THE EFFECT OF STRATEGY INSTRUCTION ON STRATEGY USE BY MUSLIM PUPILS LEARNING ENGLISH AS FOREIGN LANGUAGE

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Abstract: The purpose of the present study was to examine the effect of strategy instruction on the use of strategies by Muslim primary school EFL learners, when they engage in reading and listening comprehension as well as vocabulary learning. 122 students attending minority schools in Xanthi and Rodopi, aged from 10 to 12 years old, participated in the study. They were divided into an experimental group who followed a specially designed programme aiming at raising learning strategy use, and a control group who followed only the typical English language programme. Strategy use in both groups was evaluated with a standardized questionnaire based on previous work by Oxford (1990) and O' Malley and Chamot (1990), distributed before and immediately after the intervention programme. The results showed that the learning of the experimental group, compared to the control group, significantly improved because of an increased use of metacognitive, cognitive, and socio-affective strategies. These findings stress the need for designing special curricula for raising students' strategic use of language in second or foreign language teaching.

1. Research background

Learning strategies represented a popular topic of research both in L2 studies and educational psychology mostly during the '80s. In these studies, learning strategies were examined either as independent or dependent variables.

Factors related to choice of language learning strategies included: 1) language being learned, 2) proficiency, 3) degree of metacognitive awareness, 4) gender, 5) affective variables, 6) personality traits, 7) personality type, 8) learning style, 9) career orientation, 10) national origin, 11) aptitude, 12) language teaching methods, 13) task requirements (for a review see Oxford 1989).

Despite the substantial body of research, most of the literature in the L2 field relevant to learning strategies (for reviews see Chamot 2001, Dörnyei 2005) does not provide a lucid theoretical definition of the term. Various definitions cover different aspects of learning strategies. For example, Oxford (1999: 518) claims that, from a pedagogical point of view, the term refers to "specific actions, behaviours, steps or techniques that students use to improve their own progress in developing skills in a second or foreign language. These strategies can facilitate the internalisation, storage, retrieval or use of the new language". Weinstein, Husman and Dierking (2000: 727) who studied learning strategies in the frame of educational psychology, argue that "learning strategies include any thoughts, behaviors, beliefs or emotions that facilitate the acquisition, understanding or later transfer of new knowledge and skills". These two definitions, while comprehensive, leave unanswered the question of the difference between *learning efficaciously* and *learning*. A number of scholars proposed some definitional characteristics in order to answer this question. For instance, Weinstein, Husman and Dierking (2000) characterised strategies as *goal-directed, intentionally invoked* and *effortful,* while Cohen (1998) stressed the fact that strategies are *voluntarily* employed by learners. Nevertheless, this effort didn't really advance the study of the issue.

Recently there has been recorded a development in L2 research mainly due to the efforts of Rubin (2001, 2005) who introduced the term *learner self-management* defined as the ability to deploy metacognitive strategic procedures (such as monitoring, planning, evaluating, problem solving and implementing) and to make use of relevant knowledge and beliefs (such as task knowledge, self-knowledge, strategy knowledge). In educational psychology, on the other hand, research has opted for the term of *self-regulation* (Boekaerts, Pintrich and Zeidner 2000) by shifting the focus from the product (strategies) to the process (self-regulation).

Although, recently the research on learning strategies has experienced a decrease, there is one issue that has always attired the scientific interest: How to train students to become strategic learners, or, in other words, how we can teach them to learn how to learn. Of course, it was in 1989 when Ellis and Sinclair published their coursebook entitled *Learning to learn English: A course*

in learner training, but one could also mention more recent books (cf. Chamot *et al.* 1999, Macaro 2001). The aim of these publications was to raise learners' awareness about strategy use by (a) offering a wide range of strategies, (b) modelling strategy use in classroom and (c) providing post-task analysis which helps students reflect on strategy use (Dörnyei 2006: 60).

Strategy instruction has dealt with strategies that facilitate the acquisition of declarative or procedural knowledge outside the second language field in areas of the curriculum such as reading comprehension, memory training etc. More precisely research is focusing mainly on mnemonic techniques during vocabulary learning (Cohen and Aphec 1980, Nyikos 1987, Thomson 1987) while others are training students in comprehension strategies and oral production skills (O' Malley *et al.* 1985, Pressley *et al.* 1992, Schuder 1993, Vandergrift 2003, Wenden 1986).

As far as the design of strategy instruction programmes is concerned, Wenden (1986) suggests that some certain characteristics should be taken into account in the development and implementation of activities and materials for learner training. These characteristics are: (1) explicitness of purpose, (2) training in the use of specific or general learning skills, (3) evaluation and (4) integration of learner training with language training.

1. Explicitness of purpose. All previous research on that issue strongly argues for explicitness in strategy instruction (Chamot *et al.* 1999, Chamot 2005, Nunan 1997, Oxford and Leaver 1996, Shen 2003). According to Brown *et al.* (1983) in *blind training* (or *embedded* instruction according to O' Malley and Chamot 1990) students are presented with activities and materials structured to elicit the use of the strategies being taught but are *not* informed of the reasons why this approach to learning is being practised. In *informed training* (or *direct* instruction according to O' Malley and Chamot 1990), on the other hand, "students are not instructed in the use of strategy but in the need for it and its anticipated effects" (Wenden 1986: 316). Chamot (2004: 19) claims that:

> "...explicit learning strategy instruction essentially involves the development of students' awareness of the strategy they use, teacher modelling of strategic thinking, student practice with new strategies, student self-evaluation of the strategies used and practice in transferring strategies to new tasks".

Such training has been proved more effective, since learners use the strategies they have learnt more frequently and more effectively (Brown *et al.* 1983). This probably happens because, in the case of blind training, learners

are taught to use cognitive strategies (perform particular strategies in order to solve specific learning problems when they deal with specific tasks such as reading comprehension) while in informed training there is also metacognitive control, which helps them understand the procedure of language learning.

2. Training in the use of specific or general learning skills. According to Brown *et al.* (1983), teaching specific skills refers either to training in the use of cognitive strategies or to routines related to particular learning tasks. On the contrary, general learning skills refer to strategies that can regulate learning, in other words they are closely associated with metacognitive strategies. Brown and Palinscar (1982), O' Malley and Chamot (1990), O' Malley *et al.* (1985), Palinscar and Brown (1986) Wenden (1998) showed that strategy instruction programmes should include both cognitive and metacognitive skills, since cognitive and metacognitive strategies fulfil distinct and complementary functions. The addition of the metacognitive component into the cognitive component ensures the strategy maintenance and transfer.

3. *Evaluation*. Wenden (1986: 318) claimed that all changes in learner behaviour after strategy instruction programmes should be evaluated according to three parameters: (1) task improvement, (2) maintenance and (3) transfer. In other words, evaluation should focus, on the one hand, on the cognitive strategies which students have already acquired for demonstrating better performance during language tasks and, on the other, on metacognitive strategies which will help them reflect on their learning in order to monitor their learning and evaluate its outcome thus, guarantee maintenance and transfer.

4. *Integration of learner training with language training.* An unresolved issue in strategy instruction is whether it should be integrated with classroom instruction or focus only on learning strategy teaching. Researchers in favour of separate training programmes (Derry and Murphy 1986, Gu 1996, Jones *et al.* 1987) argue that students will learn strategies more effectively if they can focus all their attention on developing strategic skills rather than try to learn content at the same time, others have voiced concern (Chamot and O' Malley 1987, Chamot *et al.* 1999, Nunan 1997, Oxford and Leaver 1996, Wenden 1987). Arguments in favour of integrated strategy instruction programmes support the position that practising strategies in authentic language tasks facilitates the transfer of strategies to similar tasks in other classes. Chamot (2004: 19) suggests that:

> "teachers should certainly opt for explicit instruction into their regular course work, rather than providing a separate learning

strategy course. An ideal situation would be one in which all teachers in all subject areas teach learning strategies, as students would then be more likely to transfer strategies learned in one class to another class".

2. Purpose and rationale

Bearing in mind the lack of previous research concerning learning strategy instruction in second language and the limited number of studies concerning the effects of strategy instruction using an experimental approach that would permit the independent effects of the training to be isolated (O' Malley and Chamot 1990: 170), the purpose of the present study was to determine whether *direct* strategy instruction in natural classroom settings would result in improved learning for varied types of second language tasks with pupils learning English as a foreign language. Our objective was also to test the effectiveness of strategy instruction with some certain *integrative* language tasks such as listening, speaking and vocabulary and to determine the interactions between the strategy instruction programme and factors such as gender, proficiency level and school class.

3. Method

3.1 Participants

The participants in this study were one hundred and twenty-two (122) randomly chosen pupils attending the fourth (37, 8%), fifth (31, 1%) and sixth class (31, 1%) of Muslim minority schools of Rodopi and Xanthi, aged 10-12 years old (see Table 1).

More specifically, sixty-one (61) students of our sample were boys and sixty-one (61) were girls. Moreover, 37,7% of the sample attended schools in the mountainous region of Xanthi, 31,1% schools in the urban region of Xanthi, and 31,2 attended schools located in the lowland region of Xanthi. The

Table 1: *Distribution of subjects across age groups*

Age	Frequency	%
10 years	46	37,7
11 years	38	31,1
12 years	38	31,1
Total	122	100,0

sample was divided into two groups, that is, the *experimental* group (N=68) and the *control* group (N=54).

3.2 Instrumentation

For the successful elicitation of data in the pre-test phase use of a self report *questionnaire* was considered as most appropriate. This was written in Greek and then translated into Turkish, in order to be absolutely comprehensible by all learners. At the very beginning of it some introductory questions were included aiming at the elicitation of information about the student's gender, school location, grade report in English and their educational and family background. Needless to say that the questionnaire was anonymous; thus, learners were prompted to respond with sincerity and honesty.

The classification which was adopted was the one proposed by O'Malley and Chamot (1990). Hence, the questionnaire aimed at the identification of learners' *metacognitive*, *cognitive* and *social/affective* language learning strategies. It consisted of 36 closed, attitude statements, covering the above three categories of strategies. Respondents were asked to select the frequency of employment of each stated strategy from the Likert five-point frequency scale provided (*always or almost always*, *often*, *sometimes*, *rarely*, and *never or almost never*).

The first 12 statements covered the metacognitive strategies, i.e., monitoring comprehension, monitoring production while it is occurring, self-evaluation, setting goals and objectives, deciding on ways for improvement, selective attention, planning the organisation of spoken discourse and planning the organisation of written discourse.

The cognitive strategies were covered by statements 13 to 24. Learners were asked to report on the frequency of employment of rehearsal, elaboration, transfer, organisation/grouping/classification of words, inferencing, imagery, summarising and deducing.

Finally, the social/affective strategies were covered by statements 25 to 36. Cooperation, asking for clarification and self-talk were, as proposed by O'Malley and Chamot, the subcategories of social/affective strategies that were included in the last 12 statements of the questionnaire.

A reliability analysis (Cronbach's Alpha) was performed to examine the internal consistency of the questionnaire. The Cronbach's Alpha was 0,875.

3.3 Procedure

The questionnaire was filled in during class hours. During this process the students received extensive directions and the teacher helped them comprehend each item of the questionnaire separately. It was stressed to them that they

should respond to the questionnaire with sincerity, selecting the statements that were actually describing their situation. It must also be noted that the whole procedure was facilitated by the fact that the learners had some guidance from a Muslim Turkish and Pomak speaking teacher, who was translating the difficult parts of the questionnaire into their own community language.

The elicited data were processed, in order to calculate the respondents' scores in the three categories of strategies. They were converted into numerical form, by replacing each answer with a number; 1 mark was given to "never or almost never" answers, 2 marks to "rarely", 3 to "sometimes", 4 to 'often", and 5 to "always or almost always" ones. Thus, by summing up learners' marks in each category of strategies, the final scores of the metacognitive, the cognitive and the social/affective strategies were extracted, providing information about their frequency of selection.

3.4 The intervention programme

As already mentioned, the second part of the research consisted of the *Intervention Programme*. The experimental group practised specially designed activities for the cultivation of metacognitve, cognitive and socio-affective strategies. The strategy instruction programme was *integrated* with classroom instruction in the language subject. Pupils were informed of the value and purpose of strategy training, thus they received *direct* training. The duration of the programme was about 8 weeks. The experimental group received two sessions of one (1) hour per week of strategy training. The teacher of English trained his class in learning strategies in the presence of the researcher, who observed the whole procedure. By contrast, the control group followed the normal curriculum.

Pupils of the experimental group were practising in all four skills, namely writing, reading, listening and speaking in the target language. The activities were predetermined and of the same theme, that is, the Fire Brigade, earthquakes, and fires. However, the degree of difficulty of the texts and tasks was different for each of the three classes.

As far as the *texts* were concerned, there was a constant attempt to select the most *authentic* ones, which would activate the imagination and the constructive participation of the students. The ultimate goal was both the cultivation of the students' critical thinking and their engagement in authentic communicative situations with their peers.

The *listening* activities were designed to be rich in content and not be limited to questions and multiple choice answers, or simply to "wh-" questions, which would be rather monotonous and weary to students. On the contrary, the

aim was to activate the short and long term memory of the students, so as to sharpen their perspicacity and the creative cooperation between them.

The activities related to *speech* occupied a large part of our intervention programme. The objective here was to achieve both accuracy and fluency during the students' oral expression. The role play exercises, dramatisation, memory games and discussions contributed significantly to the development of the students' communication skills in the target language.

Finally, the activities associated with the production of *writing* sought to make clear to the students what and why to write, whom they should refer to and what expectations they should have.

4. Data analysis

A 2×2×2×3×3 [measurements (pre-test, post-test) × group (experimental, control) × gender (male, female) × school class (4^{th}, 5^{th}, 6^{th}) × proficiency level (high, medium, low)] Manova with repeated measures on the first factor was applied to the data to test pre and post scores for the 3 types of strategies, between boys and girls of the experimental and the control group. Post hoc comparisons were made using the Bonfferoni test. The level of significance was set to $p<.05$

5. Results

Tables 2, 3 and 4 below show means and standard deviations of the dependent variables, before and after the intervention, for high-rated, medium-rated and low-rated males and females of the experimental and the control group who attended the 4^{th}, 5^{th} and 6^{th} class respectively. Statistical significance of the post-hoc comparisons signed with * means statistically higher scores after the intervention.

The results revealed no statistically significant differences between the experimental and the control group in the pre-intervention scores for all strategies (Metacognitive: $F=4.12$, $p>.05$, Cognitive: $F=3.89$, $p>.05$, Socio-affective: $F=4.45$, $p>.05$).

As far as the interactions among variables were concerned, the results revealed statistically significant interactions for all strategies related to *measurement*, *group* and *gender* (Metacognitive: $F=9.41$, $p<.05$, Cognitive: $F=8.45$, $p<.05$, Socio-affective: $F=9.50$, $p<.05$), as well between *measurement* and *group* (Metacognitive: $F=10.4$, $p<.05$ Cognitive: $F=9.93$, $p<.05$, Socio-affective: $F=10.2$, $p<.05$), *group* and *gender* (Metacognitive: $F=9.82$, $p<.05$ Cognitive: $F=9.51$, $p<.05$, Socio-affective: $F=10.11$, $p<.05$) and *group* and *proficiency level*

Table 2: *Descriptives (Means and SD) for the "Metacognitive strategies"*

		Mean±SD									**Mean±SD**								
		Experimental									**Control**								
	Perform.	High			Medium			Low			High			Medium			Low		
Group	Class	4th	5th	6th	4th	5th	6th	4th	5th	6th	4th	5th	6th	4th	5th	6th	4th	5th	6th
	Sex																		
Pre	Boy	51.5	66.1	72.3	35.8	53.6	52.3	33.7	36.8	39.4	52.1	65.8	71.4	35.5	52.9	53.1	34.2	35.9	38.8
	Girl	52.3	67.2	74.1	36.5	54.2	54.8	34.2	38.3	41.5	53.7	67.5	73.2	36.7	53.1	55.2	35.8	36.6	39.4
Post	Boy	61.9*	68.1	76.8	38.2	63.1*	61.4*	37.6	48.1*	53.5	54.5	66.2	72.1	36.8	54.1	53.9	36.1	37.2	37.9
	Girl	64.2*	69.4	78.1	41.5	65.2*	62.9	41.5	53.2	57.5*	55.1	66.9	73.5	38.1	55.8	54.2	37.4	38.6	39.2

*$p<.05$

Table 3: *Descriptives (Means and SD) for the "Cognitive strategies"*

		Mean±SD									**Mean±SD**								
		Experimental									**Control**								
	Perform.	High			Medium			Low			High			Medium			Low		
Group	Class	4th	5th	6th	4th	5th	6th	4th	5th	6th	4th	5th	6th	4th	5th	6th	4th	5th	6th
	Sex																		
Pre	Boy	62.5	63.9	64.6	61.9	62.5	63.2	60.4	61.3	62.5	62.9	64.1	65.3	62.3	61.8	64.1	59.8	60.8	62.3
	Girl	70.3	72.4	74.4	68.1	69.1	71.6	66.6	67.9	69.3	70.7	71.9	73.9	68.4	69.3	71.1	67.7	68.6	68.9
Post	Boy	70.1*	72.5*	74.7*	68.7*	69.8*	72.9*	69.1*	72.3*	74.5*	63.6	65.2	65.6	63.5	60.9	64.6	60.6	61.9	62.3
	Girl	75.3	77.6	79.2	73.9	75.6	77.9	75.2*	77.4*	79.6*	71.6	71.5	73.2	67.8	70.1	70.8	67.9	70.3	69.8

*$p<.05$

Table 4: *Descriptives (Means and SD) for the "Socio-affective strategies"*

		Mean ± SD									**Mean ± SD**								
		Experimental									**Control**								
	Perform.	High			Medium			Low			High			Medium			Low		
Group	Class	4th	5th	6th	4th	5th	6th	4th	5th	6th	4th	5th	6th	4th	5th	6th	4th	5th	6th
	Sex																		
Pre	Boy	50.1	65.8	71.0	34.5	51.8	50.9	32.1	34.9	37.8	50.6	63.9	69.2	33.6	50.4	50.0	32.5	33.6	35.7
	Girl	52.5	66.8	73.6	36.8	53.8	54.2	32.4	36.7	40.7	52.4	65.3	72.5	35.6	52.6	54.3	34.5	35.7	37.8
Post	Boy	60.5*	66.3	74.6	37.4	62.4*	60.1*	35.9	45.4*	52.7*	53.6	65.6	71.8	35.9	53.2	52.8	35.7	36.6	36.9
	Girl	60.1*	68.6	76.3	40.8	64.5*	63.6*	40.1	52.6	56.8	54.4	65.7	72.1	37.8	54.4	56.1	36.8	39.1	40.5

* $p < .05$

(Metacognitive: F=5.85, $p<.05$, Cognitive: F=5.92, $p<.05$, Socio-affective: F=6.12, $p<.05$). All other interactions were statistically not significant.

Measurement had statistically significant main effect (Metacognitive: F= 9.95, $p<.001$, Cognitive: F=9.54, $p<.001$, Socio-affective: F=9.48, $p<.001$) in the *group* factor, showing thus that the experimental group was significantly improved after the strategy instruction programme, compared to the control group (independently of *school class* and *proficiency level*). (Metacognitive: MD=9.56, $p<.05$, Cognitive: MD=6.08, $p<.05$, Socio-affective: MD=2.48, $p<.05$). The main effect of the *gender* factor in the *measurement* factor was also significant (F= 89.4, $p<.05$). Finally, in the post-intervention measurement the post-hoc comparisons showed that for the metacognitive strategies:

- High-rated boys attending 4th class had a statistically significant improvement after the intervention.
- Medium-rated boys attending 5th and 6th class had a statistically significant improvement after the intervention.
- Low-rated boys attending 5th class had a statistically significant improvement after the intervention.
- High-rated girls attending 4th class had a statistically significant improvement after the intervention.
- Medium-rated girls attending 5th class had a statistically significant improvement after the intervention.
- Low-rated girls attending 6th class had a statistically significant improvement after the intervention.

For the cognitive strategies:

- High, medium or low-rated boys attending all classes had a statistically significant improvement after the intervention.
- Low-rated girls attending 4th, 5th and 6th had a statistically significant improvement after the intervention.

For the socio-affective strategies:

- High-rated boys and girls attending 4th class and medium and low-rated boys attending 5th and 6th had a statistically significant improvement after the intervention.
- Medium-rated girls attending 5th and 6th class had a statistically significant improvement after the intervention.

Finally, in the post-intervention measurement the post-hoc comparisons showed that girls had in total better performance than boys after the interven-

tion (Metacognitive: MD=2.29, $p<.05$, Cognitive: MD=4.51, $p<.05$, Socio-affective: MD=3.26, $p<.05$).

6. Discussion

A number of researchers (Derry and Murphy 1986, Hillocks 1987, Pearson and Dole 1987) have stressed the importance of intervention programmes for raising awareness in strategy use. The purpose of the present study was to examine the impact of a direct integrated instruction programme (O'Malley and Chamot 1990, Weinstein and Underwood 1985), where the pupils would be fully informed about the purpose and usefulness of their instruction in strategy use.

6.1 The instruction programme effect.

In this study a significant difference was found between the means of metacognitive, cognitive and socio-affective strategy use after the implementation of the strategy instruction programme in favour of the experimental group. In other words, the experimental group achieved statistically higher scores in the measurement after the intervention, while this is not true for the control group. This result confirms previous research (Cohen and Aphek 1981, Gagné 1985, Graham *et al*. 1987, O'Malley and Chamot 1990, Paivio and Desrochers 1979, Palincsar and Brown 1984, Slavin 1980) where it is clearly shown that strategies can be taught and that instruction designed to cultivate special categories of strategies can raise learners' strategic awareness and consequently strategy use. This finding also supports O'Malley and Chamot's (1990) and Wenden's (1987) claim that integrated instruction is more effective than the separate one, because it "enables the learner to perceive the relevance of the task, enhances comprehension, and facilitates retention" (Wenden 1986: 318). Furthermore it confirms Brown and Palinscar' s (1982), O' Malley *et al.* (1985), and Palinsar and Brown's (1986) claim that direct instruction is more effective than the embedded one, since emphasis is placed on learning how to learn.

6.2 Gender effect on measurement

It was also found that girls had in total better performance than boys after the intervention. This result agrees with previous research (Ehrman and Oxford 1989, Green and Oxford 1995, Oxford and Nyikos 1989, Politzer 1983) which showed that girls use a greater number of strategies more frequently. In previous research, gender differences were attributed to social differences between the two sexes. The fact that in our research the girls outperformed

boys after the intervention is an indication that girls make better profit of specially designed language teaching programmes rather than boys, since they monitor and self-direct their learning and "have a tendency to conform to norms" (Oxford and Nyikos 1989: 296). This finding could also be related to "woman's desire for good grades and may reflect a need for social approval" (Oxford and Nyikos 1989: 296)

6.3 Metacognitive strategies

For the metacognitive strategies, it is interesting that high-rated boys and girls attending the 4th class, in other words, the youngest high-rated learners of the sample, had a significant improvement after the intervention. This may suggest that high performance students of superior classes were using metacognitive strategies even before the intervention, a finding that agrees with previous research (Chamot *et al.* 1987, Politzer 1983, Psaltou-Joycey and Kantaridou 2009, Vandergrift 2003) which supported that metacognitive strategy use is often connected with both high performance and age in second or foreign language learning. On the other hand, the intervention seemed efficacious to low-rated pupils of the 5th (boys) and 6th (girls) class, who weren't acquainted with the use of metacognitive strategies before the intervention, but they managed to isolate and use the learning strategies that contribute to the achievements of their more successful peers after the strategy instruction programme.

6.4 Cognitive strategies

It was found that the boys of all the three classes with high, medium or low performance had a significant improvement in cognitive strategy use after the intervention. This result could suggest that the boys showed a preference for the use of cognitive strategies after the interventions, which are less complex compared to the metacognitive ones. On the other hand, only the girls with low performance had a significant improvement in cognitive strategy use after the intervention, since in the initial measurement the girls with medium and high performance had already been using this type of strategies quite frequently.

6.5 Socio-affective strategies

Finally for the socio-affective strategies, it is interesting that the low-rated girls did not have a significant improvement after the intervention because they probably made intense use of them even before intervention, since the socio-affective strategies are reported to be (O' Malley and Chamot 1990) the easiest strategies in use. Moreover, it should be noted here that according to Politzer (1983), girls use in general more social strategies than boys. This probably

explains why in the post intervention measurement the boys had in total a better improvement than the girls who were acquainted with socio-affective strategies even before the strategy instruction programme.

7. Conclusion

This study provides insights about the effect of a *direct, integrated* strategy instruction programme in young learners' strategy use. We have demonstrated that the experimental group had statistically higher scores in the measurement after the strategy instruction programme, a finding which reinforces the claim that strategies are teachable. We have also suggested that there are interactions among variables such as *measurement*, *group* and *gender, measurement* and *group, group* and *gender* and *group* and *performance*

The results of this study should be taken into serious consideration for future foreign language curriculum design, not only for the purposes of mainstream education but especially for the facilitation of both bilingual and minority education. This is particularly true if we consider that the positive results gained by the strategy instruction programme in the foreign language could be transferred in second language acquisition or even first language acquisition.

Nevertheless, further analysis of new data to be collected will provide additional information about the effectiveness of direct integrated strategy instruction programmes vs. embedded and separate programmes or the interactions among various variables such as gender and age (attended class) taken under consideration in our study.

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