as the goal of language learning, discussed earlier. If language learning is for the purpose of social communication, certain types of strategies are seen as "good", and if language learning is for other purposes, other strategies are labelled as "good".3

In a slightly different vein, Reid (1987) found that ESL students' learning modality preferences (visual, auditory, kinesthetic, tactile)—which are probably related to choice of specific strategies for language learning—were strongly influenced by national origin. In addition, people of certain nationalities preferred working independently and resisted social, cooperative learning, according to Reid.

Language teaching methods
Language teaching methods, as well as unspoken expectations permeating the instructional environment, often influence language learning strategy use. Sutter (personal communication, January 1988) stated that the longer students remained in a language program, the more they tended to prefer the language learning strategies subtly suggested by that program's instructional methods. Politzer (1983) noted a complex interaction between language teaching methods and learning behaviors (strategies) for students of French, Spanish, and German. Oxford and Nyikos (1989) found that student's language learning strategies mirrored analytical, rule-based language instructional methods used in the university.

In contrast with the learning strategies revealed by the university studies, greater use of communication-oriented strategies was found by Ehrman and Oxford (1989) among adults who were expected to learn languages for later use on the job and whose teachers used more communicative instructional methods. Leaver (forthcoming) found that the methods by which language skills were developed, formal analytical classroom work vs naturalistic acquisition, influenced students' preferred language learning strategies. Cooperative instructional methods have been shown to facilitate cooperative and communicative learner behaviors and to improve attitudes toward language learning (Bejarano, 1987; Gunderson and Johnson, 1980; Jacob and Mattson, 1987). However, even when communicative language teaching practices are used in the classroom, language learners sometimes ignore those practices and continue to use traditional, analytic language learning strategies (McGroarty, 1987); see previous discussion.

We have shown that language teaching methods frequently affect use of language learning strategies. However, most language teachers are not aware of their students' learning strategies, or how these strategies result in particular kinds of errors (Cohen and Robbins, 1976; Cohen et al., 1979; Hosenfeld, 1976; Hosenfeld, 1977a; O'Malley et al., 1985a; O'Malley et al., 1985b; Chamot et al., 1987). Because teaching methods often influence how students learn, teachers should become more aware of their students' learning strategies in order to orient teaching methods more appropriately.
Task requirements
The immediate requirements of language tasks can influence the use of language learning strategies. Bialystok (1981) found that students responded to different task requirements with different strategies. Some strategies were useful only for certain kinds of tasks; for instance, monitoring one’s errors was more useful for writing tasks than for reading or speaking tasks. However, functional practice promoted language achievement on all language tasks. As noted earlier, McDonough and Mcnerney (reported by Tyacke and Mendelsohn, 1986) found that more advanced students keyed their strategy use to particular language task requirements more so than did less advanced students.

So far, we have examined a myriad of factors related to language learning strategy use: language being learned; duration; degree of awareness; age; sex; affective variables, such as attitudes, motivation level, language learning goals, motivational orientation, personality characteristics, and general personality type; learning style; aptitude; career orientation; national origin; language teaching methods; and task requirements. Now we will describe some implications for strategy training.

IMPLICATIONS FOR STRATEGY TRAINING

For those students fortunate enough to receive training in language learning strategies, the nature of strategy training is extremely important in determining the strategies used after training. Extensive research (e.g. Brown and Palinscar, 1982; Dansereau, 1985; Derry and Murphy, 1986; O’Malley et al., 1985a; O’Neill, 1978; Weinstein et al., 1988; Wenden, 1986a) reveals that the most effective strategy training explicitly teaches learners why and how to do the following: (1) use new strategies, (2) evaluate the effectiveness of different strategies, and (3) decide when it is appropriate to transfer a given strategy to a new situation. This explicitness results in completely informed training. In addition to explicitness, strategy training should provide sufficient practice to help the new strategies “stick” and in most cases should be integrated with activities of the regular language learning program.

Strategy training must also be geared to learners’ own needs, as reflected in the factors described in this article. Affective factors are especially important to consider in designing and conducting strategy training. Negative attitudes toward new concepts such as self-direction and learning strategies can make strategy training ineffective (see Wenden, 1987); strategy training must help learners to develop a positive view of these concepts and to determine their personal goals for language learning. Additional factors, such as national origin, sex, and course level are also crucial to consider in designing and presenting strategy training.

How can teachers be sensitive to all these individual differences? We suggest three kinds of assessment, the results of which can be used to guide strategy training. First, assess students’ current learning strategies, using one or more techniques such as diaries, observations, interviews, or surveys (see Oxford, 1986; Oxford, forthcoming; Cohen, 1987). Second, determine learners’ existing goals, motivations, attitudes, and personality type through informal discussions or through more formal assessment techniques (see Gardner, 1985; Oxford, forthcoming). Third, consider carefully students’ language learning
experience, national origin, sex, age, and other background factors; most teachers are already familiar with such details. These three assessments do not have to take a prohibitive amount of time or effort. The results—in terms of more successful strategy training, improved use of language learning strategies, and increased motivation and proficiency—will make the investment worthwhile.

NOTES

1 This article does not present a methodological critique of ways to collect or analyze data on language learning strategies; for details on such issues, see Cohen (1987) and Oxford (forthcoming). Also, this article is not intended as a thorough review of existing language learning strategy research; for this, see Oxford (forthcoming). See Wenden and Rubin (1987) for excellent background on language learning strategies and Holec (1981) and Dickinson (1987) for information on autonomy and language learning. In this article we will use the term “strategy training” to refer to what is sometimes called “learner training” or “learning-to-learn” training.

2 Language learning purposes, even in a single country or a single part of the world, change significantly over time. For specifics, Kelly’s (1976) history of language instruction.

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