



# The Effects of the Cognitive Academic Language Learning Approach (CALLA) on Vocabulary Strategy Use by Moroccan Common Core Graders

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**Abstract**— Much of the research in the field of English language teaching indicates that not all Strategy-Based Instruction (SBI) studies have achieved successful results. Some SBI programmes have proved their efficiency in some skill areas but not in others, even within the same study (Oxford, 1989). This study explores the effect of vocabulary strategy instruction application with a sample of 40 EFL learners attending a common core class in a Moroccan high school. The student participants were divided into an experimental group, which received vocabulary strategy training, and a control group, which followed the regular English language course. Vocabulary strategy use in both groups was evaluated with the use of the adapted Vocabulary Learning Questionnaire of Gu and Johnson's (1996, pp. 673-679) (VLQ Version 3), 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 vocabulary strategy use as a whole as well as in all strategy groups. The findings of the current study prove the "teachability" of learning strategies and insist that explicit and integrated strategy training should be implemented in the EFL classroom. From a theoretical point of view, the results of the study may lead to a good understanding of the nature of language acquisition in general, particularly in foreign language learning contexts. Furthermore, the results may be very useful for practitioners who are involved in the areas of syllabus design, curriculum planning, and material development.

**Keywords**— Strategies-Based Instruction; vocabulary learning strategies; common core graders as EFL learners; Vocabulary Learning Questionnaire (VLQ).

## I. INTRODUCTION

Wilkins (1972) argues that "although very little can be given without grammar, nothing can be conveyed without vocabulary" (pp. 111–112). As a result, people can interact in a foreign language using only a few helpful words and without having any prior knowledge of its grammatical rules. This is reflected in the educational field, where vocabulary is crucial to English language teaching since learners cannot understand others or communicate their own thoughts without sufficient vocabulary. It is critical for students to acquire more productive vocabulary knowledge and to create their own

particular vocabulary learning strategies as their fluency and expression in English improve. Students usually realize the importance of vocabulary in language acquisition intuitively. Learners carry along dictionaries, not grammar books, writes Schmitt (2010). Vocabulary instruction helps learners comprehend and communicate in English. Learners carry along dictionaries, not grammar books, writes Schmitt (2010). Vocabulary instruction helps students comprehend and communicate in English.

Learning strategies research, which began in the 1970s, shifted attention away from the instructor and the teaching product and onto the learner and the learning

process. Many assertions have been made in reaction to this development concerning the value of strategy-based instruction, which "involves helping students learn more about themselves so they can try out, test, and become experts in employing the techniques that help them the most" (Oxford & Leaver, 1996, p. 228). Some of the most frequently reported benefits of strategy training include skill-specific improvement (Cohen, Weaver & Li, 1998; Macaro, 2001), 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). Although there have been cases when the effectiveness of strategy training has been questioned (Dörnyei, 2005; Rees-Miller, 1993), the general consensus is that, under the right conditions and form, it can be effective.

In the Moroccan educational context, pedagogical guidelines reforms also covered the English curriculum in secondary schools, proposing new approaches to teaching English, namely the standard-based approach (M.E.N, 2007) and the competency-based approach (M.E.N, 2009), both of which emphasize learner-centeredness. These recommendations provide a learner-centered approach to teaching EFL that emphasizes the importance of teaching learning strategies and views lifelong learning as a valuable asset for students' future lives as citizens. Although various studies have looked into the use of strategy in Moroccan higher education (El Aouri, Z., & Zerhouni, B. 2017), there has been little research into the implementation and effectiveness of these reforms in EFL high school classes.

## II. LITERATURE REVIEW

### 2.1. Strategy-Based Instruction

The SBI approach's main concept is to make L2 learners more aware of the strategies available, as well as how to organize and employ them properly and successfully in new language learning circumstances (Cohen, 2007). According to Chamot (2004), explicit learning strategy-instruction, which is the focus of this study, is primarily concerned with the development of students' awareness of the strategies they employ, teacher modeling of strategic thinking, student practice with new strategies, student self-evaluation of the strategies employed, and practice in transferring strategies to new tasks. Rebekka Oxford (1993) proposed four models for teaching learning strategies: (1) using a checklist and/or an interview; (2) embedding strategies into L2 learners' pedagogy and then practicing them implicitly; (3) using specific compensatory techniques to help students overcome specific weaknesses immediately; and (4)

introducing some strategy textbooks as part of a content-centered approach (Brown, 2001). The strategy instruction paradigm used in this study is explicit and includes a checklist.

### 2.2. Vocabulary Language Learning Strategies

In the acquisition of a second language, vocabulary learning strategies are a subset of general learning strategies. The 1970s saw the emergence of studies on the characteristics of good language learners, which led to a boom in interest in learning strategies (Naiman et al. 1978; Rubin, 1975). Learning strategies are "the special thoughts or behaviors that individuals utilize to help them absorb, remember, or retain new information" (O'Malley & Chamot. 1990, p.1). This term raises the question of whether language acquisition is unintentional or intentional, a topic that has sparked significant controversy in the literature. For a variety of reasons, a call has been made for learners to enhance their approach to learning vocabulary. Sokmen (1997, p. 225) advocates assisting students in learning how to acquire vocabulary on their own, stating that "it is impossible for learners to absorb all of the vocabulary they require in the classroom." According to Cunningsworth (1995), helping students establish their own vocabulary acquisition strategies is a "potent strategy" that can be based on language sensitization, development of sound dictionary skills, and reflection on effective learning procedures.

Given the significance of these strategies, it is worthwhile to study vocabulary acquisition strategies and how they aid in vocabulary development, as well as which strategies textbooks should offer to students. Brown and Payne (1994) describe five stages in the process of learning a foreign language's vocabulary: (a) having sources for learning new words; (b) acquiring a clear image, either visual or auditory or both, of the forms of the new words; (c) learning the meaning of the words; (d) forming a strong memory association between the forms and meanings of the words; and (e) employing the words. As a result, all vocabulary learning strategies, to varying degrees, should be linked to these five steps (Fan, 2003).

In summary, a vocabulary learning strategies can be seen from at least three different perspectives. To begin with, a vocabulary learning strategy can be defined generally as any action taken by the learner to aid in the learning of new vocabulary. When a learner needs to study words, he or she employs a technique or strategy. Second, a vocabulary learning strategy could only be associated with acts that increase the efficiency of vocabulary acquisition. As a result, there are actions that students may take that do not improve the learning process—a totally plausible scenario for weak learners. Third, a vocabulary

acquisition approach may be linked to the learner's conscious (rather than unconscious) actions when studying new words. Learners should ideally be made aware of "excellent" and efficient strategies, allowing them to freely and consciously select the ones that suit them the best. It should be noted, however, that a strategy that works well for one student may not work for another, and that one strategy may function better than another in specific learning circumstances.

### 2.3. The Importance of Vocabulary Language Learning Strategies

The fundamental advantage of all learning strategies, including vocabulary learning strategies, is that they allow students to take more responsibility for their studies by allowing them to take charge of their own learning. As a result, the tactics promote "learner autonomy, independence, and self-direction" (Oxford & Nyikos, 1989, p. 291). Students can choose how they want to deal with unknown words by using a variety of vocabulary learning tools. Nation (2001) argues that vocabulary learning practices can help students of all language levels acquire a substantial amount of vocabulary. Because learning strategies are "easily teachable" (Oxford & Nyikos 1989, p. 291), the time teachers spend teaching learners various methods of vocabulary study and practice cannot be deemed wasted. Moreover, Cameron (2001) believes that youngsters may not be able to implement vocabulary acquisition procedures on their own and should be taught how to do so.

The role of learner autonomy in vocabulary learning has long been recognized by linguists. Gairns and Redman (1986) believe that students should take more responsibility for their education and pay more attention to individual requirements. Time spent on teaching may be misplaced because it becomes increasingly difficult for teachers to find terminology that is equally valuable to all students after elementary school. Schmitt (2000) emphasizes the value of assisting students in developing the skills they will need to learn words on their own. The main purpose of the current study is to provide systematic vocabulary training to allow learners to master specific strategies for acquiring words even outside of their classrooms, as Oxford and Scarcella (1994) suggest.

### 2.4. Taxonomy of Vocabulary Language Learning Strategies

Schmitt (1997) distinguishes two types of L2 vocabulary learning strategies: discovery and consolidation strategies. Learners use discovery strategies to determine the meanings of newly encountered words, while consolidation strategies are used to consolidate meanings when the words are encountered again. The former is concerned with decision-making and social strategies, whereas the latter is concerned with various social, memory, cognitive, and metacognitive strategies. Schmitt's classification, which is based on Oxford's (1990) categorization of language learning strategies, separates strategies into five categories: determination, social, memory, cognitive, and metacognitive, as seen in the chart below:

Category 1: Strategies for the discovery of a new word's meaning		Category 2: Strategies for consolidating a word that has been already encountered			
Determination Strategies (DET)	Social Strategies	Social Strategies	Memory Strategies	Cognitive Strategies	Metacognitive strategies
<ul style="list-style-type: none"> <li>-Analyze parts of speech;</li> <li>-Analyze affixes and roots;</li> <li>-Look for L1 cognate;</li> <li>-Analyze any available pictures or gestures;</li> <li>-Guess meaning from textual context;</li> <li>-Use a dictionary (bilingual or monolingual).</li> </ul>	<ul style="list-style-type: none"> <li>-Ask the teacher for a synonym, paraphrase, or L1 translation of the new word;</li> <li>-Ask a classmate for meaning.</li> </ul>	<ul style="list-style-type: none"> <li>-Study and practice meaning in a group;</li> <li>-Interact with native speaker.</li> </ul>	<ul style="list-style-type: none"> <li>-Connect the word to a previous personal experience;</li> <li>-Associate the word with its coordinates;</li> <li>-Connect the word with its synonyms and antonyms;</li> <li>-Use semantic maps;</li> <li>-Image word form;</li> <li>-Image word's meaning;</li> <li>-Use Keyword Method;</li> <li>-Group words together to study them;</li> <li>-Study the spelling of a word;</li> <li>-Say new words aloud when studying;</li> <li>-Use physical action when learning a word.</li> </ul>	<ul style="list-style-type: none"> <li>-Verbal repetition;</li> <li>-Written repetition;</li> <li>-Word lists;</li> <li>-Put English labels on physical objects.</li> </ul>	<ul style="list-style-type: none"> <li>-Use English-language media (songs, movies, newscasts, etc.);</li> <li>-Test oneself with word tests;</li> <li>-Skip or pass new words;</li> <li>-Continue to study words over time.</li> </ul>

The Vocabulary Strategy Inventory Offered by Schmitt (1997)

Winke (2001) conducted a study that focused on the overall utilization of VLLS. The findings of the study demonstrated that students utilized non-negotiating (direct) and negotiating (indirect) strategies to learn Chinese as a foreign language as well. By taking notes in class and practicing words at home, they modeled and repeated words, learned words, and wrote words. Further, the outcome of the study revealed that most class time was spent with the teacher modeling and the students repeating, or with the students being called on one by one. Neither group work nor discussions amongst themselves in Chinese outside of the normal greetings of the day were practiced.

According to Marefat and Shirazi (2003), learners' use of strategy in short-term retention greatly surpasses their usage in long-term retention. The employment of memory strategies was shown in both short-term and long-term retention. Cognitive and compensatory strategies were the second and third most popular strategies, respectively. Rasekh and Ranjbry (2003) discovered that explicit metacognitive strategy training has a considerable favorable impact on EFL students' vocabulary learning. According to them, the research was important and valuable to both teachers and students since it helped eradicate misconceptions about learning English. Teachers were able to establish a more fascinating learning environment and a better classroom mood. For example, they can tell students about many appropriate VLLS and attempt to persuade them that learning English is fun and exciting. As a result, learners may perform better on their vocabulary tests. Many experts believe that if EFL/ESL students are aware of VLLS, they can focus on one or two specific strategies that are more appropriate for them in order to improve their learning and vocabulary development. In their study, Rasekh and Ranjbary (2003) discovered that explicit metacognitive strategy training has a considerable favorable influence on EFL students' vocabulary learning. According to another study by Ahmadi, M. R., Ismail, H. N., and Abdullah, M. K. K. (2012), a lack of good vocabulary learning skills is a major barrier to learning a foreign language. The explicit teaching of vocabulary acquisition method addresses the issue of poor vocabulary abilities. Researchers identify essential concepts, describe vocabulary process models, follow reciprocal teaching tactics, explore cognitive and meta-cognitive strategies, build on reciprocal teaching studies, and declare the relationship between reciprocal teaching and vocabulary learning. According to their data, reciprocal instruction has a considerable favorable influence on foreign language learning.

This current study will look into how a learner might increase his or her vocabulary and language

acquisition by providing them with enough knowledge about the various VLLS available and advising them on which technique is most practical for them. The goal of this research is to see how VLLS influence English learners' ability to acquire new words. It's crucial to notice that learning is prioritized over memorizing words. Memorization isn't always required for learning. On the contrary, it is unlikely that something taught properly will be forgotten because it will be stored in the long-term memory.

In summary, there is empirical evidence that language learning strategies play a role in learning foreign and second languages; however, there is little actual data and research about Moroccan students' use of VLLS. Thus, this study aims at training EFL learners in the use of VLLS through a strategy-based instruction program seeking to answer the following question: Does explicit and integrated strategy instruction lead to increased self-reported strategy use among Moroccan high school students?

### III. METHOD

#### 3.1 The study Design

The current study was carried out using a quasi-experimental research method that included a "pre-test-post-test control-group design" (Dörnyei, 2007). In many educational environments, researchers utilize a "quasi-experimental design" because random assignment of students is rarely possible due to practical constraints, as is the case in ours. Despite the fact that such a design makes 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). The research was done in three stages; in the first phase, both the experimental and control group participants completed an adapted version of Gu and Johnson's (1996, pp. 673-679) Vocabulary Learning Questionnaire (VLQ Version 3). The total number of strategies used, as well as the number of strategies used in each strategy category, were reported in this questionnaire. In the second phase, the experimental group received vocabulary strategy-based training for twelve weeks, whereas the control group received normal FL instruction. The frequency of strategy use was examined for both groups using the same questionnaire in the final stage, which followed the end of the treatment. The dependent variable is the frequency of strategy use in general and for each of the strategy categories, which is expected to be influenced by the independent variables, which are the intervention (experimental and control

groups) and the assessment (before and after the intervention).

### 3.2 The Study Instrument

The study's questionnaire is based on Gu and Johnson's (1996, pp. 673-679) Vocabulary Learning Questionnaire (VLQ Version 3) with some parts from O'Malley and Chamot (1990) and Gu and Johnson's (1996) classification of vocabulary learning procedures. The reason for this was their thorough comprehensiveness, with a high validity quotient of 0.80 or above in most cases for the questions, and an alpha value of 0.627 in the circumstances where it was slightly less, indicating that they were valid and reliable. The questionnaire was designed to collect information regarding learners' use of vocabulary learning strategies before and after the intervention for both the control and experimental groups. Therefore, the students were instructed to read the statements attentively and tick the answers that corresponded to their opinion on a scale of 1 to 5, where 5 = highly agree, 4 = agree, 3 = undecided, 2 = disagree, and 1 = strongly disagree. The final version of the questionnaire included 38 items that solicited the learner's feedback on vocabulary learning strategies, which were organized as follows:

Cognitive strategies (question items: 14, 16, 18, 30, 31)

Memory strategies (question items: 17, 19, 20, 21, 22, 23, 25, 26, 27, 28)

Metacognitive strategies (question items: 11, 15, 29, 38)

Determination strategies (question items: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 36, 37)

Social strategies (question items: 32, 33, 34, 35)

The questionnaire was administered to 40 students (20 students from the experimental group and 20 from the control group) in the common core grade to whom English is taught as EFL at Mohamed Chraïbi high school, Morocco. The questionnaire was handed to them in class, and they were given enough time to complete it. It is also worth noting that the questionnaire was translated into Arabic to make it easy to understand and process.

### 3.3 The intervention Programme

The specific intervention, delivered to the experimental group by the teacher/researcher herself, was based on the incorporation of explicit vocabulary strategy training into the FL curriculum from the beginning of October to the end of December of the school year 2021/2022. The control group, on the other hand, adhered only to the conventional curriculum as provided by the

students' EFL teacher. The identical English textbook was used to teach both groups (*Visa to the World*). Given the mixed-ability nature of the classroom, strategy training entailed simplifying the usage of the foreign language in order to name the strategy, explain its use, and model it frequently. As a result, all students, regardless of proficiency level, could become familiar with the process of reflection on their learning while the teacher had a more accurate picture of the intervention's impact.

In the course of strategy training, the CALLA (The Cognitive Academic Language Learning Approach) instructional design, which consists of five phases: preparation, presentation, practice, assessment, and expansion (Chamot, Barnhardt, El-Dinary, & Robbins, 1999), was used.

The preparation stage is critical to delivering a learner-centered classroom, which is at the heart of strategy training. To achieve the abovementioned purpose, a pre-vocabulary strategies questionnaire was administered to determine the participants' existing awareness, if any, of vocabulary strategies, as heightened awareness of the learners on the influence of language learning strategies is required to establish a learner-centered classroom environment. The researchers launched a short question-and-answer session while teaching a vocabulary strategy, with the ultimate goal of activating participants' background knowledge related to the strategy. For example, before introducing the vocabulary strategy "guessing," participants were asked, "what do you do to understand unknown words when you are not allowed to consult a dictionary or question a teacher or a peer about them?"

In the presentation phase, vocabulary strategies were explicitly modeled, explained, and named. The vocabulary strategies were chosen and explicitly modeled for the participants based on the content of the vocabulary tasks in the participants' regular course book.

In the practice phase, the experimental group students practiced the strategies that the researcher had explicitly described and modeled. The participants were instructed to use the prepared strategies for the vocabulary tasks that might be better handled by using predetermined strategies.

In the evaluation phase, participants in the experimental group rated the new language strategies they encountered and learned during the training. The students were mostly responsible for assessing the effectiveness of the learning strategy, but the instructor was occasionally present to provide feedback.

According to Chamot et al. (1999), effective strategy learning necessitates the ability to transfer a

strategy from a familiar setting to an unfamiliar one. Throughout the expansion phase, learners should be able to determine which method to employ when confronted with a challenge. As a result, the researcher followed the participants' use of vocabulary strategies during vocabulary tasks throughout their regular English course once the training was completed. They were encouraged to use vocabulary learning strategies to achieve higher levels of English proficiency.

#### IV. RESULTS

Data elicited from students' responses to the Gu and Johnson's (1996, pp. 673-679) Vocabulary Learning Questionnaire (VLQ Version 3) was analysed with SPSS version 22.0. Descriptive statistics (means and standard deviations) were calculated in order to investigate the central tendency and dispersion of the student answers to the VLQ items. Furthermore, an independent samples test

with the two groups (experimental and 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. No statistically significant differences were found between the experimental and control groups in the pre-intervention scores for all strategies as well as for overall strategy use (see Table 1). 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. As a result, the two groups were considered equivalent in the pre-test phase. Moreover, students of both groups described determination strategies as the most used VLLS, with a mean score of 25.35 for the experimental group and 25.10 for the control group. According to Schmitt's classification, determination strategies are used to determine the meaning of new words when learners first encounter them.

Table1: Strategy use for the experimental and control group before the SBI intervention

Strategies	Experimental group		Control group	
	Mean	Sts.D	Mean	Sts.D
Cognitive	12.70	2.342	12.60	2.942
Memory	21.00	4.052	21.25	4.042
Metacognitive	10.65	2.870	10.80	2.090
Determination	25.35	6.596	25.10	6.476
Social	11.20	2.484	12.10	2.504
Total	18.00		17.95	

In the post-test, 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 2 and 3). More

specifically, the greatest means were demonstrated in the categories of memory and determination. Therefore, there is evidence that the intervention had a positive influence on the students' frequency of strategy use for all categories.

Table2: Paired sample T-test on VLLS use before and after the SBI intervention for the experimental group

Experimental Group						
Types of Strategies	Source	Mean	Std.D	df	T	sig
Cognitive	Pre	12.70	2.342	19	-10.839	.083
	Post	21.15	1.814			
Memory	Pre	21.00	4.052	19	-13.220	.049
	Post	38.10	6.315			
Metacognitive	Pre	10.65	2.870	19	-15.930	.000
	Post	17.80	1.576			
Determination	Pre	25.35	6.596	19	-20.949	.000
	Post	55.95	9.327			

Social	Pre	11.20	2.484	19	-14.927	.003
	Post	17.65	1.424			

Table3: Paired sample T-test on VLLS use before and after the SBI intervention for the control group.

Control group						
Types of Strategies	Source	Mean	Std.D	df	T	sig
Cognitive	Pre	12.60	2.942	19	576	.577
	Post	12.35	2.084			
Memory	Pre	21.25	4.042	19	-295	.772
	Post	21.30	4.755			
Metacognitive	Pre	10.80	2.090	19	-243	.810
	Post	10.95	2.986			
Determination	Pre	25.10	6.476	19	1.542	.140
	Post	25.00	6.607			
Social	Pre	12.10	2.504	19	-0.89	.930
	Post	12.20	2.594			

## V. DISCUSSION

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 particular vocabulary language learning strategies. In fact, the effectiveness of strategy training is closely related to the approach opted for by the class-room teacher. Research studies have shown that explicit strategy instruction informs learners of the value and purpose of learning strategies and provides them with opportunities for practice and self-evaluation, which results, among others, in increased strategy use (Cohen et al., 1998; Daddour & Robbins, 1996; Gavriilidou & Papanis, 2009; Carlo, M. S., August, D., & Snow, C. E. (2005); Rahimi, S. (2014)). 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 after the completion of the intervention, the experimental group demonstrated the greatest mean in the use of the determination and memory categories, with a high significance of  $00.00 < 0.05$  for both determination and metacognitive strategies. It is still believed that the Moroccan educational system has an exam-oriented nature and is still geared towards memorization despite recent reforms (Zakki, S. 2017). Such an environment does not encourage the use of

determination strategies such as trying to understand the meaning of words first encountered 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 familiarized 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 that promote creative and communicative learning (Oxford & Nyikos, 1989). Our findings also support Yang, C., & Liu, X. (2014)'s 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 to certain tasks. In addition, the effective application of the intervention confirms Stahl, S. A., & Fairbanks, M. M.'s (1986) 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, to teach the language in general, not only vocabulary, 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 also support 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 supporting the need to raise students' strategic awareness and, consequently, strategy use.

## VI. LIMITATIONS

Although the specific study's findings 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 to choose 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. Moreover, it is concerned only with one part, which is teaching VLLS, whereas it could be more fruitful if it entailed training students on the four skills through the SBI approach. Finally, replication of the intervention in other population samples is still necessary in order to establish validity and reliability.

## VII. CONCLUSIONS

This study examined the effectiveness of an intervention programme based on explicit and integrated vocabulary strategy training for Moroccan common-core students to learn English vocabulary. The increased frequency of strategy use by 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 secondary education, which point out that the goal of life-long learning is closely related to the integration of strategy training. In addition, it can help teachers realize the need to redefine their role and practice learner-centered teaching approaches so that, along with their students, they also become more metacognitively aware. Nevertheless, further analysis of new data to be collected will provide additional information about the effectiveness of direct integrated strategy instruction programmes vs. embedded or separate programmes or the interactions among various variables such as gender and age (attended class) taken under consideration in other studies.

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