

# FULGOR

## Flinders University Languages Group Online Review

Volume 4, Issue 3, December 2011

<http://ehlt.flinders.edu.au/deptlang/fulgor/>

ISSN 1446-9219

### Explicit strategy training in vocabulary learning for beginning Spanish students

Natalia Bornay  
Flinders University

#### ABSTRACT

The teaching and learning of vocabulary in second and foreign language contexts is a controversial issue. Research in the field of vocabulary acquisition has revealed that the use of vocabulary learning strategies (VLS) when learning new words can assist language learners in overcoming retention and recall difficulties. However, there is still no consensus about the most effective method for teaching learning strategies. This paper presents a study of memory strategy training for learning new vocabulary conducted with first-year university students of Spanish. Students were exposed to explicit instruction in two memory strategies over six weeks and were invited to reflect on their usefulness. The findings suggested that explicit strategy training can contribute to developing participants' VLS repertoire, raise participants' metacognitive awareness and enhance their regulatory skills.

#### Introduction

Throughout the history of Second Language Acquisition, most language teaching methods have generally paid limited attention to teaching vocabulary (Zimmerman 1997). Vocabulary acquisition has often been underestimated and neglected in favour of grammar or phonology (Coady 1997). Nevertheless, in the past few decades, vocabulary has assumed a much more important role in language learning and teaching and has been viewed by some researchers as pivotal to effective language instruction (Hatch 1983; Zimmerman 1997). According to these researchers, vocabulary is paramount and the proper focus of study at early stages of second and foreign language learning. Research indicates that, in order to achieve fundamental lexical competence, beginner language learners need an average of 3,000 word families. If derivatives are included, this number could increase to over 5,000 lexical items (Laufer 1997).

In spite of this changing view acknowledging the relevance of vocabulary, explicit vocabulary instruction has traditionally not been included in second language classes and students are given sole responsibility for learning new lexicon (Oxford & Scarcella 1994). In fact, the attitudes of teachers and students towards the teaching and learning of vocabulary in a second or foreign language have been found to be almost opposite (Coady 1997). Whereas teachers believe that words are easy to learn, students consider that words are important and want to learn them. Coady emphasised that the teaching of vocabulary was regarded by many teachers and scholars as a “low level intellectual activity unworthy of their full attention” (p. 274). For this reason, many language teachers do not think that teaching vocabulary in class is relevant, despite students requesting such instruction.

However, as a result of several studies, an increasing number of researchers strongly encourage the teaching of vocabulary explicitly. Oxford and Crookall (1990), for instance, argue that most adult learners need, and benefit from, direct vocabulary instruction because they cannot acquire every word solely through incidental learning. Oxford and Scarcella (1994) also support the view that vocabulary should be systematically taught to language learners and recommend placing considerable emphasis on the use of vocabulary learning strategies.

Many studies in the field of second language vocabulary acquisition have revealed that the use of VLS when learning new words can assist language learners in overcoming retention and recall difficulties (Cohen & Aphek 1981; O'Malley 1987; Brown & Perry 1991; Cohen 1998; Tassana-Ngam 2004). Research also indicates that vocabulary acquisition is a major challenge for beginner language learners since they have to store a large number of new words in their long-term memory in a short period of time (Oxford & Scarcella 1994). Memory strategies have proved to be very helpful when learning new words since they facilitate the storage and retrieval of new information when it is needed for comprehension or production (Oxford 1990).

### **Introducing the Study**

The study whose results this article presents aimed at incorporating the teaching of two memory strategies to beginner language learners in order to investigate the impact of explicit strategy training on vocabulary learning. The selected strategies were ‘grouping’ and ‘mind-mapping’. Oxford and Scarcella (1994) classify both strategies as partially contextualised activities, useful in facilitating vocabulary acquisition, since they provide some context.

‘Grouping’ involves classifying language material into meaningful groups according to a particular feature. This strategy has an organisational function because it helps in sorting information and breaking it down into smaller, more cohesive units which are easier to remember (Oxford 1990). ‘Mind-mapping’ not only categorises words into groups but also demonstrates visually how groups of words relate to each other. This strategy may be particularly helpful for visual learners as it involves linking concepts and their relationships with lines or arrows on paper, which highlights the key concepts (Oxford 1990). When used as a group activity, ‘mind-mapping’ has been shown to produce better performance. This strategy can be even more successful when presented as a collaborative task between the teacher and the class (Stahl & Vancil 1986 in Nation & Newton 1997).

The study that this article is based on grew out of a pilot study (Bornay 2006) that investigated the effectiveness of ‘grouping’ when learning vocabulary in Spanish. The main objective of the pilot study was to develop a single student’s metacognitive awareness by explicitly teaching a selected memory strategy and assisting the student to become aware of her own strategy use. The results revealed significant improvement in the student’s memory

performance and also showed that the student had acquired the procedural and conditional knowledge (Anderson 1983) of the strategy after four individual interventions.

The decision to conduct further research was reinforced after reviewing students' comments from the student evaluations of the Spanish beginners' courses at the tertiary research site. In 2007 and 2008, several students complained in the evaluations about the fact that "there was a serious vocabulary overload" and requested "more methods to help us remember vocabulary".

As a consequence, a research plan was designed with the aim of teaching two memory strategies to a whole class. The purpose of the study was to investigate whether explicit strategy instruction embedded in the language classroom would have positive effects on vocabulary acquisition at the beginner level and whether it could contribute to the development of students' metacognitive awareness. Three questions formed the focus of the study:

1. Do beginner students of Spanish, at tertiary level, use learning strategies to learn new vocabulary? If so, which ones?
2. Does explicit strategy training develop students' metacognitive awareness by enhancing their VLS repertoire and by helping them to learn in self-regulated situations?
3. Do students find explicit strategy training effective and useful?

## **Method**

### **Design**

The study used an intervention method. In the first six weeks of the semester, participants received language instruction without strategy training. The intervention took place in the second six-week period, in which students were offered explicit instruction in two memory strategies. Each week of the semester consisted of two sessions of two hours each. Importantly, the course was highly organised around specific content leaving little room for strategy instruction. This restriction constituted one of the main difficulties for the study and the strategy training required adaptation to suit the course content.

### **Participants**

Participation in the study was voluntary. The sample consisted of sixteen students attending a twelve-week Spanish beginners' course at tertiary level in Semester 1 in 2008. The researcher was also the teacher of these sixteen students/participants. Participants were selected by convenience from a population of 130 students enrolled in the beginners' Spanish course. The students/participants were selected according to three criteria: i) being enrolled in the Spanish beginners' course; ii) being a member of the group taught by the researcher; and iii) having very little or no previous knowledge of Spanish. The initial target sample was the nineteen students enrolled in the researcher's group. Three students, however, were excluded from the study because of irregular attendance, which meant that they were not present in many tutorials with strategy training. Participants provided demographic information about gender (5 males, 11 females), age (18 to 42 years), and native language (English: 14 participants; Yoruba: 1 participant; Tamil: 1 participant). All participants had studied at least one foreign language before.

### **Instruments**

Three vocabulary tests and a final questionnaire with open-ended questions were administered in class to monitor the effects of strategy training over six weeks. The vocabulary tests were completed before strategy instruction started (week 7), after both strategies had been introduced (week 9), and when the semester and the strategy training had finished (week 12). Tests lasted 15 minutes (five minutes for each part) and took place in class time, although they were not part of the course assessment. Every test had three parts. Part 1 consisted of a list of 22 new Spanish words and their English equivalents which were randomly selected from the next chapter of the course textbook on each occasion. The task was to memorise these words in the given time. In part 2, the same list including only the English meanings was presented in a different order to be completed with the Spanish words. Part 3 asked several open-ended questions to identify which strategies students had employed to memorize the words from the list in Part 1, and which strategies they had used in self-regulated situations, such as a test that formed part of the course assessment. A final questionnaire with four open-ended questions inviting participants to evaluate their views regarding the explicit strategy training as well as the strategies learned in class was distributed at the end of the semester (week 12).

### **Administration**

Participants were taught the two memory strategies, ‘grouping’ and ‘mind-mapping’, using the theoretical framework underlying the Cognitive Academic Language Learning Approach (CALLA) (Chamot & O’Malley, 1994). The CALLA model advocates highly explicit strategy instruction organised in five recursive stages. This approach is very flexible because the order in which the stages take place can be altered in accordance with students’ prior knowledge. As exemplified next, the stages can be integrated into classroom language activities and repeated with new strategies:

1. Preparation: this phase aims to explain the relevance of learning strategies in language learning in order to assist students to develop their metacognitive awareness of the relationship between their own mental processes and effective learning. After completing the first vocabulary test (week 7), students were introduced to the concept of learning strategies and were invited to identify the strategies they were already using.

2. Presentation: the teacher models the strategy by describing its characteristics, usefulness, and applications through examples. Both strategies were presented in different sessions. ‘Grouping’ was presented in the same session as the concept of learning strategies was explained to students in order to provide a practical example (week 7/ session 2). ‘Mind-mapping’ was first modelled for students in the second session of week 8. Students reported being familiar with ‘mind-mapping’, so the strategy was only briefly introduced and the practice phase started immediately.

3. Practice: this phase took place over several sessions. Participants were provided with opportunities to employ the learning strategies in authentic learning tasks and were guided by the teacher.

The following are two examples of activities conducted to practise each strategy.

- a) In the first activity, ‘mind-mapping’ was used to practise and review vocabulary relating to actions. The task consisted of filling out a number of categories of action by recalling relevant words from Chapters 1 and 2 of the course book. Participants were given only the main category, ‘my activities’, and possible subcategories such as ‘boring activities’, ‘daily activities’ and ‘favorite activities’. Due to the complexity of the exercise, this activity was done in groups. An A3 sheet of paper was used to allow for the extensive amount of vocabulary that could be displayed in a mind-

map. Participants were encouraged to apply different colors to highlight the main concepts and visually distinguish different categories. The activity was teacher-guided and students were allowed to use their textbooks as it was the first time they had used the strategy on their own. Participants were actively engaged for nearly an hour in this activity and created complex mind-maps. Figure 1 shows an example of a mind-map elaborated by one of the groups of students:

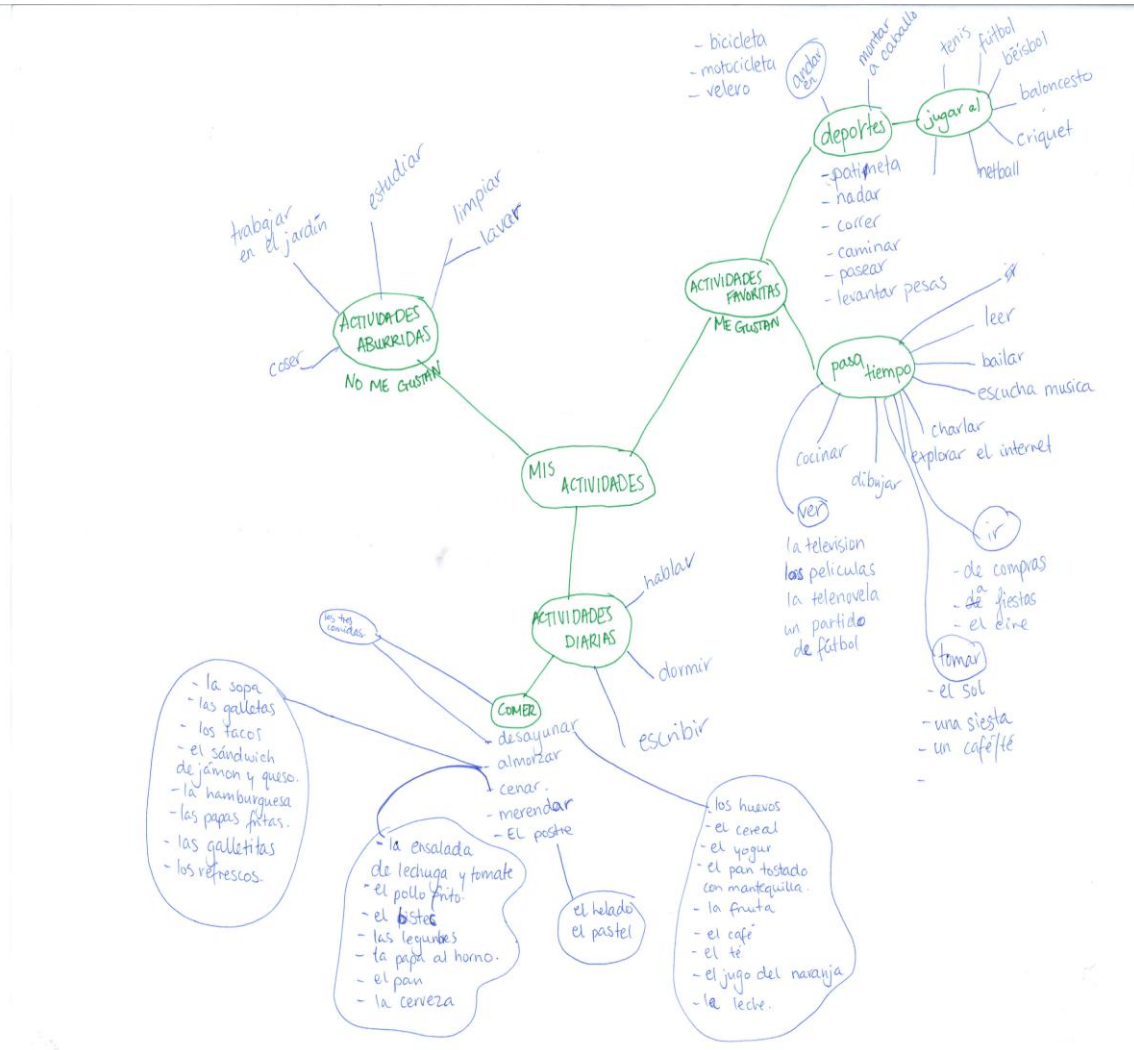


Figure 1: An example of a mind-map compiled in week 8; single group effort (Bornay 2009: 29).

b) In the second activity, participants were asked how they would learn the different nationalities of Latin America (week 9/session 2). Participants agreed that ‘grouping’ would be the most appropriate strategy for learning the words. After a class discussion, it was unanimously agreed to group them by their endings as the endings were the most difficult retention aspect. Table 1 illustrates the final lists originated by the students.

Table 1: Example of grouping ‘Las nacionalidades hispanoamericanas’ (Bornay 2009: 31)

<i>-ano/-eno/-ino</i>	<i>-ayo</i>	<i>-ense</i>	<i>-eño</i>	<i>-eco</i>
<i>peruano</i>	<i>paraguayo</i>	<i>costarricense</i>	<i>panameño</i>	<i>guatemalteco</i>
<i>boliviano</i>	<i>uruguayo</i>	<i>nicaragüense</i>	<i>puertorriqueño</i>	
<i>colombiano</i>			<i>salvadoreño</i>	
<i>venezolano</i>			<i>caribeño</i>	
<i>cubano</i>			<i>hondureño</i>	
<i>mexicano</i>				
<i>ecuatoriano</i>				
<i>dominicano</i>				
<i>chileno</i>				
<i>argentino</i>				

4. Evaluation: at this stage, students decide whether a strategy is useful in solving a learning task. This stage involves reflection and is very important because it seeks to assist students with developing their metacognitive skills and their own learning processes. Generally, a brief class discussion was prompted after practising each strategy or when deciding the most appropriate strategy for a specific activity. For example, after finishing the mind-map about activities (Figure 1), participants regarded the strategy as useful because “it helps you see the relationships between the words” and “there is a core and ideas expand and come easier to your mind” (field note taken at the research site). However, participants also observed negative aspects: “it becomes overwhelming with a lot of information” and “you need a bigger [piece of] paper than usual” (field note taken at the research site).

5. Expansion: this phase aims to encourage students to use the strategies that they find most effective by applying these strategies to new contexts and devising their own individual combinations and interpretations of related metacognitive learning strategies. An initial expansion activity suggested to the participants was to add more words to the mind-maps created in class when learning this vocabulary in self-regulated situations.

## Method of Analysis

### *Qualitative analysis*

Qualitative data collection was used to provide an analysis of beginner language learners’ use and awareness of learning strategies to facilitate vocabulary acquisition as well as an evaluation of explicit strategy instruction from a learner’s perspective. Students’ written responses explaining how they learned new words were classified under one of the three stages of Anderson’s framework for describing cognitive skill acquisition: cognitive, associative, and autonomous (Anderson, 1983, 1985 in O’Malley & Chamot 1990: 25). The collected data from the final evaluation questionnaire provided participants’ views on the usefulness of the taught strategies and the embedded strategy instruction.

The data analysis revealed that, during the VLS training, some students had continued to develop their own learning strategies even though, in some instances, they may not have become autonomous in the use of ‘grouping’ or ‘mind-mapping’. For this reason, it was considered necessary to include an additional stage to Anderson’s framework of strategy skill acquisition. A fourth stage, labelled ‘Autonomous Stage - Other Strategies’, was created to indicate participant autonomy in a range of VLS not included in the strategy choices used in the intervention. This extra category can be considered the highest degree of self-regulation that participants can achieve within this framework as they are providing evidence of becoming independent learners through employing strategies they have developed individually. Each participant’s progress over the entire period was charted individually and

their comments, in particular those that provided evidence of metacognitive awareness, were categorized according to the four stages of strategy skill acquisition defined in Table 2.

Table 2: Definition of stages of strategy skill acquisition

<b>Cognitive stage</b>	<b>Associative stage</b>	<b>Autonomous stage</b>	<b>Autonomous stage (Other Strategies)</b>
<i>Declarative knowledge</i> (what an individual knows about a skill).  Very deliberate performance with errors.	<i>Procedural knowledge</i> (demonstrating knowledge of <b>how</b> to use the skill).  Close to expert performance with few errors.	<i>Conditional knowledge</i> (demonstrating knowledge of <b>when</b> and <b>why</b> to use the skill).  Automatic skill performance without errors.	<i>Development of other strategies</i> (progression in other learning strategies, as distinct from progress related to the explicit strategy instruction used in the interventions in this study)

Adapted from Rossetto (2007) based on the work of Anderson (1983, 1985) for identification of the stages of strategy skill acquisition (in O'Malley & Chamot 1990).

### *Quantitative analysis*

Even though this was a qualitative study, a quantitative comparison of the students' results in the vocabulary tests was conducted to ascertain whether their performance improved after the strategy training. The quantitative part of the analysis consisted of scoring the vocabulary tests and measuring whether there was an improvement in word recall. The test scoring criteria were: 1 point if the word was correct, 0.5 points if the word had one spelling mistake or an incorrect accent, and 0 if a word had more than one mistake or an incorrect meaning. Despite the limited number of participants, an analysis of variance (ANOVA) was undertaken with score as a within-subjects factor, followed by post-hoc tests (LSD) as a pilot/exploratory study to corroborate whether the test results were statistically significant ( $p < 0.05$ ).

## **Results and Discussion**

### **Degree and Stages of Strategy Acquisition**

The data revealed that one participant (6.25%) achieved the cognitive stage for 'grouping'; two participants (12.5%) reached the associative stage for 'grouping'; another three participants (18.75%) reached the associative stage for 'grouping' in addition to the autonomous stage (other strategies); three students (18.75%) achieved the autonomous stage for both strategies; two participants (12.5%) reached the autonomous stage (other strategies); and five students (31.25%) were successful at the autonomous stages for the instructed strategies as well as for other strategies. These positive results were achieved after only one twelve-week semester of Spanish at beginner level and an intervention period related to the incorporation of VLS learning that had a brief, six week duration. In many cases, participants' comments consisted of students' reflections on the learning process and the most effective ways for them to learn, thereby providing evidence of metacognitive awareness. A selection of students' comments that best illustrate each stage of strategy skill acquisition, together with written evidence that supports their answers, is presented next.

### *Cognitive Stage*

Participants who achieved the cognitive stage had acquired declarative knowledge of the strategy, that is, they were able to comment on *what* they knew about the strategy. Participant

13 (P13) was able to name and describe the strategy: “grouping makes you understand words in the same category which is useful for differentiation.”

#### *Associative Stage*

Participants who provided evidence of having reached this incipient phase of strategy use when learning for the vocabulary tests were classified in this stage. For instance, P14 reported using ‘grouping’ and provided some examples. In addition, and as illustrated in Figure 2, there is written evidence of her using ‘grouping’.

Things  
afeitadora  
Juguete  
Japón  
globo  
toalla  
vela

Festivals  
Pascoa

Verbs  
ducharse  
peinarse  
gritar  
acostarse  
traer  
encender  
quedarse  
maquillarse  
vestirse

Feeling

Figure 2: Examples of ‘grouping’ on Test 2 (P14) (Bornay 2009: 55)

#### *Autonomous Stage*

The autonomous stage was reached if a student was able to use a given strategy automatically and/or select an effective strategy to complete a learning task in a self-regulated context without being prompted to use strategies. For example, P12, who reported using the strategies independently, gave specific examples and explained why they were useful: “Strategies were useful when I was studying for my [in-class] exam. I grouped the feelings and the holidays together and I found that it assisted a lot in helping me remember.”

#### *Autonomous Stage (Other Strategies)*

Participants who reported using other strategies that were not taught in class were categorized in this fourth stage. P5 used a strategy, association to language, which had not been explicitly taught in class and reported three variations of the strategy, association to English, Spanish and French. Figure 3 illustrates some examples of her use of association to English and Spanish.



	SPANISH	ENGLISH
	<i>enfermo</i> → <i>enfermera</i> enfermera	nurse
	<i>escalar</i> → <i>scale</i> escalar	to climb
<i>vender</i> ←	vender	to sell
<i>vender</i> ←	ayudar	to help
	cama	bed
	bucear	to dive → <i>diyo bucket?</i>
	jardín	garden
<i>pelluquero</i>	<i>pelluquero</i>	hairdresser
	alquilar	to rent
	dormitorio	bedroom
	ascensor	elevator
<i>ascend.</i>	espejo	mirror → <i>II spy → espejo</i>
	llorar	to cry
	chimenea	fireplace
	bombero	firefighter
	lavaplatos	dishwasher
<i>disagrazable</i> -	desagradable	unpleasant
	barrer	to sweep
	poder	to be able to
	carrera	degree
<i>carrera</i> ← <i>carrera</i>	cortar	to cut
	abogado	lawyer
	<i>advocate</i> ↓ <i>abogado</i>	<i>cut</i> → <i>cortar</i>

Figure 3: Examples of Association for P5 (Bornay 2009: 62)

### Students' Evaluations of the Learning Experiences

#### *Student perceptions of strategy training*

Participants' reaction to the teaching of VLS was highly positive. The majority of participants (87.5%) found the explicit strategy training useful. By the end of the semester, students reported that the exposure to new VLS had assisted them in acquiring vocabulary more effectively, as is exemplified by the following comment: "I felt like as time went on I was able to remember more words, faster using the learning strategies" (P11). Students provided a broad variety of reasons that supported their positive feedback. For some students, the strategies were familiar – "while I had heard of most of the strategies before it was good to be reminded of them again as they were taught in early high school so it is easy to think of them as childish" (P4) – whereas for others they were something innovative: "it gave me new ideas I haven't used before" (P8).

Some students showed very high metacognitive thinking in their comments. For example, P9 observed the usefulness of combining strategies: "I feel that I learnt more words and remember them from the learning strategies, particularly combining the grouping and the mind-map". P1 became aware of the relevance of having a variety of strategies to select from and the fact that strategies are suited for different tasks: "the more learning strategies that I know, the more ways I can learn vocab. If one way doesn't work I can always try a different strategy." P5 reinforced the fact that students are mostly taught *what* to learn but not *how* to

learn: “usually it is just expected that you will learn what you need to, but how this process will work is not really considered.” Finally, P2 reported applying the strategies to learn in self-regulated situations, which showed greater autonomy in language use: “it is useful when doing homework and tests. It makes words easier to recall and prevents excessive use of the textbook and dictionary.”

Only one participant, who reported having his own learning strategies, did not consider the strategy training helpful. Another participant regarded the strategy training as both helpful and unhelpful. Although he acknowledged that “new methods are interesting”, he admitted that “some I felt were quite obvious but I have some language experience so I already feel I have methods” (P6).

### *Students' perceptions of the taught VLS*

The data showed that ‘grouping’ proved to be very popular and mainly received positive comments such as “more practical” (P11), easy to follow and more useful for enabling practice in students’ own time. While 13 students (81.25%) agreed that ‘grouping’ was the most helpful strategy, only one participant thought that ‘grouping’ was the least useful. He argued that this strategy “can be arbitrary and may not have the same association for different individuals” (P16). Two participants considered other strategies to be the most helpful strategies.

‘Mind-mapping’, on the contrary, was regarded as “time consuming” (P2, P3, P4, P11), “messy” (P3, P11, P6), “overwhelming” (P10), “complicated” (P6), “cluttered and hard to follow” (P7) and only one participant believed that it was the most helpful strategy. Although ten participants (62.5%) deemed ‘mind-mapping’ as the less helpful strategy, some of these participants acknowledged the value of the strategy:

“Mind-mapping seems very useful but feels very time consuming so I would probably not use it” (P4).

“I found both grouping and mind-mapping useful but grouping is the strategy I used the most and found to be more practical” (P11).

“Although it [mind-mapping] was a good way to interconnect words, I prefer to use lists” (P2).

The findings also revealed that the taught learning strategies assisted the participants to learn in self-regulated situations. Thirteen students (81.25%) confirmed that the learning strategies were useful when learning for the in-class exams. Only two students (12.5%) explicitly commented that the learning strategies did not help them when preparing for the final oral presentation, but also confirmed that they found them useful when learning for the in-class exams. One student gave no response to this question.

### **Explicit Teaching and Related Outcomes**

The results of the vocabulary tests indicated that the majority of students (87.5%) obtained higher scores in test 3 completed in week 12 than in the previous vocabulary tests completed in weeks 7 and 9. For two students (12.5%) the scoring was progressive. One participant (6.25%) was able to recall the same number of words in tests 1 and 2 but improved considerably in test 3. Only two students (12.5%) were able to remember more words in test 2 but none of the participants achieved their highest score in test 1. However, Figure 4, which illustrates the individual students’ word recall in the three tests, shows that most of the students (68.75%) followed a similar pattern: they scored higher in test 3 but lower in test 2 than in test 1.

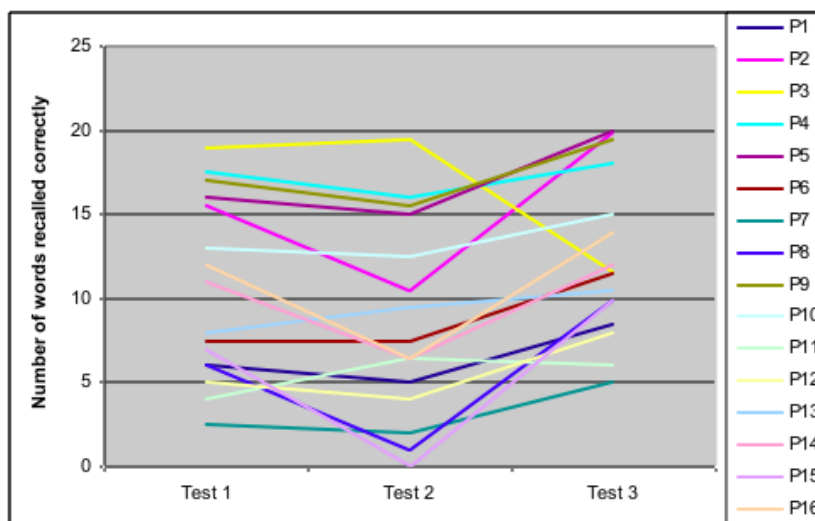


Figure 4: Individual trend of word recall

A possible explanation for the lower scores in test 2 may be that students were still at the initial stages of the strategy training and had had insufficient practice at this point, since they had only just been introduced and used them once. Participants who tried to use ‘grouping’ to learn the words anticipated low outcomes in this vocabulary test and cited time restrictions to justify their poor performance.

“I tried to categorise, or group the words, but didn’t have much time, so only got a few words done” (P11).

“I did not remember many words this time I was writing them down in groups e.g. bathroom items and actions, etc. I think I was too busy writing them down with their English equivalent to notice the words” (P8).

“Tried to use grouping but spent more time making groups than trying to remember” (P12).

However, participants’ comments in these examples point towards limited knowledge and use of ‘grouping’. In contrast, students’ comments about test 3 after a total of six weeks of strategy training show higher confidence in the expected outcomes and in their use of the strategies:

“This was one of the most successful word test I have done out of the three” (P1).

“I felt like as time went on I was able to remember more words, faster using the learning strategies” (P11).

“Grouping, I was able to visually see the similarities and work with them” (P12).

In addition, while the first two tests were administered on Friday afternoon, test 1 was at the beginning of the lesson whereas test 2 was after a lesson where new vocabulary was learnt. This may have caused overload for some students: “I didn’t go very well today but I think it is because I am a bit tired and I have a lot of words floating in my head from the lesson” (P2).

Generally, the test results showed improvement in the number of words that participants were able to recall before and after the intervention. The scores in the vocabulary tests indicated that participants obtained statistically higher scores ( $p < 0.05$ ) in test 3 than in tests 1 and 2, as illustrated in Figure 5:

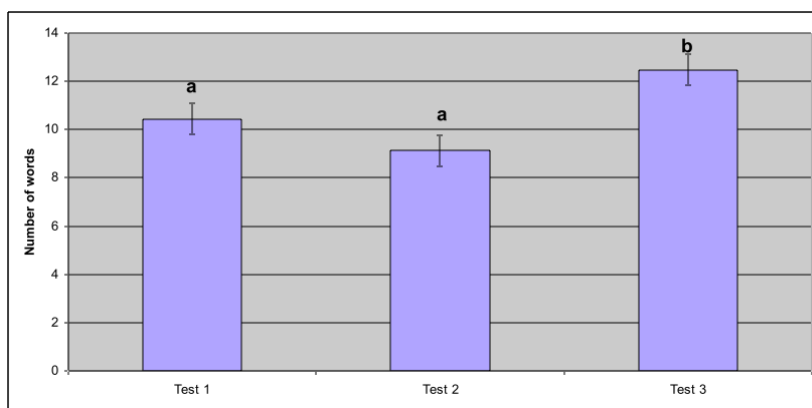


Figure 5: Mean scores (bars not sharing the same subscript letters are statistically significantly different from one another,  $p < 0.05$ )

## Conclusion

Teaching students *how* to learn is not common in many language classrooms in spite of research highlighting the need for doing so and students requesting such assistance. Therefore, learning strategies need widespread attention, especially given that multiple action research has demonstrated that they can enhance language learning. This study has suggested that a dyadic approach that includes teaching the language content together with learning strategies may be successful with beginning level students. Furthermore, this investigation has revealed that the teaching of learning strategies with the CALLA approach can also contribute to developing students' metacognitive awareness when they are given time to reflect on their own learning. The main implication for quality teaching is that language learners need to be exposed to a variety of learning strategies so that they can create their own VLS repertoire after continued practice and the evaluation of such strategies. The selection of learning strategies should be adapted to the students' levels of proficiency. This research also shows the importance of emphasising the evaluation phase and of giving sufficient time during strategy training for students to reflect on their mental processes.

## REFERENCES

- Anderson, J. R. (1983). *The architecture of cognition*. Cambridge, Mass.: Harvard University Press.
- Anderson, J. R. (1985). *Cognitive psychology and its implications*. New York: Freeman.
- Bornay, N. (2006). Teaching learning strategies to learn vocabulary in a foreign language more effectively. Paper presented at a Research Seminar, Flinders University, Adelaide, July 2006.
- Bornay, N. (2009). Exploring explicit strategy instruction in vocabulary learning with beginning students of Spanish at the tertiary level. Master's thesis, Flinders University.

Brown, T. & Perry, F. (1991). A comparison of three learning strategies for ESL vocabulary acquisition. *TESOL Quarterly* 25,2: 655-70.

Chamot, A. U. & O'Malley, M. J. (1994). *The CALLA handbook: how to implement the Cognitive Academic Language Learning Approach*. Reading, MA: Addison Wesley.

Coady, J. (1997). L2 vocabulary acquisition: a synthesis of the research. In J. Coady & T. Huckin, (eds.), *Second language vocabulary acquisition: a rationale for pedagogy* (pp. 273-90). Cambridge: Cambridge University Press.

Coady, J. & Huckin, T. (1997). *Second language vocabulary acquisition: a rationale for pedagogy*. Cambridge: Cambridge University Press.

Cohen, A. D. (1998). *Strategies in learning and using a second language*. London: Longman.

Cohen, A. D. & Aphek, E. (1981). Easifying second language learning. *Studies in Second Language Acquisition*, 3, 221-236.

Hatch, E. M. (1983). *Psycholinguistics: a second language perspective*. Rowley, MA.: Newbury House.

Laufer, B. (1997). The lexical plight in second language reading: words you don't know, words you think you know, and words you can't guess. In J. Coady & T. Huckin, (eds.), *Second language vocabulary acquisition: a rationale for pedagogy* (pp. 20-34). Cambridge: Cambridge University Press.

Nation, P. & Newton, J. (1997). Teaching vocabulary. In J. Coady & T. Huckin, (eds.), *Second language vocabulary acquisition: a rationale for pedagogy* (pp. 238-54). Cambridge: Cambridge University Press.

O'Malley, J. M. (1987). The effects of training in the use of learning strategies on acquiring English as a Second Language. In A. Wenden & J. Rubin, (eds), *Learning strategies in language learning* (pp. 133-144). London: Cambridge University Press.

O'Malley, J. & Chamot, A. (1990). *Learning strategies in second language acquisition*. Cambridge: Cambridge University Press.

Oxford, R. (1990). *Language learning strategies: What every teacher should know*. New York: Newbury House.

Oxford, R. & Crookall, D. (1990). Vocabulary learning: a critical analysis of techniques. *TESL Canada Journal*, 7, 9-30.

Oxford, R. & Scarcella, R. (1994). Second language vocabulary learning among adults: state of the art in vocabulary instruction. *System*, 22,2: 231-43.

Rossetto, M. (2007). Foreign language vocabulary learning strategy and students' pedagogical knowledge – an investigation with qualitative and quantitative perspectives. Paper presented at the AARE Conference at Notre Dame University, Fremantle, December.

Stahl, S.A. & Vancil, S. J. (1986) Discussion is what makes semantic maps work in vocabulary instruction. *The Reading Teacher*, 40,1: 62-67.

Tassana-Ngam, I. (2004). The effect of vocabulary learning strategies training on Thai university students' word retention in the second language classroom. [PhD thesis]. Essex: University of Essex.

Zimmerman, C. B. (1997). Historical trends in second language vocabulary instruction. In J. Coady & T. Huckin (Eds.), *Second language vocabulary acquisition: a rationale for pedagogy* (pp. 5-19). Cambridge: Cambridge University Press.