Cognitive Strategy Training: Improving Reading Comprehension in the Language Classroom

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Abstract

This study aims to investigate the effectiveness of cognitive strategy instruction on English reading comprehension of Iranian advanced students. A total of 60 participants took part in the present study. The participants (n=20) in one experimental group were provided with the cognitive training condition only, while the participants (n=20) in the other experimental group were exposed to both a training and a verbalization requirement condition. The control group (n= 20) did not receive any training. Students of the experimental group in both conditions received 10 hours of cognitive strategy training in their regular lessons. The findings in this study generally supported the view that the consciousness-raising of the cognitive strategies had a positive impact on the reading development of Persian-speaking students. Although students of both experimental groups made superior improvements in their comprehension performance, those participants who were given the opportunity to verbalize the learned strategies had more knowledge about strategy use and showed a more positive attitude toward the reading instruction than did their peers who received the cognitive training only. Unlike the experimental groups, the control group reported that their reading ability was the same as before. The results also suggest no statistically significant differences between male and female participants in the use of strategies after the training program.

1. Introduction

Research on strategies has focused on two broad areas: learning strategies and communication strategies. In learning strategies, the learner makes attempts to establish competence in the target language, whereas in a communication strategy the difficulty of the moment is to be solved.

Looking at learning strategies from the linguistic perspective, a contradiction can be identified. The universal hypothesis claims that second language acquisition happens naturally, without mental efforts on the learner's part. Consequently, learning strategies reflect what happens in cases of instructed SLA, or, in Krashen's (1985) terminology, in learning (not acquiring subconsciously) the target language. On the other hand, research on communication strategies does not take acquisition into consideration, but aims to find out how learners manage to solve their problems in certain situations.

Although language learning strategies have always been recognized, there is a limited amount of research on different ways of learner training in strategy employment. Strategy formation depends not only on the availability of unintended stimulus-relevant information but also on the provision of discrete training about performance. Effective strategy application may be continually refined with explicit training of the learners' performance until it becomes almost automatic, requiring little in the way of conscious thought.

Regarding the effectiveness of teaching strategies, teachers are given the responsibility to draw classroom learners' attention to strategies by making them more salient. However, the major question to be addressed is to what degree this attention toward the effective strategy application should be explicit. The present study has focused on the effects of training, provided in two different ways, to investigate the learners' opportunities in promoting and internalizing the cognitive strategy.

2. The Theoretical Framework

2.1 Learning strategies

Learning strategies or what they have more recently been labelled learner strategies (McDonough, 1999) are steps taken by students to enhance their own learning. In Oxford's (1990) definition, "learning strategies are operations employed by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations" (p. 8). In Cook's (1993) view, the concept of learning strategies "…goes against the belief that the language knowledge differs from other forms of knowledge…" (p. 136). He argues that there is an inherent contradiction between learning strategy research and linguistics, because whatever the strategies might be, they should be language learning strategies, not general learning strategies, as language knowledge differs from other types of knowledge.

Two taxonomies will be shortly examined from the point of view of what learning strategies they identify, and which of these are relevant for students in foreign language learning (FLL) contexts. O'Malley and Chamot (1990) differentiated between three types of learning strategies:

• metacognitive strategies;

• cognitive strategies; and

• social mediation strategies.

Metacognitive strategies are about learning rather than learning strategies themselves. Cognitive strategies "operate directly on incoming information, manipulating it in ways that enhance learning"; whereas social mediation strategies, or social/affective strategies, represent a broad group that involves either interaction with another person or control over affect (O'Malley & Chamot, 1990, p. 44-45).

The other system of learning strategies was developed by Oxford (1990), in which she identified two broad types:

• direct strategies,

• indirect strategies.

The direct class is composed of memory strategies for remembering and retrieving new information, cognitive strategies for understanding and

producing the language, and compensation strategies for using the language despite knowledge gaps. Indirect strategies include metacognitive strategies for coordinating the learning process, affective strategies for regulating emotions, and social strategies for learning with others. These two types are further divided into six general kinds of learning strategies, resulting in 19 sets of learning strategies (pp. 14-22). As this system is more comprehensible than the one suggested by O'Malley and Chamot (1990), further explorations will be based on this source. Oxford (1990) divides indirect strategies into three groups:

• metacognitive, or planning/evaluating strategies, such as paying attention, consciously searching for practice opportunities, planning for language tasks, self-evaluating one's progress and monitoring errors;

• affective, or emotional/motivational strategies, such as anxiety reduction, self-encouragement, and self-reward; and

• social strategies, such as asking questions, cooperating with native speakers of the target language, and becoming culturally aware.

On the other hand, direct strategies are divided into the following three groups:

• memory strategies, such as grouping, imagery, rhyming, and structured reviewing;

• cognitive strategies, such as reasoning, analysing, summarizing, and general practicing;

• compensation strategies, such as guessing meanings from the context in reading and listening, and using synonyms and gestures to convey meaning when the precise expression is not known.

Cognitive strategies are typically found to be the most popular strategies with language learners (Oxford, 1990) (verbatim). The importance of cognitive strategies increases with the age of learners in FLL. Learners need to be provided with appropriate ways of instruction to use this strategy as efficiently as possible. These strategies refer to the steps or operations used in learning or problem-solving that require direct analysis, transformation, or synthesis of learning materials. Rubin

identified 6 main cognitive learning strategies contributing directly to language learning:

- Clarification / Verification
- Guessing / Inductive Inferencing
- Deductive Reasoning
- Practice
- Memorization
- Monitoring

All of these cognitive strategies have been explicitly instructed, discussed and examined in the present study.

Some of these strategies may emerge in the classroom naturally, but most need to be developed through effective instruction and training. The most important finding of the research on motivation in FLL (Nikolov, 1999a) suggests that learners will not pay attention unless classroom activities capture their attention. They are unable to centre their own learning, but if they are involved in decision making in a training program, they will gradually develop this strategy. Similarly, learners can be involved in self-evaluation successfully. As for monitoring errors, learners can become conscious of their errors gradually, but error treatment techniques should encourage self-correction. If performance is perceived as process rather than product, learners can develop their use of monitor "by feel" successfully.

With learners, strategies first come from the teacher and learners can develop responsibility for them. Initially, the teacher is responsible for a relaxed atmosphere in the class, encouragement and evaluative feedback for learners, but if learners are involved in these processes, they will become conscious of them and employ these strategies successfully. The role of the teacher is very special in FLL contexts, as cooperating with the teacher substitutes the aspect of cooperating with native speakers in Oxford's model (1990, p. 21) and in the SLA theory proposed by Wong Fillmore (1991). Learners accept the teacher as a model; therefore, the teacher is responsible for the training of the learners to use their resources in the process of language learning in the best, appropriate way.

2.2 Consciousness-raising and strategy use

Since the amount of information to be processed by language learners is high in language classroom, learners use different language learning strategies in performing the tasks and processing the new input they face. Language learning strategies are good indicators of how learners approach tasks or problems encountered during the process of language learning. In other words, language learning strategies, while non-observable or unconsciously used in some cases, give language teachers valuable clues about how their students assess the situation, plan, select appropriate skills so as to understand, learn, or remember new input presented in the language classroom. According to Fedderholdt (1997), the language learner capable of using a wide variety of language learning strategies appropriately can improve his language skills in a better way. This importance placed on the need to help learners to use the strategies more effectively has resulted in several arguments about the teachability of strategies among linguists which in turn have led to controversial perspectives about it. Hsiao and Oxford (2002) believed in the teachability of strategies and argued that strategy training would be more effective if students carry out tasks which require them to apply strategies explicitly.

A study by Holunga (1994) investigated the role of metacognitive strategy training on the accurate use of verb forms as generated by advanced adult learners of English. The strategies consisted of predicting, planning, monitoring, and evaluating. Holunga employed three instructional conditions: the metacognitive instruction with communicative practice, the metacognitive instruction with communicative practice and with verbalization, and communicative practice alone. Results obtained indicated that whereas the first and the third groups focused primarily on the message conveyance, the second group focused on both the message content and the verb form.

The differences in either the type or frequency of cognitive reading strategies reported by ESL and monolingual students were investigated (Knight, Padron & Waxman, 1985). The participants were given a

reading comprehension text to read and they were asked to stop at pre-marked intervals to identify and explain the strategies they made use of. The results indicated that the monolingual English students used about twice as many strategies as Spanish speaking ESL students. Knight, Padron and Waxman argued that:

> The main reason of Spanish-speaking learners' lower performance was that ESL students have been transferred too quickly to English reading and consequently did not have the opportunity to develop these strategies first, while reading texts in Spanish. Typically, the primary concern of second language students is the development of decoding skills, and not those cognitive strategies which enhance reading comprehension. (pp. 790-791)

Huang (2010) investigated the role of consciousness-raising in speaking strategy use as mediated by three modalities of task-specific reflection—individual written reflection, individual spoken reflection, and group spoken reflection. He signifies the importance of identifying learners' strategies and incorporating different consciousness-raising methods that enable learners to develop a metacognitive awareness of their ongoing learning. Consciousness-raising skills in language learning provide specific methods to increase learners' awareness of their goals, motives, applied strategies and actions in the pursuit of systemic change. This assumption is especially true for reading comprehension which is the process of generating, articulating, negotiating, and revising interpretations and understandings within a community of readers. Explicit instruction focuses on a strategy, practice, or particular aspect of reading process, calls to conscious attention what is being taught, and strives to clarify for students the expectations teachers have for their learning.

In his recent paper, Swan (2008) has questioned the work done in classroom to instruct reading strategies and has called it simply a waste

of time. He has pinpointed that the assumption behind most of the classroom practices advocating strategy instruction is that learners need to learn something else in addition to vocabulary and grammar in the comprehension of reading materials. The comprehension difficulties of learners in reading materials, which he does not relate to an unfamiliar language, are simply because of "temporary processing overload". Swan has argued that if strategies are limited to those behaviors that are applied consciously by the learners, then strategies which are automatic need to be excluded in the pedagogic practice. Also some of the strategies which are characterized to be employed unconsciously (e.g., inferencing) then cannot be taught in classroom settings. For pedagogic purposes, swan suggested, teachers need to involve problem-oriented strategies in their classroom context which require conscious attention and which are not employed automatically with all learners without teaching (p. 265).

Little research is available on awareness raising programs (but see Feyton et al, 1999) and especially on how learners benefit from them over time. Our understanding of the main issues is that awareness-raising of learners' use of strategies may be relevant in successful learning. Obviously, more studies are needed on how teachers teach explicit strategies for learning and comprehension in their classrooms, how they assess and scaffold their learners' strategic development over an extended period, and how learners benefit from exposure to strategies used by successful learners.

2.3 Strategy use across gender

General traditional gender differences show that women use a greater number of strategies than men in achievement areas (e.g. Graham, 2004; Mochizuki; 1999 Oxford & Green, 1995; Oxford & Nyikos, 1989; Peacock & Ho, 2003). The assumption that women use more strategies and therefore manifest more successful self-regulation in language learning makes a lot of sense. Nonetheless, another group of studies suggests that this is not necessarily the case. Cátalan (2003) argues that gender differences may exist between male and female learners due to

innate and social causes and they are more alike than different. It seems that the greater use of strategies and greater self-regulations attributed to women may not be always consistent and do not always affect behavior.

Research has also indicated that the two groups employ different strategies. For example, it is assumed that women use more social language learning strategies in interaction environments not only in classroom context but also in real world interaction contexts (Politzer, 1983; Ehrman & Oxford, 1989). They also use more study strategies and rule-related strategies (Ehrman & Oxford, 1989; Oxford & Nyikos, 1989); more monitoring strategies in comprehension (Bacon, 1992; Oxford & Nyikos, 1989); rehearsing and planning strategies (Bacon & Finnemann, 1992; Ehrman & Oxford, 1989); and input elicitation strategies (Gass & Varonis, 1986; Oxford & Nyikos, 1989). Men learners, on the other hand, have been reported to use more translation strategies (Bacon, 1992); output production strategies in contrast to women who use it to obtain more input (Gass & Varonis, 1986); and employ more tactile and visual learning strategies than women learners (Reid, 1987).

Research conducted so far on the role of gender is not conclusive enough to determine absolutely different ways of learning for two groups of female and male learners. There are many other educational factors affecting the success of the two genders. Certainly, further studies are needed to examine the pattern of strategy use by male and female learners in uniform educational contexts.

The current study aims to establish a connection between cognitive strategy training and the posttest reading comprehension performance of the experimental groups. It was believed that these students can be taught to read in a more strategic way during reading tasks and that the control group would fail to have the same result.

2.4 Research questions

The study set out to seek answers to the following research questions:

1. Does strategy instruction in EFL reading affect cognitive strategies employed by advanced Iranian EFL students and their reading comprehension scores in English?
2. Do female and male learners show different patterns of cognitive strategy use?
3. How do students perceive their level of achievement in reading comprehension, in terms of a more global self-assessment?

3. Method

3.1 Participants

Three classes of Persian-speaking students in a language center in Tehran acted as participants. Therefore, data were gathered from three intact groups. Each class consisted of 20 male and female students. The ages for the total sample of learners ranged from 18 to 27. One experimental group (10 female, 10 male) was exposed to the explicit training only condition, the other experimental group (13 female, 7 male) received the explicit training plus a requirement to verbalize the strategies, and a third group (14 female, 6 male) was in a control condition with no strategy training. The language center guidelines were used to determine the language teaching approach and the total amount of language instruction in order to maintain the uniformity of classes to obtain clearer findings. The test of TOEFL was used to assess the learners' proficiency level and it was found that learners were of the similar level of proficiency (advanced). A communicative approach with special emphasis on real communication and authentic input was followed in all the classes. The teaching methodology included consciousness-raising tasks using the texts from the course book, followed by teacher-to-student discussions about the applied strategies. The other experimental group participants were also required to explain a bit more about their employed strategies and thus verbalize them.

3.2 Instrumentation

The first instrument used in this study was the TOEFL Preparation Kit (2003). Unlike the complete TOEFL test which was used as a measure of proficiency before the treatment, the posttest included only the reading comprehension section of TOEFL. The posttest consisted of 5 passages each followed by 10 questions. The reading comprehension questions required the learners to provide answers to the questions related to the text. The questions following the texts required the subjects to employ cognitive strategies including clarification /verification, guessing/ inductive inferencing, deductive reasoning, practice, memorization, and monitoring.

The participants were also asked to complete an open-ended questionnaire regarding the effectiveness of the training program. The questionnaire was adapted from Soonthornmanee (2002) and was slightly modified in line with the purpose of the present study.

3.3 Procedure

The students in the experimental and control groups followed the same advanced, 40- hour English foreign language (EFL) course, based on the course book *Interchange: Student's book 3* (Richards, Hull, & Proctor, 2005). They attended classes twice a week for 2 hours each day as part of a 40-hour course. In the experimental groups, 10 hours of the course were dedicated to strategy training. For all the groups, ten reading passages of appropriate reading level were selected from *Interchange: Student's book 3*. The participants in the experimental group with the explicit training only condition, including both female and male learners, were instructed to use the cognitive strategies while engaged in classroom reading activities. Firstly, the teacher explained the strategy using precise and exact language. Then the teacher modeled the strategy demonstrating what the strategy application would look and sound like.

The other experimental group received an explicit instruction of the use of strategies and subsequently was asked to practice verbalizing the learned strategies in order to more raise their awareness of the successful

strategies. The teacher supported this type of learning by raising individual strategy use to conscious awareness through engaging, questioning, prompting, modeling, explaining, telling, challenging, reflecting, clarifying, leading. In other words, strategy instruction brings to conscious attention and awareness what good readers do as they construct meaning. Finally, the teacher constantly provided for independent practice and created an atmosphere of self-reflection and self-regulation.

In the control group, this time was allocated to the untutored reading comprehension work with the same passages used in the experimental groups.

At the end of the semester, both the control and experimental groups were asked to answer the reading comprehension questions in the TOEFL test to examine their reading performance.

On the last day of the term, both the experimental and control group participants were asked to self-assess their progress and development during the semester. They were told to write answers to the following questions (adapted from Soonthornmanee, 2002):

1. What do you think about the strategy training method?
2. Do you think this method can help you improve reading? Why or why not?
3. Do you think your reading ability has improved over the semester? Why or why not?
4. What do you like most about this method?
5. What do you dislike most?

3.4 The psychometric properties of the instruments

Factor analytic procedure was used to test the validity of the questionnaire and the TOEFL test. Although the questionnaire had high enough factor pattern/structure coefficients to qualify the respective items as marker variables (near pure representations of the factors), a few items were problematic and some refinements were considered necessary. This was accomplished by replacing the suspect items

identified with appropriate ones. The original list of items was subjected to judgment for redundancy, content validity, and clarity. The revision of items resulted in the deletion of some redundant items, the collapsing of some items into one, and the addition of some new items. These changes were implemented and validated. The major advantage of the questionnaire is that data can be collected from respondents in a cost-effective way within a short period of time. The reliability of the questionnaire was computed using the Cronbach Alpha which turned out to be 0.72 and was considered as acceptable.

In order to confirm and validate the TOEFL test, an exploratory factor analysis was conducted using a principal components analysis. Based on the factor loadings results, no items were eliminated from the analysis because they exhibited high factor loadings (more than .30). The Cronbach-alpha coefficient value for the overall reliability analysis of the questionnaire was found as .87 which showed a satisfying level of reliability.

3.5 Data collection and analysis procedures

In addition to providing answers to the reading comprehension questions of the TOEFL test, the students were also required to give answers to the five questions of the questionnaire. The final version of the questionnaire consisted of five open-ended type cognitive strategy items. The students received instructions both orally and in writing. They were asked to write open-ended answers to five questions that assessed their reading progress during the semester. After the learners' open-ended responses were transcribed, the researcher individually reviewed and coded the transcripts using an open coding process. Open coding involved analyzing each line or paragraph of the transcripts for codes reflecting each participant's experiences. More specifically, each discrete idea, event, or experience was analyzed using a thematic framework. Each participant's transcript was reviewed using the codes until saturation of findings —where no new data were identified (Strauss & Corbin, 2008)— was attained. In this case, the codes were used to discover

themes or issues that might appear from the dataset. After the transcripts were coded and rechecked for coding consistency, common patterns of cognitive strategy use were identified.

Descriptive statistics (means, standard deviations, standard errors) were calculated using SPSS version 17. In addition, one-way analysis of variance (ANOVA) was used to determine the effects of training conditions on learners' mean strategy use on the TOEFL test. When significance at p< .05 was indicated, post hoc test was conducted to examine where the differences occurred. Throughout the study, significance at p< .05 is reported. Independent samples t-test was used to examine strategy use across gender.

4. Results

4.1 The effect of cognitive strategy training on Iranian learners' reading comprehension performance

Table 1 presents the descriptive statistics of the participants' test scores and strategy use in three different conditions.

Table 1. Descriptive statistics for cognitive strategy use by the experimental and control groups

	N	Mean	Std. Deviation
Control group	20	2.73	.87
exp. 1	20	2.59	.95
exp. 2	20	3.04	1.22
Total	60	3.78	.78

Note. exp. 1 = experimental group with the explicit training only condition; exp. 2 = experimental group with the explicit training plus a verbalization requirement.

Regarding the standard deviation and mean score of three sets of scores, the experimental group that received the cognitive strategy instruction and was required to verbalize the used and learned strategies had a higher value compared with those of the other experimental group with the instruction only condition and the control group. In order to find out whether there was a difference between these three groups of

participants in terms of cognitive strategy use, an analysis of variance (ANOVA) was performed. Table 2 provides ANOVA results of the cognitive strategies used by the participants.

Table 2. ANOVA results for cognitive strategy differences across the experimental and control groups

	Sum of Squares	df	Mean Square	F	Sig.
between groups	3400.300	2	1700.150	42.681	**.000**
within groups	2270.550	57	39.834		
total	5670.850	59			

As Table 2 shows, preferences for cognitive strategy use differed significantly across the three groups of participants (F = 42.681, P < .05). To determine where the specific differences lay, the Tukey post-hoc test was employed. The results are shown in Table 3.

Table 3. Tukey test results for cognitive strategies

		Subset for alpha= 0.05		
groups	N	1	2	3
control	20	22.30		
exp. 1	20	29.90		
exp. 2	20			40.65
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 20.000.

Note. exp. 1 = experimental group with the explicit training only condition; exp. 2 = experimental group with the explicit training plus a verbalization requirement.

The Tukey post-hoc test shows that there are significant differences between all the three groups. The control group (M =22.30, 95% CI) and the experimental group with verbalization requirement (M =40.65, 95% CI) are different in that the experimental group gave significantly higher

preference ratings for the use of cognitive strategies than the control group. Similarly, the differences between the experimental group with no verbalization requirement (M =29.90, 95% CI) and the control group (M =22.30, 95% CI) are statistically significant at p < 0.05. The two experimental groups are also different in their cognitive strategy preferences at p< 0.05.

4.2. Female and male learners' different patterns of cognitive strategy use

In order to investigate the cognitive strategy use of female and male learners of two experimental groups, an independent samples t-test was conducted. Table 4 summarizes the descriptive statistics for the gender and cognitive strategy use variables.

Table 4. Descriptive statistics for cognitive strategy use across gender

Gender	N		Mean	Std. Deviation
scores	male	23	30.69	9.525
	female	37	31.19	10.209

As shown in Table 4, there are no significant mean differences between the male and female participants' strategy use. The results of an independent samples t-test also signify the same finding. The results are shown in Table 5.

Table 5. Independent samples t-test results for cognitive strategy use across gender

Levene's test for equality of variances		t-test for equality of means				95% confidence interval of the difference		
	F Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	.323 .572	-.197	58	.844	-.504	2.554	-5.616	4.608
Equal variances not assumed		-.198	58	.844	-.504	2.458	-5.604	4.596

The results show that the significance level of Levene's test is p=.572, which means that the variances for the two groups (males and females) are the same. The results of t-test show that there is not a significant difference in the use of strategies by the male and female participants (t (58) = -0.197, p = 0.844). This finding is supported by the results obtained from descriptive analysis. The descriptive means show that there is not a significant difference between males and females in their use of strategies regarding the mean scores.

4.3 Learners' perception of their level of achievement in reading comprehension

The findings from the questionnaire buttress the statistical analysis results. Although both of the experimental groups reported positive attitudes toward their better understanding of the reading texts, the two experimental groups who were required to verbalize the strategies reported greater motivation and progress in their reading achievements. For those learners with the opportunity to engage in verbalization, appropriately implemented training program may be perfectly corrective, combining comprehension with a focus on 'pushed output' which encourages them to process material syntactically, 'stretch' their interlanguage, and thus gain a genuine command of previously learned strategies. The following sample entry from one of the participants signifies this conclusion:

> The thing I liked most about my teacher's correction of my mistakes in reading is that I felt like I was able to read the texts more rapidly and that the end result was not disappointing… contrary to my previous experiences, I managed to answer most of the questions correctly. This was especially motivating because I have had the chance to practice many ways of reading a text in more effective ways.

Although the participants in the experimental group with no verbalization requirement also asserted their progress compared with their previous reading comprehension abilities, they appeared to be slightly less satisfied with the training because they were not given an opportunity to practice the strategies by themselves. This means that learning the strategies does not matter so much if one does not have the opportunity to put them into practice and receive corrective feedback and help, as it is suggested by the Output Hypothesis (Swain, 2000).

Participants of the control group reported that their reading ability was the same as before. This finding was expectable since these subjects were deprived from the opportunity to learn the strategies and to put them into practice.

5. Conclusion and Implications

This study had the purpose of examining the effect of teacher's explicit training on learners' cognitive strategy use and their improvement in reading comprehension. It has been found that the training provided by the teacher contributes to the FLL process, and learners' awareness of the accurate use of the cognitive strategy increases. The results suggest that teachers' explicit instruction and assistance of learners' strategy use during a particular activity are linked with the learners' effective use of strategies. Although instruction is accompanied with positive effects of increasing learner awareness about strategy application, the results are more promising if the learners are asked to provide explicit verbalizations of the strategies which they have learned. In this sense, the results of the present study are in line with Swain's (2000) research on collaborative dialoguing. It suggests that if strategy instruction involves verbalizing the strategies employed, it can be effective. Swain (2000) defined collaborative dialoguing as a "dialogue in which speakers are engaged in problem solving and knowledge building" (p. 102). Knowledge building is the epiphenomena of the learners' saying and responding to what is said. This knowledge building, then, can be achieved by the teacher's explicit training of the learners and requiring them to verbalize the strategies. In the present case, the more the teacher provided explicit training on learners' strategy use and

required their verbalization, the more the learners were motivated to use them effectively. The reason might be because the learner is not aware of the strategies and their assistance in helping her/him to achieve success in the process of language learning.

The second goal of the present study was to examine the differences between male and female students with respect to strategy use. The results indicated that there were no differences between male and female participants. The results imply that it is important for instructors to enhance the strategic awareness of both genders, because it may lead to more active engagement in language learning process. Further research is needed in piloting similar activities with other groups of learners and teachers both in Iran and with learners of different first languages studying other target languages. At the risk of sounding repetitive, however, one must acknowledge that there has been an element of explicitness in the effective instruction programs carried out.

To sum up, although students seem to rely on naturalistic processes in the acquisition of the target language, instruction and social processes also contribute. These findings provide support to Wong Fillmore's (1991) model of SLA, in which social, linguistic and cognitive processes interact with one another. One of the important pedagogical implications derived from findings is the teacher's role in shaping students' strategic behaviors and improving their successful use of strategies in reading comprehension in L2 learning. Therefore, it is critical for teachers to help their students become self-directed and autonomous language learners by integrating language learning strategy instruction into regular language lessons. In addition, teachers should bear in mind that students have to be taught in a meaningful way to master strategies in all language skills, instead of concentrating solely on reading comprehension at the expense of the other skills. To help students overcome language learning problems and improve motivation toward the second language learning, teachers should be sensitive to the learning environments and individual experiences of students.

The findings also offer further implications for the classroom: both naturalistic processes and the teacher instruction play a crucial role in

language learning, and this role should be exploited to the learners' benefit. Also, FLL involves more than the acquisition of the target language, as learners' develop cognitively, socially and linguistically at the same time.

Replication of this study with male and female students at different levels of education in different contexts is necessary to understand how well results can be generalized to other students in Iran. Perhaps an integration of local and trans-contextual research that approaches English language learning (ELL) from different perspectives is the most promising in the globalized world in which foreign language learners live.

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