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The Effect of Strategy-Based Instruction on Strategy Use by Upper-Secondary Greek Students of EFL

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Abstract

This study investigates the effects of a two-month intervention programme based on the application of explicit and integrated strategy instruction with a sample of 192 Greek EFL learners attending the second year of upper secondary school. Students were divided into an experimental group, which underwent strategy training, and a control group, which followed the typical English language programme. Strategy use in both groups was evaluated with the use of the adapted Greek version of Oxford's Strategy Inventory of Language Learning (SILL; Gavriilidou & Mitits, in press) which was distributed before and immediately after the intervention. The results indicated that after the completion of the intervention programme, the experimental group showed significant improvement in self-reported strategy use as a whole as well as in all strategy groups. Conclusions of the present study confirm the 'teachability' of learning strategies and suggest that explicit and integrated strategy training should have a role in the EFL classroom.

1 Introduction

One of the most important developments in foreign language education that resulted in the birth of learning strategies research in the 1970s was the academics' and practitioners' shift of interest from the teacher and the teaching product to the learner and the learning process. In response to this development, many claims have been made about the importance of strategy-based instruction which "involves helping students know more about themselves, so they can try out, test and become experts in using the strategies that help them the most" (Oxford & Leaver, 1996, p. 228). Some of the most frequently reported benefits of strategy training include skill-specific improvement (Chen, 2007; Cohen, Weaver & Li, 1998; Macaro, 2001; Nakatani, 2005; Thompson & Rubin, 1996), increased students' metacognitive awareness (Nunan, 1996, 1997) as well as increased frequency and variety of strategy use (Chamot, Barnhardt, El-Dinary, & Robbins, 1996; Dadour & Robbins, 1996; Ikeda & Takeuchi, 2003; Mizumoto & Takeuchi, 2009). Although there have been cases when the effectiveness of strategy training has been questioned (Dörnyei, 2005; Rees-Miller, 1993; Vann & Abraham, 1990), the general consensus is that under the right conditions and form it can be effective. In the Greek educational context, the revised curriculum for the teaching of English as a foreign language in primary and lower secondary schools (Pedagogical Institute, 2003) follows a holistic approach to knowledge and places particular emphasis on the

cultivation of the "learning how to learn" skill within a multilingual and multicultural world. The same objective, among others, is adopted in the Curriculum for the teaching of English as a foreign language in upper secondary education (Pedagogical Institute, 2003), which highlights the need for the teaching of learning strategies and considers lifelong learning to be a necessary asset for students' lives as future citizens. However, despite the efforts made by FL policy makers to promote these concepts and integrate strategy instruction in the FL curricula, there is a lack of a continuous, long-term, strategic plan on in-service teacher training which could sensitise and familiarise teachers with learner training. Although there have been several studies exploring strategy use in the Greek mainstream primary or secondary education (Mitits, 2014; Psaltou-Joycey & Sougari, 2010; Vrettou, 2011), there has been only one examining the effect of strategy instruction within a special context involving Muslim minority schools (Gavriilidou & Papanis, 2009) in the region of Thrace (situated in the North-West of Greece). Such schools provide bilingual (Turkish and Greek) primary and secondary education to the Muslim minority of the region as opposed to all the other mainstream Greek-medium state schools in Greece.

2 Strategy-based instruction

A major claim of learning strategy research is that strategies can be taught and, as a result, learners can develop a more effective strategic behaviour (Cohen, 1998; Cohen & Macaro, 2007; Grenfell & Harris, 1999; Griffiths, 2003; O'Malley & Chamot, 1990; Oxford, 1990). Strategy-based instruction (SBI) enables learners to take an active role in the learning process by helping them to monitor and evaluate the way they learn. Thus, it allows them to gradually take responsibility for their own learning by fostering their autonomy and self-direction.

Oxford (1990) was among the first to assert that strategy instruction should be an integral part of language education, since it helps students gain greater proficiency, confidence and self-awareness. O'Malley & Chamot (1990) made a similar point by stressing the fact that learner training can promote students' metacognitive knowledge and result in autonomous strategy use. Cohen (1998) emphasised the fact that strategy instruction empowers students by allowing them to take control of the learning process, while Grenfell and Harris (1999) suggested that learner training can have a positive backwash effect on students' motivation levels. Griffiths (2003) proposed that strategy awareness programs should be made available to the learners, while Cohen and Macaro (2007) stressed the importance of directing learners towards strategies they could use in order to become more effective.

This has led a considerable number of researchers to develop models for language learning strategy instruction (Anderson, 2002; O'Malley & Chamot, 1990; Grenfell & Harris, 1999; Macaro, 2001; Oxford, 1990; Oxford, 2011; Rubin, 2001), which have been used in experimental intervention studies. All models emphasise the importance of developing students' metacognitive understanding of the value of learning strategies and reach the consensus that strategy instruction can be beneficial both to the learners and the learning process.

Despite the increasing interest in studying the applicability of strategy training in the classroom, there have been several concerns regarding this possibility. Rees-Miller (1993), for instance, points out the lack of empirical evidence showing that strategies are either teachable or effective while Dörnyei (2005) also argues that "the currently available evidence gives only moderate support, at best, for strategy training" (p. 117). In spite of such critical appraisals, experimental research on strategy instruction has been recognised as a source of significant potential both at the theoretical and practical levels (Chamot, 2005; Cohen et. al., 1998; Ellis, 2005; Macaro, 2001; Oxford, 2011; Oxford & Leaver, 1996; Psaltou-Joycey, 2010), resulting in the general consensus that, even if it might be at times partly successful, "it is both possible and necessary to continue identifying success factors within any type of strategy instruction" (Griffiths & Oxford, 2014, p. 3). At this point, it should be clarified that strategy-based instruction does not mean helping all students use the same strategies since, as Oxford & Leaver (1996) point out, "one size just doesn't fit all" (p. 228). This means that poor learners do not become more effective simply by copying the strategies of

successful students. On the contrary, strategy training enables individuals know more about the way they learn, so they can decide on their strategic reaction to a certain contextualised task.

Another point we should bear in mind is that strategies are not inherently "good" or "bad," but they have the potential of being used in an effective way (Cohen, 1998; Hsiao & Oxford, 2002; McDonough, 1999). This means that any strategy can lead to failure if used in an inappropriate way. Thus, the main criteria of effective strategy use is the number and range of strategies, the way they are applied, their appropriateness for a specific task and most of all whether learners show signs of metacognitive awareness (Chamot, 2004; Chamot et al., 1996; Cohen & Macaro, 2007).

In the present study the overall interpretation regarding the effectiveness of strategy is in accordance with McDonough's (1999) conclusion that "teaching strategies is not universally successful, but the latest research is showing that, in certain circumstances and modes, particularly when incorporated into the teacher's normal classroom behavior, and thus involving teacher training as well as learner training, success is demonstrable" (McDonough, 1999, p. 13). Therefore, before implementing strategy-based instruction it is necessary to address a number of methodological issues such as the explicitness of training, its integration in the language curriculum, the design and evaluation of the SBI programme.

2.1 Explicit and integrated strategy instruction

In the case of explicit strategy instruction, learners are informed about the how, why and when of learning strategy use. This means that they are given the opportunity to realise the benefits of strategy use, evaluate its effectiveness and transfer strategies to new situations and tasks. Thus, the emphasis is on helping students not simply to learn something, but to become metacognitively aware and learn how to learn. Integrated strategy instruction takes place, when this direct and expository approach is interwoven with the foreign language materials, activities and curriculum objectives.

Although researchers advocate explicit strategy training (Anderson, 2002; Chamot, 2004; Grenfell & Harris, 1999; Oxford, 1990; Oxford, 2011; Oxford & Leaver, 1996), less agreement is found on whether strategy instruction should be integrated in the language course or presented separately. Arguments in favour of separate strategy training support the position that strategies learned within a language class are less likely to transfer to other tasks while exclusive focus on the development of strategic skills leads to more effective strategy learning (Derry & Murphy, 1986; Gu, 1996). However, the lack of student motivation can be a major obstacle to the implementation of such a course (Griffiths, 2003; Wenden, 1987).

On the other hand, advocates of teaching strategies as part of the language course curriculum support the position that practicing strategies on authentic language tasks facilitates strategy transfer, enables learners to perceive the relevance of a task, enhances comprehension and retention while it can also help learners maintain or enhance motivation (Chamot & O' Malley, 1987; Grenfell & Harris, 1999; Nunan, 1997; Oxford, 1990; Oxford & Leaver, 1996; Wenden, 1987).

There has been a relatively large number of FL empirical studies focusing on the application of explicit and integrated strategy training which have produced positive results such as increased self-reported strategy use, better skill performance, fostering of metacognitive awareness as well as improvement of motivation and autonomy levels (Cohen et al., 1998; Dadour & Robbins, 1996; Gavriilidou & Papanis, 2009; Mizumoto & Takeuchi, 2009; Nakatani, 2005; Nguyen & Gu, 2013; Nunan, 1997).

Oxford, Crookall, Cohen, Lavine, Nyikos and Sutter (1990) depicted highly integrated forms of explicit strategy instruction in their foreign language classes for university students. Strategy training integration in the particular case studies proved valuable and provided students with concrete assistance for improving mainly the affective aspect of their learning such as attitudes, beliefs and motivation.

Dadour and Robbins (1996) studied the effects of explicit and integrated strategy instruction in oral communication classes for prospective English teachers in Egypt. Their highly quantitative study showed statistically significant differences between students in the experimental and control

groups in speaking performance as well as in frequency of self-reported strategy use as measured by SILL, in favour of the first group. These differences were observed in all strategy groups. Although this investigation shows the positive effects of a strategy instruction programme, the incompatibility of the groups, as a far as gender and proficiency level is concerned, should be pointed out.

Nunan (1997) focused on the effects of strategy training on motivation, students' knowledge of strategies, the perceived utility of strategies and the actual strategy use by first-year undergraduate students at the University of Hong Kong. It was shown that learner training, which was incorporated in the regular language programme, had a significant effect on the first three areas while in the case of strategy use there was no significant difference between the experimental and the control groups. However, the findings should be treated with caution since the questionnaire, which included only fifteen academic key strategies, had not been tested for internal consistency.

Cohen et al. (1998) explicitly instructed speaking strategies to 55 intermediate-level FL university students. The findings showed that strategy instruction had positive effects on the learners' speaking ability as well as on the self-reported frequency of strategy use. Despite its modest sample size, the specific study suggested that strategy-based instruction incorporated into regular activities should have a role in the foreign language classroom.

Nakatani (2005) examined the impact of explicit and integrated instruction in oral communication strategies (OCSs) and showed that the students in the strategy training group significantly improved their oral test scores. This success was partly attributed to an increased general awareness of OCSs and to the increased use of specific OCSs. Although the specific study provides evidence that strategy training can enhance EFL learners' OCS use, the lack of male participants, the small sample and the fact that the instruction was limited to certain communication strategies should be pointed out.

Mizumoto and Takeuchi (2009) explored the effectiveness of explicit instruction of vocabulary learning strategies with a group of female EFL learners from two Japanese universities. It was found that strategy training, which was carried out in combination with the regular language lessons, was effective for changing both the repertoire of strategies used as well as increasing the frequency of self-reported strategy use. However, as the authors point out (p. 443), the results might have been different had the research design included male participants as well.

Nguyen and Gu (2013) incorporated a metacognition training package into the academic writing programme of the experimental group. Their study suggested that strategy-based instruction led to increased strategy use and improved self-regulation skills.

In the Greek educational context, Gavriilidou and Papanis (2009) examined the effect of explicit and integrated strategy instruction on the self-reported use of strategies by bilingual (Turkish-Greek) or trilingual (Pomak-Turkish-Greek) Muslim primary school EFL learners attending minority schools in Greece and having another language other than Greek as mother tongue. The sample engaged in reading and listening comprehension as well as vocabulary learning activities. After an eight-week intervention programme, a significant improvement in the quantity of metacognitive, cognitive and socio-affective strategies was found among the participants in the strategy training group. This study provides useful insights about the effectiveness of strategy training, however, the paradox of teaching the specific learners a foreign language (English) via another foreign language (Greek) should be noted.

All these studies support some of the major tenets proposed in current language learning strategy instructional models, including the significance of both the intervention's duration and the language of strategy instruction, the importance of a justified choice of tasks for practicing learning strategies, the measurement of strategy use before and after the instruction and finally the implementation of explicit and integrated strategy training.

2.2 Design and evaluation of an SBI programme

In the last two decades, a number of SBI models have been developed (Anderson, 2002; Grenfell & Harris, 1999; Macaro, 2001; O'Malley & Chamot, 1990; Oxford, 1990; Oxford, 2011; Ru-

bin, 2001). Although they may differ in some details, they all include a sequence of four steps which, in fact, make up the main features of explicit strategy instruction: (1) awareness raising; (2) explicit strategy presentation and teacher modelling; (3) practice opportunities and gradual fading of the scaffolding and (4) strategy evaluation and transfer to new tasks.

The design of the present SBI intervention programme is based on Oxford's (1990) cyclical model of direct strategy instruction, which demonstrates in a clear and practical way how to integrate SBI in the objectives, material and curriculum of the FL class. What makes the specific model special is the fact that it includes a discovery segment, in which FL learners do a task without prior strategy training and discuss how they did it in order to realise the need for using strategies. Finally, this model stands out for its flexibility since its elements can be easily adapted to the learners' and teachers' needs.

As for the evaluation criteria of an SBI programme, Wenden (1987, p. 318) suggests the following parameters: improvement in the learners' performance, strategy maintenance, strategy transfer and finally the consideration of possible changes in the learners' attitude towards the learning process. However, such criteria would be more appropriate mainly for longitudinal SBI programmes and not for the specific intervention study, since it is not possible to conduct a delayed post-test within a time span of two months.

The parameter that has been taken into consideration for the assessment of the present programme is its impact on the learners' strategic profile and more specifically on any changes in the frequency of strategy use reported by learners themselves. Although it is suggested that learner strategy instruction needs to be evaluated for its effect on language proficiency and not just on student self-report of strategy use, there is satisfying empirical evidence which relates effective learner training with increased strategy use (Cohen et al., 1998; Dadour & Robbins, 1996; Gavriilidou & Papanis, 2009; Mizumoto & Takeuchi, 2009).

2.3 Purpose and rationale

Research on strategy-based instruction to date, while impressive in quantity and quality, has left a number of questions unanswered because of its tendency to focus on adults or university students or on strategy training in a specific language skill, for example, reading comprehension, vocabulary acquisition, and so forth. More specifically, the general picture that emerges from the above mentioned strategy-based programs is that, with the exception of Gavriilidou and Papanis (2009), they involve mainly adults or university students, examine isolated strategies and focus on strategy training in a specific integrative language skill. None of the previous studies had addressed the impact of strategy training on teenagers, an in-between age group worth investigating because of its distinct features. What distinguishes teenagers is their increased cognitive ability, which allows them to benefit from more abstract approaches to language teaching (Harmer, 2003) as well as their need to take responsibility for their learning (Anderson, 2008). These characteristics can help them benefit the most from the application of strategy-based instruction. Furthermore, no study to date has involved a sample of students attending Greek mainstream schools to research about the effect of strategy-based programs on learning strategy use.

The investigation of the impact of the SBI programme on a teenager's strategy use, as a whole as well as for each strategy category instead of focusing on isolated strategies, is important, since it gives an overall picture of this age group's strategic profile before and after the intervention. Self-reported instruments such as questionnaires can prove useful in achieving this research goal.

Increased self-reported strategy use is considered to be among the positive results of the interventions while inconsistent findings may be attributed to methodological flaws such as small sample sizes or incompatibility of groups.

Thus, the present study contributes to the discussion concerning both the 'teachability' of strategies and the effective forms of strategy training with integrative language skills. Bearing in mind the call for additional and more rigorous teacher-led intervention studies with a variety of language students in different learning contexts around the world (Chamot, 2005; Cohen & Macaro, 2007; Hassan et al., 2005; Plonsky, 2011), our primary aim is to investigate whether an explicit and inte-

grated strategy instruction programme would result in changes in upper secondary school Greek students' self-reported strategy use.

The specific study draws upon the study by Gavriilidou & Papanis (2009) in the Greek learning context with the difference that it investigates strategy use by a different population in a pure EFL learning context. More specifically, the following research question will be addressed: Does explicit and integrated strategy instruction with upper secondary school learners lead to increased self-reported strategy use in Greek upper-secondary school students?

3 Method

3.1 Design

A quasi-experimental research method with a "pre-test-post-test control-group design" (Dörnyei, 2007) was used for the realisation of the present study. In many educational contexts, researchers often resort to a "quasi-experimental design," since random assignment of students is rarely feasible because of practical reasons, and this is also our case. Although such a design leaves a study more vulnerable to validity threats, "it is generally accepted that well designed and executed quasi-experimental studies yield scientifically credible results" (Dörnyei, 2007, p. 118).

More specifically, the study was carried out in three stages. In the first stage, all the participants filled in (a) a Background Questionnaire (Oxford, 1990) translated into Greek, which is used in SILL research studies and provides information on students' characteristics such as gender, proficiency level and motivation to learn the foreign language and (b) version 7.0 (EFL/ESL) of the SILL main questionnaire (Oxford, 1990) which was adapted into Greek by Gavriilidou & Mitits (in press). In this questionnaire, the overall strategy use as well as strategy use in each strategy category was recorded. In the second phase, strategy-based training was carried out with the experimental group, while the control group received the standard FL instruction. In the final stage, which followed the completion of the treatment, strategy use was measured for both groups.

The frequency of strategy use overall and for each of the strategy categories represents the dependent variable, expected to be influenced by the independent variables, which are the following: the intervention (experimental and control group) and the measurement (before and after the intervention).

3.2 Participants

The participants in this study were Greek EFL students who attended the second year of two different mainstream state upper secondary schools in Alexandroupolis, Greece, and had already been distributed in eight different intact class groups (four for each school; N=192; mean age=16.3). More specifically, 96 students of the first school represented the control group, while the experimental group was made up of 96 students of the second institution.

The selection of the specific schools was intentional. The students of the experimental group were taught by the researcher herself, since she was appointed as an EFL teacher in the specific institution the year the intervention was carried out. In addition, the foreign language profile of the students who made up the control group had already been familiar to the researcher, who had taught English in the specific school one year before the implementation of the programme.

Since the random assignment of students was not possible, we tried to minimise pre-test differences between the experiment and the control groups as much as possible so that the study would be less vulnerable to validity threats. Therefore, the following steps were followed. Firstly, the students who participated in the programme attended the same year (2^{nd}) of the same type of school (upper secondary). The participants were almost equally distributed in the experiment and the control group with the same ratio of boys and girls, while the two groups were also equal in terms of their school performance in the foreign language. Furthermore, all the participants followed a similar EFL curriculum and were taught using the same textbook for the same number of hours.

However, the reality of the mixed-ability class, which is predominant in the Greek FL school context, had also to be taken into consideration. Although in theory all students should have reached the B2 proficiency level, there were individuals of a lower level as well as those who had already obtained certificates of higher proficiency levels, since the majority of teenage EFL students attend FL classes in private language schools. Thus, another issue that we took into consideration was the equal distribution of low, medium and high proficiency students in the two groups according to the level of language proficiency certificates they held. Thus, learners who had a B1 certificate according to the Common European Framework of References (CEFR) were the "low level group," while learners with a level B2 certificate formed the "medium level group." Finally, because of the small number of C1 certificate holders, the "high level group" included learners both of C1 and C2 level certificates.

Finally, the two EFL teachers involved in this study, the researcher, who was the teacher of the experimental group, and the teacher of the control group, had the same years of teaching experience to students attending the second year of upper secondary school.

3.3 Instrument

The instrument used in the present study was a structured general strategy questionnaire considered to be among the most efficient and comprehensive methods to assess frequency of strategy use and its relationship with other variables (Oxford, 1996). The specific user-friendly technique also allows researchers to examine in a quick, easy and cost-effective way the strategy use of a large sample, while at the same providing useful information regarding the participants' strategy profile.

More specifically, we opted for the 50-item Strategy Inventory for Language Learning (SILL) Version 7.0 (ESL/EFL) (Oxford, 1990, p. 293–300) which is addressed to learners of English as a second/foreign language. It is divided into six factors, which were developed on the basis of an exploratory factor analysis carried out by Oxford herself. It comprises six different strategy categories: memory, cognitive, compensation, metacognitive, affective and social. Each item corresponds more or less to a specific strategy and is rated on a 5-point Likert scale, ranging from "never or almost never true of me" to "always or almost always true of me."

For the present study, we used the adapted Greek version of SILL (Gavriilidou & Mitits, in press) for adolescent learners aged 12–15. The reliability of the specific version was found to be 0.91, suggesting a high degree of internal consistency for the whole scale. The reliability values for the sub-scales were also high with the exception of the compensation strategies, a finding which is also confirmed by other studies (Kambaki-Vougioukli, 2012; Vrettou, 2011) and deserves further investigation. Finally, test-retest reliability over a three-week interval ranged from fair to good for the total scale and its six-subscales.

Students were also asked to fill in the SILL background questionnaire providing among other areas information about gender, proficiency level and motivation to learn the foreign language.

3.4 Procedures

All experimental procedures were approved by the Institutional Review Board for investigations involving human subjects. Written informed consent was obtained from the legal guardians of the participants, before they were allowed to participate in the study. The whole process was carried out in two stages: the pre- and the post-test phase.

In the pre-test stage, the questionnaire was administered to the eight intact class groups of the two different schools during the English course period (45 min.) by the researcher herself. Students who participated on a voluntary basis were informed about the objectives of the questionnaire and were given detailed directions about its completion. It was stressed that their answers should be sincere and by no means would they affect their course grades. After the completion of the pre-test phase, the researcher divided the answers in two groups, the experimental and the control one, depending on the school they came from.

After the eight-week strategy-based instruction, which was carried out with the experimental group, the researcher herself administered the SILL for a second time (post-test) to the whole sample. This time it was stressed to students that the objective is once again to give honest answers about their strategy use and not to remember the answers they had given in the previous stage of the questionnaire completion. Each student's pre-test and post-test answers were compared in order to find out possible differentiations in the frequency of strategy use.

3.5 The intervention programme

The specific intervention, which was carried out by the teacher/researcher herself to the experimental group, was based on the integration of explicit strategy instruction in the FL curriculum. On the other hand, the control group followed solely the standard curriculum, which was taught by the students' EFL teacher. Both groups were taught using the same English textbook and covered the same material dealing with the topic of Art. The differences were in the teaching approach as well as the activities accompanying the material.

Bearing in mind the mixed-ability classroom reality, strategy instruction involved the simplified use of the foreign language in order to give the strategy a name, to explain its use and to repeatedly model it. In this way, all students, regardless of their proficiency level, could become familiar with the process of reflecting on their learning, while the teacher had a more accurate picture of the effectiveness of the intervention.

The tasks of the programme were prepared bearing in mind the students' proficiency level (B2) as well as their language and strategy needs. Although the activities were designed separately for each language skill, practice in all four skills (comprehension and production of oral and written language) was integrated as such an approach reflects real language use and contributes to the development of the learners' communicative competence.

As for the type of strategies involved in the training, the instruction did not focus on a specific group. On the contrary, depending on the language skill, it concerned all the strategy categories either individually or in combination.

As far as the comprehension of written language was concerned (see Table 1), our objective was to help students activate background knowledge and involve themselves in a critical reading of the texts. Therefore, we resorted to the use of authentic sources, which would give students the opportunity for a real and direct contact with the foreign language and motivate them to participate in genuine communicative situations. The fostering of receptive skills such as skimming, scanning, reading for detailed comprehension or inference was also a major aim of the tasks.

Table 1. Example of an SBI pre-reading session (duration 50 minutes)

Procedures	Activities	Time
Preparation	Discussion about strategies students already use before dealing with tasks.	10 min
Presentation	Explicit teaching of target pre-reading strategies*. Teacher provides explanation and modelling.	20 min
Practice	In-class actual use of target strategies in pre-reading tasks.	20 min
Evaluation	Evaluation checklists of the instructed strategies.	5 min
Expansion	(Homework) Follow-up activities in which the instructed strategies are applied to new tasks.	

*Pre-reading strategies: Cognitive (Getting the idea quickly)

In order to achieve the above mentioned objectives, the intervention included the instruction of the following strategies: memory (associating, placing new words in context, semantic mapping), cognitive (recombining, practicing naturalistically, getting the idea quickly, using resources),

compensation (guessing intelligently using clues), metacognitive (linking with already known material, paying attention, finding out about learning, setting goals and objectives, self-evaluating), affective (using a checklist, discussing feelings) and social (asking questions and cooperating with others). At this point, it is necessary to mention that the affective and social strategies are similar for all language skills.

The listening activities, which were also based on the use of authentic material, offered opportunities for both bottom-up and top-down listening and aimed at the activation of the students' short- and long-term memory. Thus, the students were trained in a number of strategies covering once again the above-mentioned categories such as recombining, getting the idea quickly, guessing intelligently, paying attention, identifying purpose of task and self-evaluation.

One of the primary objectives of the activities related to the production of written speech was the students' familiarisation with different text genres. However, we should not forget that writing a text is a procedure that includes a series of stages such as planning, drafting, revising and editing. Thus, in the case of teaching writing, the process-genre approach was adopted. Once again, students were trained in using numerous strategies such as placing new words in context, semantic mapping, repeating, practicing naturalistically, taking notes, linking with known material, paying attention, identifying purpose of task, planning, self-monitoring and self-evaluation.

Finally, bearing in mind the students' proficiency level, the tasks related to the production of spoken language aimed mainly at achieving fluency rather than accuracy. Thus, the programme included interactional activities mainly in the form of role-plays. Some of the strategies aiming at the development of speaking were the following: formally practicing with sounds, recognising formulas and patterns, recombining, practicing naturalistically, guessing intelligently, overviewing and linking with already known material, planning for a language task, self-evaluation.

4 Results

Data elicited from students' responses to the SILL questionnaire were analysed with SPSS version 19.0. Descriptive statistics (means and standard deviations) were calculated in order to investigate the central tendency and dispersion of the student answers to the SILL items. Furthermore, a two-way repeated measures ANOVA with group (experimental, control) as a between-subject factor and time (pre-test, post-test) as a within-subject factor was used to investigate the effect of the intervention on the frequency of strategy use between groups. Finally, a post-hoc Bonferroni test was carried out where significant p-values (<0.05) were found to determine which groups were significantly different. The level of statistical significance was set at $p < 0.05$.

No statistically significant differences were found between the experimental and control group in the pre-intervention scores, for all strategies as well as for overall strategy use (see Table 2). More specifically, before the SBI took place, the mean scores of the two groups varied slightly in each strategy category as well as in the overall strategy use. The F values for the pre-test indicate that the differences in the mean strategy use both overall ($F = 2.101$) and each strategy category (F *memory* = 3.115, F *cognitive e*= 0.801, F *compensation* = 1.174, F *metacognitive* = 1.093, F *affective* = 0.082, F *social* = 0.680) were not significant. As a result, the two groups were considered to be equivalent in the pre-test phase. In the post-test, however, the F values were statistically significant between the two groups both overall as well as for each strategy category.

Table 2. Pre-, post- across the two groups for each strategy and overall

		Group	Mean	SD	N	*F*	*Significance*
Memory	Pre-	Experimental	2.31	0.57	96	3.115	0.079
		Control	2.22	0.54	96		
		Total			192		
	Post-	Experimental	2.47	0.66	96	20.589	<0.001
		Control	2.15	0.52	96		
		Total			192		
Cognitive	Pre-	Experimental	2.71	0.70	96	0.801	0.372
		Control	2.63	0.64	96		
		Total			192		
	Post-	Experimental	2.91	0.65	96	12.766	<0.001
		Control	2.59	0.57	96		
		Total			192		
Compensation	Pre-	Experimental	3.01	0.69	96	1.174	0.280
		Control	2.89	0.68	96		
		Total			192		
	Post-	Experimental	3.18	0.78	96	6.550	0.011
		Control	2.90	0.73	96		
		Total			192		
Metacognitive	Pre-	Experimental	2.71	0.83	96	1.093	0.297
		Control	2.65	0.77	96		
		Total			192		
	Post-	Experimental	2.91	0.79	96	7.280	0.008
		Control	2.62	0.72	96		
		Total			192		
Affective	Pre-	Experimental	3.07	0.79	96	0.082	0.789
		Control	3.04	0.88	96		
		Total			192		
	Post-	Experimental	3.34	1.32	96	21.542	<0.001
		Control	3.04	0.80	96		
		Total			192		
Social	Pre-	Experimental	2.56	0.80	96	0.680	0.411
		Control	2.49	0.74	96		
		Total			192		
	Post-	Experimental	2.83	0.82	96	7.063	0.009
		Control	2.52	0.80	96		
		Total			192		
Overall	Pre-	Experimental	2.71	0.54	96	2.101	0.149
		Control	2.65	0.53	96		
		Total			192		
	Post-	Experimental	2.95	0.62	96	15.703	<0.001
		Control	2.61	0.54	96		
		Total			192		

Immediately after the implementation of SBI, the experimental group showed a statistically significant improvement in strategy use both overall and for each strategy group as compared to the students of the control group (see Table 3). More specifically, the biggest gains were demonstrated in the affective and the social categories (0.27) while in the case of overall strategy use the results of the ANOVA revealed a gain of 0.24. Therefore, there is evidence that the intervention had a positive influence on the students' frequency of strategy use.

Table 3. The effect of the intervention on the frequency of strategy use (means, standard deviations, and gains in the two groups)

	Experimental (n = 96)			Control (n = 96)		
Strategy	Pretest	Posttest	Gain	Pretest	Posttest	Gain
Memory (8)	2.31 (0.57)	2.47 (0.66)	0.16*	2.22 (0.54)	2.15 (0.52)	-0.07
Cognitive (15)	2.71 (0.70)	2.91 (0.65)	0.20*	2.63 (0.64)	2.59 (0.57)	-0.04
Compensation (6)	3.01 (0.69)	3.18 (0.78)	0.17*	2.89 (0.68)	2.90 (0.73)	0.01
Metacognitive (9)	2.71 (0.83)	2.91 (0.79)	0.20*	2.65 (0.77)	2.62 (0.72)	-0.03
Affective (6)	3.07 (0.79)	3.34 (1.32)	0.27*	3.04 (0.88)	3.04 (0.80)	0.00
Social (6)	2.56 (0.80)	2.83 (0.82)	0.27*	2.49 (0.74)	2.52 (0.80)	0.03
Total (50 items)	2.71 (0.54)	2.95 (0.62)	0.24*	2.65 (0.53)	2.61 (0.54)	-0.04

Note: Gain is the mean difference (posttest minus pretest); *$p < .05$ with the Bonferonni adjustment.

However, it should be pointed out that, in all cases, the effect sizes were small. The specific finding is in agreement with Plonsky's (2011) conclusion in a meta-analysis of L2 strategy instruction, in which he pointed out that the overall effect of SBI could generally be described as small to medium.

5 Discussion

As anticipated, the results of this study are consistent with the general tenor of previous strategy-based instruction research and provide new evidence about the 'teachability' of strategies. In fact, the effectiveness of strategy training is closely related to the approach opted for by the classroom teacher. Research studies have shown that explicit strategy instruction, which informs learners of the value and purpose of learning strategies and provides them with opportunities for practice and self-evaluation, results, among others, in increased strategy use (Cohen et al., 1998; Dadour & Robbins, 1996; Gavriilidou & Papanis, 2009; Ikeda & Takeuchi, 2003; Mizumoto & Takeuchi, 2009). The fact that after the specific intervention the students of the experimental group significantly outperformed the control group in the frequency of strategy use as a whole as well as in each strategy group may well be taken as an indication of the effectiveness of the particular strategy training approach.

According to the results on the completion of the intervention, the experimental group demonstrated the biggest gains in the use of the affective and social categories. This finding could be related to the rigid and exam-oriented nature of the Greek educational system, which, despite recent reforms, is still geared towards memorisation and testing. Such an environment does not encourage the use of affective strategies such as "discussing feelings" or social strategies such as "asking questions and cooperating with others" that were practiced with the experimental group. Thus, the intervention programme introduced students to and familiarised them with more communicatively oriented strategies, and raised their awareness regarding their effective use. This finding supports the claim that students should be encouraged to experiment with a great variety of strategies and to apply them to tasks which promote creative, communicative learning (Oxford & Nyikos, 1989). Our findings also support Wenden's (1987) argument that increased strategy use is the outcome of explicit strategy instruction, since the specific teaching method enables learners to understand and evaluate how strategies are applied with certain tasks. In addition, the effective application of the intervention confirms Macaro's (2001) claim that a direct and clear presentation of strategy use is likely to be more successful than an implicit presentation.

There is also consistent evidence to indicate that the integration of explicit strategy instruction in the regular foreign language course contributed to the effectiveness of the intervention. This can be interpreted with regard to O'Malley and Chamot's (1990) assumption that learning in context is more effective, since learners can better understand how language can be applied in various situations. The specific results support also Oxford and Leaver's (1996) argument that strategy instruction is most beneficial when woven into regular and everyday foreign language learning.

In addition, our findings are in agreement with those reported in an intervention study by Gavriilidou & Papanis (2009), who also report a significant improvement in students' overall strategy use as well as in each strategy category after the completion of strategy training.

The post-intervention results reinforce the claim made by numerous researchers that strategies can be taught (Chamot, 2005; Cohen, 1998; Cohen & Macaro, 2007; Grenfell & Harris, 1999; O'Malley & Chamot, 1990; Oxford, 1990; Oxford, 2011; Psaltou-Joycey, 2010), while at the same time support the need to raise students' strategic awareness, and consequently strategy use.

6 Limitations

Although the findings of the specific study are quite promising, there are a few limitations, which suggest useful directions for future research.

First of all, the current study was based on a quantitative research design involving a questionnaire survey. The combination of quantitative and qualitative methods via, for instance, structured questionnaires and semi-structured interviews, could have reinforced the internal validity of the study and could have provided further insights regarding the learners' ability in choosing appropriate strategies for the given tasks.

In addition, the effect of the intervention on the frequency of strategy use must be interpreted cautiously as study subjects were not randomly assigned to research conditions. It should also be noted that the post-test took place shortly after the intervention and may have measured only short-term differences in strategy use which may not have been found on a delayed post-test.

Finally, replication of the findings in other population samples is necessary in order to establish validity and reliability.

7 Conclusions

This study examined the effectiveness of an intervention programme based on explicit and integrated strategy training of upper secondary school students. The increased frequency of strategy use as a whole as well as of all strategy groups in the post-intervention stage is an encouraging sign of the positive impact of the specific teaching approach and reinforces the claim that strategies are teachable.

The present research can contribute to current discussions concerning the future design of the English language curriculum in upper secondary education, which point out that the goal of lifelong learning is closely related with the integration of strategy training. In addition, it can help teachers realise the need to redefine their role and practice learner-centred teaching approaches so that, along with their students, they also become more metacognitively aware.

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