Promoting the Use of Metacognitive and Vocabulary Learning Strategies in Eighth-Graders

Fomento de estrategias metacognitivas y de aprendizaje de vocabulario en estudiantes de 8.° grado

Promouvoir des stratégies métacognitives et d'apprentissage de vocabulaire chez des lycéens de huitième

Claudia Patricia Álvarez Ayure

M. A. Applied Linguistics to TEFL. Universidad Distrital Francisco José de Caldas, Bogotá. Professor, Department of Foreign Languages and Cultures, Universidad de La Sabana, Chía, Colombia.
Campus del Puente del Común, km.7, Autopista Norte de Bogotá, Chía, Cundinamarca, Colombia
claudiap.alvarez@unisabana.edu.co

Cristina Barón Peña

M. A. English Language Teaching for Self-directed Learning, Universidad de La Sabana, Chía, Colombia. TESOL graduate diploma, Anaheim University, Anaheim, USA. English Language teacher, Colegio República Dominicana and Corporación Internacional para el Desarrollo Educativo (CIDE).
Calle 41 N.° 27A 56 3, Bogotá, D.C., Colombia
colrepdominicana11@gmail.com

Magda Liliana Martínez Orjuela

M. A. English Language Teaching for self-directed Learning, Universidad de La Sabana, Chía, Colombia. TESOL Graduate Diploma, Anaheim University, Anaheim, USA. English teacher, I. E. Técnica Empresarial El Jardín.
Carrera 3 Calle 9 4 Esquina, barrio El Jardín, Ibagué, Tolima, Colombia
magdali26979@gmail.com

Abstract

This paper reports on the results of a strategy training experience with a group of 30 A1 eighth-graders from two public schools in Colombia. Our goal was to identify how the development of metacognitive and vocabulary learning strategies, executed through a WebQuest, influenced the students' performance in a vocabulary learning task and their levels of learning autonomy. Data were analysed following the grounded theory approach. The results showed increases in the percentage of students using learning strategies, the adoption of metacognitive behaviours, and levels of learner autonomy. We therefore propose that classroom practices should incorporate a greater degree of strategy training, mediated by Web-based tools, to help students achieve higher levels of learning control and to develop skills that can be transferred to other learning situations.

Keywords: EFL learning, learner autonomy, learning awareness, metacognitive strategies, vocabulary learning strategies, WebQuest

Resumen

Se reportan los resultados de una experiencia de entrenamiento en estrategias a un grupo de 30 estudiantes A1 de octavo grado de dos colegios públicos en Colombia. Nuestro objetivo fue identificar cómo el desarrollo de estrategias metacognitivas y de aprendizaje de vocabulario influyó en la forma de desarrollar una tarea de aprendizaje y los niveles de autonomía de los estudiantes. Los datos se analizaron con el enfoque de la teoría fundamentada. Los resultados mostraron un aumento en el uso de estrategias, la adopción de conductas metacognitivas y variados niveles de autonomía. Se propone incorporar el entrenamiento en estrategias a las clases de lengua a través de herramientas tecnológicas para que los estudiantes logren mejor control de su aprendizaje y desarrollen estrategias transferibles a otras situaciones.

Palabras claves: aprendizaje de inglés como lengua extranjera, autonomía del aprendiz, conciencia en el aprendizaje, estrategias metacognitivas, estrategias de aprendizaje de vocabulario, WebQuest

407

Íkala, Revista de Lenguaje y Cultura
Medellín, Colombia, Vol. 23 Issue 3 (September-December, 2018), pp. 407-430, ISSN 0123-3432
www.udea.edu.co/ikala

Résumé

Cet article rend compte des résultats d´une expérience pédagogique qui fomente des stratégies d´apprentissage, menée avec un groupe de 30 lycéens A1 de huitième (13 ans) en Colombie. Notre objectif a consisté à identifier comment le développement de stratégies métacognitives et d´apprentissage de vocabulaire modifie l´acquisition lors d´une activité ainsi que leurs degrés d´autonomie. Les données ont été analysées en suivant les postulats de la théorie ancrée. Les résultats montrent un recours plus grand à ces stratégies, l´adoption de conduites métacognitives et de différents degrés d´autonomie. Finalement, pour mieux intégrer les stratégies métacognitives dans les cours de langue, on propose d´introduire des outils informatiques afin que les élèves puissent développer une plus grande conscience de leur apprentissage et transférer ces compétences á d´autres situations d´apprentissage.

Mots clés: apprentissage de l´anglais langue étrangère, autonomie de l´élève, prise de conscience du processus d´apprentissage, stratégies cognitives, stratégies pour acquérir du vocabulaire, WebQuest

408

Introduction

In previous decades, many English teachers expected students to learn vocabulary incidentally while developing communicative tasks involving reading, writing, listening, and speaking (Moir & Nation, 2008). However, more recent research shows that explicitly teaching both vocabulary and appropriate learning strategies foster word recall and retention, resulting in improved foreign language comprehension and production (Mukoroli, 2011). The present study sought to help a group of eighth-graders with a limited L2 vocabulary repertoire improve their L2 English vocabulary learning and their autonomy as learners through explicit learning strategy development, implemented through a WebQuest in an EFL course.

Observation of the participants in class revealed that they had frequent difficulties recalling and retaining new words in English, even when encouraged to recycle them. The results of a pre-questionnaire (Appendix A) suggested five causes behind their difficulties with vocabulary learning: (1) little or no direct vocabulary acquisition instruction; (2) few opportunities to use the L2 in content areas; (3) an absence of meaningful contexts, other than the classroom, devoted to learning and practicing English; (4) lack of awareness of the importance of learning English for personal and professional development purposes; and (5) limited awareness of effective vocabulary learning strategies. Drawing on recent research (Chamot & O'Malley, 1996; Griffiths, 2003; Moir & Nation, 2008; Nation, 1990, 2011; Trujillo, Álvarez, Zamudio, & Bohórquez, 2015), we determined that some of these difficulties could be addressed by guiding students through strategy development and explicit vocabulary teaching.

Literature Review

In this section, we examine three constructs: metacognitive strategies, vocabulary learning stra-tegies, and learner autonomy in language learning. These terms helped us understand how participants were immersed in strategy development as well as how this training influenced the way they handled a vocabulary learning task and their learner autonomy. We also considered the concept of Web-based technology to make sense of how the training took place.

Metacognitive Strategies

Anderson (2002) defines *metacognition* as the process of 'thinking about thinking' (p. 1), involving actions like: (1) setting learning goals and defining ways to accomplish them; (2) making conscious decisions about which learning strategies to use and how to use them; (3) knowing how to use various strategies concomitantly; and (4) evaluating strategy use and learning. Metacognitive strategies relate to how learners control their learning processes and manage tasks by 'planning, monitoring, and evaluating both language use and language learning' (Harris, 2003, p. 4) and are therefore critical in vocabulary learning.

The planning strategy helps learners set clear and achievable goals and select appropriate strategies to accomplish them (Anderson, 2002). During the pre-intervention stage of the present study, participants were trained to select sets of meaningful words autonomously and to use appropriate cognitive and metacognitive consolidation strategies to learn them.

The monitoring strategy refers to ongoing awareness of whether 'there is no understanding of an activity and to stop and do something about it' (Griffiths, 2008, p. 101). Monitoring learning includes checking task information to validate comprehension and to focus attention on important vocabulary related to main ideas (Swartz, 2003). In the present study, this strategy helped students identify problems and solve them through conscious use of vocabulary learning strategies.

Similarly, evaluation concerns the ability to examine and correct one's own cognitive processes and implies making revisions while evaluating one's

409

reasoning, goals, and conclusions (Schraw, 1989). In the present study, participants made entries in learning logs, evaluated goal achievement, and self-assessed their use of metacognitive strategies by means of a checklist. Additionally, we examined affective factors like beliefs, attitudes, and engagement because the way students perceive themselves as learners can influence their learning (Ushioda, 2008) and use of metacognitive and vocabulary learning strategies.

In an investigation of how metacognitive strategy training influenced a group of EFL/ESL readers' declarative and procedural knowledge and their use of strategies while reading research articles, Diehb-Henia (2003) found that metacognitive-strategy training improved the subjects' familiarity with and proficiency in reading research articles and thus argues that metacognitive training can help students enhance their language skills. Likewise, Trujillo, Alvarez, Morales, and Zamudio (2015) found that the development of metacognitive strategies not only influences vocabulary learning and students' awareness of their learning process, but also conducts to the adoption of self-directed behaviours that may have themselves further enhanced their participants' vocabulary learning. These researchers thus suggest the incorporation of metacognitive strategy training within the EFL classroom to guide students to more effective control of their learning and to help them transfer those strategies to other learning situations.

Vocabulary Learning Strategies

Previous research has examined the relationship between strategy use and vocabulary proficiency (e.g., Fan, 2003; Griffiths, 2003). Barcroft (2009) reported a positive correlation between the number of strategies used and vocabulary recall, observing more specifically that students obtained better scores when using a mnemonic technique and L2 picture association than when simply relying on L2-L1 translation and repetition. Barcroft argued that 'raising learners' awareness about strategy use by informing them about findings of this nature

may help them to reconsider the strategies that they employ and try new strategies that may be more effective' (p. 86). Moir and Nation (2008) investigated adult ESOL students' personal approaches to learning tasks, beliefs about learning, and effectiveness at learning vocabulary, finding that although these students devoted considerable time to learning and were aware of the importance of preparing for tests, they were less enthusiastic about personalizing their own learning. These studies support the vocabulary strategy development executed in the present study because they suggest that to help students become more effective users of vocabulary learning strategies, teachers should include direct strategy-based instruction that leads students to assume a more reflective stance on the way they learn.

Vocabulary learning strategies themselves have a variety of taxonomies. Schmitt (1997) identifies four groups: social, memory, cognitive, and metacognitive. In contrast, Cook and Mayer (1983) classify all vocabulary learning strategies as either *determination* or *consolidation* strategies. Learners use determination strategies to discover a word's meaning based on background knowledge, contextual clues, or reference materials by figuring it out and/or asking someone else; they use consolidation strategies to remember the meanings of a word through social, memory, and metacognitive processes. Alternatively, Nation (2013) proposes three types of vocabulary strategies: planning, finding information, and establishing knowledge. This categorization includes, in his view, 'a wide range of strategies of different complexity' (p. 222).

In the present study, we focused on guiding learners through Cook and Mayer (1983) and Nation's (2013) taxonomies. Therefore, we determined that a combination of cognitive strategies, such as meaning-oriented note-taking strategies (writing down meanings and synonyms and illustrating meaning with a drawing) followed by learning words from context (Nation, 2013) and metacognitive strategies (such as monitoring, planning, and evaluation) should further support learners' vocabulary learning processes. The selection of these strategies was

based on the understanding that 'real vocabulary learning comes through use, both receptive use and productive use. Teachers can help the process along by drawing attention to particular words, by teaching strategies for learning vocabulary, and by providing simplified material' (Nation, 2013, p. 6). In this study, participants possessed vocabularies restricted to loan words and words related to basic information about themselves. Therefore, to involve students in explicit vocabulary strategy training for the first time, we chose a topic that was of common interest to their school community and neighbourhood and that had been studied in the students' mother tongue in other subject areas. To this end, we provided access to simplified reading material and training on how to use vocabulary strategies to learn a particular set of words needed to write and talk about the content read at a later stage. As Nation (2011) argues, 'the goal of strategy training is that students can use it without the help of a teacher' (p. 531), and we designed a strategy training experience intended to encourage participants to also use their newly gained strategy knowledge in other learning situations.

Learner Autonomy in Language Learning

As metacognitive strategies help learners manage their own learning processes independently (Nunan, 1990), the development of *learner autonomy* was also a central focus for this study, which sought to raise students' awareness of learning processes and strategies to help them become more effective learners. Learner autonomy is 'essentially a matter of the learner's psychological relation to the process and content of learning—a capacity for detachment, critical reflection, decision-making, and independent action' (Little, 1991, p. 4). This definition emphasizes the fact that learner autonomy can be developed not only in specific contexts—such as a language classroom or WebQuest (Dodge, 1995a, 1995b)—but in any learning situation. The development of learner autonomy then depends on a learner's perspectives on learning and is not limited to specific situations. Thus, individual learners exposed

to similar strategy training under similar learning circumstances may reach different levels of autonomy (Nunan, 1997) and, therefore, possibly different learning outcomes.

A number of studies have been conducted to investigate learning autonomy and ways to promote it for language learning purposes (e.g., Mizuki, 2003; Nguyen, 2012; Shao & Wu, 2007; Gu, 2009; Hyland, 2004). For example, Nguyen and Gu (2013) found that strategy-based instruction helped participants improve the skills of monitoring, evaluating, and planning a writing task. With regular instruction, they argued, learners should become able to better engage with and self-regulate such tasks, making more consistent use of appropriate strategies to produce better learning outcomes. Similarly, Cotterall (2008) suggests that, in addition to acquiring good learning behaviours (which can be achieved through effective strategy training), autonomous learners require a structure that allows them to 'shape and define their learning and to display their personal autonomy' (p. 118). In other words, the degree of a student's autonomy seems to be strongly linked to their own conceptualization of success. In this respect, Zhou (2016) found that students with higher levels of autonomy were more likely to involve themselves in collaborative learning and, ultimately, be more successful at learning English, suggesting that 'autonomy has both direct and indirect effect on language learning performance' (p. 95) and that the development of autonomy may itself be enhanced by collaborative learning. The results of these studies have demonstrated the impact of strategy training on students' learning autonomy, but none of them used Web-based technology to enhance students' strategy development nor their views on the use of such strategies when working independently on a WebQuest.

Web-Based Technology

Incorporating Web-based technology into English-language learning 'gives teachers and students the

411

opportunity to exchange knowledge' (Rátiva, Pedreros, & Núñez, 2012, p. 12), helping students familiarize themselves with new vocabulary through meaningful content learning as they interact with each other and new sources of information through chat rooms, online conferences, and Web pages. To guide learners in the use of metacognitive and vocabulary learning strategies and to support the learning of specific vocabulary about land pollution, the present study used a WebQuest entitled *The World in Our Hands* (Barón & Martínez, 2012). This was structured in accordance with Dodge's (1995a) definition of a WebQuest as 'a set of inquiry-oriented activities' (p. 10) consisting of (1) an introduction, (2) a task, (3) a process, (4) an evaluation, and (5) a conclusion. Dodge argues that this design helps learners interact with multiple Web-based technologies—such as online videos, e-books, or blogs—and acquire expertise in their use through both individual and collaborative work.

Research Questions and Objectives

This study, conducted in response to learners' needs, sought to promote a more autonomous approach to vocabulary learning. The research questions guiding it were the following: (RQ1) How does training CEFR A1-level eighth-graders on metacognitive and vocabulary learning strategies affect performance in an L2 vocabulary learning task? (RQ2) How does strategy training affect learner autonomy when learning vocabulary? Accordingly, the main objectives were (1) to determine how students use vocabulary and metacognitive learning strategies when performing a vocabulary learning task, and (2) to determine the effect of strategy training on the participants' learning autonomy.

Methods

Context and Participants

This study was conducted simultaneously in two Colombian public schools, with School 1 located in Bogotá, D. C. and School 2 located in Ibague, capital of the Department of Tolima. The participant groups from both schools had similar language levels and shared similar linguistic needs. During the planning and implementation of the study, the researchers had four face-to-face meetings (scheduled throughout the project timeline) and maintained regular online communication with each other. Although a total of 40 students from both schools received the strategy training, only 30 (14 boys and 16 girls) agreed through the consent of their legal guardians and the schools' principals to participate in the study. The participants were all eighth-graders, aged 12 to 15, with an average English proficiency at the A1 level according to the Common European Framework of Reference (Council of Europe, 2001). Informal interviews with students, classroom observations, and teachers' reflections carried out in advance of the implementation suggested that students' low motivation towards and low interest in learning English was related to their living conditions, as they did not consider communication through English a real or useful possibility in their future lives.

In this study, the researchers acted as participant-observers (Burns, 2010), which involved their performance of various functions, specifically the following: instructing participants in using learning strategies during the initial stages of implementation, developing instructional materials, and implementing activities. The researchers also immersed themselves in the participants' culture and activities to report on their insights in relation to the subject of the study and to collect the necessary data.

Data Collection Instruments

Data validity was supported through the collection of information from various participants by means of different instruments so as to examine the phenomena studied from multiple perspectives (Burns, 2003). Data were collected through pre- and post- questionnaires, student learning logs, a semi-structured interview, self-assessment checklists, and mind maps. Students were permitted to use Spanish to answer questions involving reflection on the use of strategies to facilitate the expression of their views. Questionnaires (Dörnyei, 2003)

412

were this study's primary source of quantitative data and were used to look for initial and final indications about participant's use of the studied strategies. Both questionnaires comprised 29 items, expressed as statements and arranged into groups: personal details (4 items), use of vocabulary learning strategies (15 items), and use of metacognitive strategies (10 items). Learning logs (Friesner & Hart, 2005) were used to help students reflect on problems encountered when using vocabulary learning and metacognitive strategies, as well as possible solutions at the beginning, middle, and end of the interventions (Appendix B), data which helped us analyse the learners' strategy use more deeply and to corroborate the information gathered through the questionnaires. Interviews were used 'to go deeper into the motivations of respondents and the reasons for responding as they do' (Cohen, Manion, & Morrison, 2007, p. 351) regarding the effectiveness of the strategy training and other affective issues in the development of autonomy. The students also used self-assessment checklists to help them evaluate (Ross, 1998) their use of metacognitive strategies, and created mind maps (Wheeldon & Faubert, 2009) using the vocabulary they knew (and were later able to recall) on the topic of land pollution.

The data collection instruments were designed and then piloted with students from the same groups who participated in the strategy training process,

but who did not take part in the study. We paid attention to instances when students were hesitant, asked for clarification, or responded without necessarily reading the question. Then, we revisited the instruments and checked the different question items for relevance, meaning, and clarity.

Pedagogical Implementation

The pedagogical implementation consisted of a strategy development stage and a WebQuest exploration stage. Although initially the implementation was planned to be carried out for 40 hours over four months, we needed to extend this period for an extra month in an attempt to make up for the number of English classes that were postponed due to last-minute cultural activities students had to attend.

Strategy Development

The strategy development stage required students to activate prior knowledge and reflect on the topic of land pollution as it related to their own context. We guided students in the use of determination and consolidation vocabulary learning strategies (Cook & Mayer, 1983) and in reflecting on the most common problems they experienced when learning new vocabulary. Through modelling and think-aloud protocols (Deschambault, 2012), we helped students to become more familiar with specific metacognitive strategies (planning, monitoring, and evaluating; Harris, 2003) and reflect

413

Table 1 Structure of a Strategy Development Session

Stage	Activities	Time
Lead-in	Find out how much students know about the topic (land pollution).	10 min.
	Students anticipate vocabulary they think is important to understand the topic.	
Presentation & modelling	Underline unknown words while reading an article.	15 min.
	Elicit strategies students use to learn new words.	
	Model the use of a target strategy using thinking-aloud protocol.	
Practice	Actual use of the target strategy while reading a text.	15 min.
Evaluation	Evaluation of the use of the strategy.	10 min.
	Group reflection on the importance of learning strategies.	
Wrap up	Completion of a mind map using the new vocabulary.	10 min.

on their efficacy. We structured each of the strategy development sessions on vocabulary and metacognitive strategies with an adaptation of the cognitive academic language learning approach (CALLA; Chamot & O'Malley, 1996), which suggests five basic stages: preparation, presentation, practice, evaluation, and expansion. Table 1 illustrates the activities executed in a vocabulary learning strategies session.

WebQuest Exploration

In the WebQuest exploration stage, using the WebQuest entitled *The World in Our Hands* (Barón & Martínez, 2012), we trained students to perform individual and group-based tasks, giving them access to synchronous and asynchronous communication channels to address any accessibility and navigability issues encountered during independent work. Once they were familiar with the WebQuest's pedagogical sequence: introduction, task, process, evaluation, and conclusion (Dodge, 1995a), students were instructed to work on it outside the classroom, continuously using metacognitive and vocabulary learning strategies to recycle words and recall information in context and identifying the specific strategies they considered most effective.

Introduction

In this WebQuest activity, we helped students activate their background knowledge as they set goals and planned how to achieve them by completing the first two columns of a KWLH (know, want to know, learned, how to learn more) chart (Mooney, 1990).

Task

In this activity, students worked in groups of four to design and give a presentation using a video, a poster, a PowerPoint presentation, or a brochure about how to reduce and avoid land pollution. As students had to recall information to complete it, this activity helped reveal how much language they were able to produce using the English vocabulary about land pollution they learned

during the process. Students filled in a self-assessment checklist that we designed to reflect on the effectiveness of the metacognitive strategies used during the activity.

Process

In this activity, students read an article about how to reduce land pollution, watched a video about landfills and waste, and played a recycling mission game, all of which offered many opportunities to use and monitor new and recycled words. They used a vocabulary inventory to register new words and the vocabulary-learning strategies (a drawing, a synonym, a sentence containing the word, a definition) that had helped them learn these words.

Evaluation

In this penultimate WebQuest activity, students used the self-checklist to assess their performance in the WebQuest.

Conclusion

In this final activity, students (1) wrote conclusions on what they had learned about land pollution in their learning logs, (2) expanded their mind maps (Appendix C), (3) filled in the last two columns of the aforementioned KWLH chart, and (4) participated in a semi-structured interview. These activities helped students evaluate the effectiveness of using the strategies.

Data Analysis Procedures

Data analysis was based on a mixed approach (Creswell, 2014), in which quantitative data were collected (through questionnaires and self-assessment checklists) to support qualitative data (collected through interviews and the participants' learning logs). The quantitative data provided the teacher-researchers with statistics that showed how students used the metacognitive strategies and vocabulary learning strategies, as well as their effectiveness. The qualitative data informed researchers about learners' reflections on and opinions towards

the metacognitive and vocabulary learning strategies.

Throughout the process, information was typed and organized into two different Excel spreadsheet matrixes: A qualitative matrix was created to visualize data by both participant and instrument, and a quantitative matrix was created to analyze data statistically. During the sorting and coding of information, we built a hierarchical category system to present tentative categories supported with participant excerpts. The data obtained from the identification of patterns and subsequently reduced to the most relevant themes was utilized to address the study's research questions about how strategy training influenced the performance of a vocabulary learning task and the levels of student autonomy. We reread and coded the interview transcripts to identify evidence of autonomous strategy use and affective factors involved in this process, and to determine the number of contestants to be placed in the different levels of learner autonomy development. Data were triangulated through a comprehensive comparison across the quantitative and qualitative data and between data and theory based on (1) evidence of changing use of metacognitive and vocabulary learning strategies, (2) common patterns in the data collected, and (3) differences in students' opinions towards the use and practice of metacognitive and vocabulary learning strategies.

Results

RQ1: How does training A1-level eighth- graders on metacognitive and vocabulary learning strategies affect performance in an L2 vocabulary learning task?

Questionnaire analysis

RQ1 was addressed with data from the two questionnaires and the interview. The post- questionnaire revealed a post-implementation increase (compared with the initial results from the pre-questionnaire) in the percentage of students exploring vocabulary-learning strategies involving both visuals and the use of words in context (Table 2). Some of the new strategies used were remembering synonyms or the context where the word was seen, creating an image of the word, writing sentences containing the word, and representing the word with a drawing.

415

Table 2 Strategies Used by Students After Intervention

Strategy	School 1		School 2	
	Questionnaire 1	**Questionnaire 2**	**Questionnaire 1**	**Questionnaire 2**
Mental images	27%	40%	20%	47%
Association	27%	46%	7%	13%
Synonyms	20%	40%	27%	7%
Grouping	20%	20%	0%	0%
Following the rhythm of a song	33%	46%	13%	20%
Remembering the context where a word was seen first	40%	47%	20%	40%
Writing sentences	33%	66%	13%	33%
Repetition	53%	67%	73%	53%
Drawing	27%	40%	20%	47%
M=	31% (SD=0.10)	46% (SD=0.14)	21% (SD=0.21)	29% (SD=0.19)

Table 2 shows that the most-used strategies were *repetition* (a strategy students were already using before the intervention), with an average use of 61%, followed by *remembering the context where the word was seen first* and *writing sentences*, both with an average use of 36%. The least-used strategy was *grouping*, with an average use of 10%. In general, the highest percentage of strategy usage was observed in students from School 1.
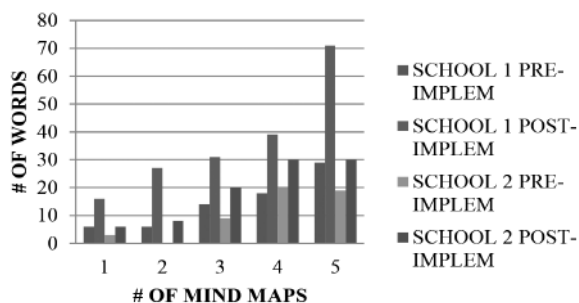

Figure 1. Number of Words Recalled after Pre- and Post-Intervention.

416

The number of words students recalled increased steadily as they completed their mind maps. Figure 1 depicts the results by school and the number of words recalled. At the end of the intervention, students from School 1 could recall approximately twice as many words as those from School 2, a difference that seems directly related to the higher percentage of students using strategies prior to this experience in School 1. Although Figure 1 does not indicate the knowledge students had about the words they could recall, a direct relationship between the use of strategies (Table 1) and the number of words recalled seems evident. This result aligns with Griffiths' (2003) finding that 'those students who made the most progress were the ones who most increased their language strategy use' (p. iii).

Learning log analysis

Data collected through learning logs (Appendix B: S6 learning log) show that 10 participants managed to set their learning goals, 12 claimed to have focused their attention on vocabulary

learning during the development of tasks, and 14 evaluated the number of words learned at the end of a task. Excerpt 1 illustrates one student's reflections on using such strategies: "With the words I found difficult, I did some charts in a piece of paper and pasted them on the closet so that I could remember them. This was a good strategy for me" (Excerpt 1, S6, learning log).

This excerpt also indicates that, while setting strategies, students seem to have become more aware of their own learning styles and, accordingly, of which strategies worked best for them. Nevertheless, it must be acknowledged that, while the strategies used seem well-suited to learning vocabulary, their effectiveness relative to successful task completion can only be demonstrated by their operationalization (Dörnyei, 2005), a process not evident in Excerpt 1.

Our findings also suggest that metacognitive strategy training helped learners gain awareness about metacognitive behaviours related to setting specific goals, following procedures, and monitoring tasks. This improved awareness helped them focus on their learning processes, as evidenced by their continuous use of questioning, problem identification, problem solving, and different vocabulary learning strategies, as shown in student learning log Excerpts 2 and 3:

> I used the monitoring formats by choosing the words I found difficult to learn, and it was useful for me because I learned some difficult words by using this list. (Excerpt 2)

> I drew a chart with words I had learnt to review them later. Next, I made another chart with new words to learn. (Excerpt 3, S1.)

The value of the metacognitive behaviours referenced in Excerpts 2 and 3 appears in the students' rationalizations about their learning processes, which could encourage more reflective awareness on their progress (Griffiths, 2008). Moreover, the inclusion of the terms *monitoring* and *strategy* further suggests the students were learning about their learning processes.

Interview analysis

We gave explicit instruction on metacognitive strategies through a WebQuest to provide students with multiple authentic experiences with the use of spoken and written vocabulary in a meaningful context. Interviews helped us to approximate their conscious use of metacognitive and vocabulary learning strategies outside the classroom and showed that they promoted awareness about the vocabulary learning processes, as illustrated in Excerpt 4:

> When I planned, I started by looking at words, I started by thinking how I would do it. So I started by making decisions about what to do so I thought that using a poster to organize my ideas could be useful. (Excerpt 4, S4, interview)

This excerpt not only exemplifies previous observations about the incorporation of metacognitive behaviours but also reveals the student's retrospection processes that encouraged increased self-awareness as a learner. Firstly, planning to learn a set of words and the vocabulary learning strategies beforehand seems to have helped this student to focus on their learning process. Secondly, monitoring seems to have helped them develop awareness of task comprehension, leading to the use of appropriate strategies in solving vocabulary learning problems. Thirdly, evaluating the effectiveness of vocabulary learning strategies when recalling words that they planned to learn seems to have encouraged them to continue using the strategies identified as most useful for further goal achievement.

However, our results also indicate that students who did not become acquainted with metacognitive strategies found it difficult to plan, monitor, and evaluate vocabulary learning. Their repertoire of vocabulary learning strategies remained limited to those that they were already accustomed to using (like saying the words out loud), even if these strategies had been of limited effectiveness. Consequently, although such students' results in terms of vocabulary learned during the study were poor, their comments nevertheless reflect a degree

of awareness that could lead to more effective future learning processes.

> I didn't practice as much as I needed to achieve the goals. [...] I have two strategies that are the ones I always use which are that are repeating the word and relating it with an object in Spanish. I did not include any additional strategies. (Excerpt 5, S2, interview)

> I rarely used the metacognitive strategies because I translated the words using internet, so I seldom used the strategies. (Excerpt 6, S8, interview)

Excerpts 5 and 6 suggest that student preferences for already familiar strategies (e.g., repetition and translation), even if they lead to less effective rote learning, represent a distinct challenge to getting students to switch to new, more effective strategies. Moir and Nation (2008) found a similar response in students who were mainly concerned about 'remembering words for the test rather than as a long term goal' (p. 166).

RQ2: How does strategy training affect learner autonomy when learning vocabulary?

RQ2 was answered with data from the interviews (Appendix D), which included 11 items, the first five of which examined respondents' views on their independent use of strategies, while the remaining items considered affective factors involved in the use of the strategies. The results indicate that encouraging students to plan, monitor, and evaluate their processes for learning new words outside the classroom independently through the WebQuest activities seems to have encouraged their conscious use of metacognitive strategies, choosing which vocabulary learning strategy best fit their own learning styles, learning purposes, and linguistic needs.

> I frequently self-evaluated and then I asked myself why I had not learned this word.... As time passed by, I could evaluate what I learnt and how I did it through the WebQuest. (Excerpt 7, S6, interview)

Excerpt 7 shows how strategy training encouraged in students the habit of frequent reflection on learning

417

processes and self-evaluation of their strengths and weaknesses as learners. These findings align with Anderson's (2008) observation that 'when learners reflect upon their learning, they become better prepared to make conscious decisions about what they can do to improve learning' (p. 99).

Incorporating metacognitive strategies within WebQuests can enhance students' abilities to acquire new vocabulary autonomously (Harris, 2003).

Similarly, analysis of our interview results shows that (1) 30% of students planned which words to learn independently and 43% self-selected the vocabulary learning strategies to use, (2) 52% took effective action with the selected strategies, (3) 52% found the vocabulary learning strategies effective, (4) 54% remembered more words, and (5) 57% solved problems by collaborating with peers or the teacher. Additionally, we found that the collaborative work required by the WebQuest activities,

Table 3 Learners' Levels of Autonomy in the Use of Metacognitive and Vocabulary Learning Strategies

Learner Autonomy Levels	Learner Action	Study Results
Level 1	Little to no learner action	**Dependent learners (9 students)** Partially completed the tasks in the WebQuest After being trained in the use of strategies, continued using the same strategies even if they were ineffective Lacked engagement with their learning processes No evidence of self-regulation. However, some admitted that students who used metacognitive strategies had better results.
Level 2	**Awareness** Aware of pedagogical goals and content of the materials being used. Identified strategy implications or pedagogical tasks and their own preferred learning styles/strategies.	**Dependent learners able to choose strategies (14 students)** Found it difficult to follow processes. Partially used metacognitive and vocabulary learning strategies and completed some WebQuest steps with teacher or peer assistance, demonstrating awareness of their learning needs and goals, and interest in learning and how to achieve vocabulary learning goals.
Level 3	**Involvement** Involved in selecting their own goals from a range of alternatives.	**Learners towards autonomy achievement (5 students)** During the study, learners were able to choose vocabulary learning strategies and plan how to accomplish the different WebQuest activities while learning vocabulary, but were usually unable to consciously monitor whether the selected strategies were effective. However, those who used metacognitive strategies and found them useful improved their autonomy.
Level 4	**Intervention** Involved in modifying and adapting goals and content of the learning program. **Creation** Create their own goals and objectives.	**Independent learners (2 students)** Tended to be autonomous in various aspects of their lives. Few were able to control their own learning. Achieved their goals in terms of vocabulary learning strategies.
Level 5	**Transcendence** Go beyond the classroom to make links between classroom content learned and the world beyond.	No evidence that students in this study achieved this level. Further research, time, and/or training necessary.

Note. Learner autonomy levels are adapted from Nunan (1997).

418

in which students learned from each other as they planned, monitored, and evaluated vocabulary learning, helped develop student autonomy. Equally, however, we determined that the teacher retains an important role as a facilitator, particularly for dependent learners, as students who received continuous feedback, repeatedly monitored and assessed by the teacher in their use of metacognitive and vocabulary learning strategies, seemed to gain self-confidence that encouraged a more frequent use of the strategies. Nunan (1997, p. 195) argues that autonomy emerges at different levels; in the context of this study, it required the internalization of vocabulary learning strategies. Table 3 shows how participants reached different degrees of autonomy in their uses of metacognitive strategies.

Table 3 shows that affective factors are closely related to learning (McLeod, 1992; Valdivia, McLoughlin, & Mynard, 2011). How students perceived and reacted to strategies for learning new words had a significant effect on their autonomy and ability to achieve goals. Some of these affective factors (Sims & Sims, 1995; Fandiño, 2008) involved in the development of autonomy were beliefs, attitudes, engagement, and expectations.

Beliefs

We found that the use of metacognitive strategies was influenced by students' beliefs about vocabulary learning. Participants who considered metacognitive and vocabulary learning strategies useless or whose awareness about their use did not increase (as illustrated in Excerpt 8) presented no evidence of increased autonomy or awareness in contrast with those who believed that such strategies were effective.

> I didn't use evaluation nor monitoring because I already knew some words. I didn't need the strategies. (Excerpt 8, S13, interview)

Attitudes

We found that confidence in others, willingness to learn, reluctance to change, and lack of intrinsic motivation (as seen in Excerpt 9) were all factors

that affected, positively or negatively, the development of autonomy and awareness of strategy use. Excerpt 9 also shows how one student went beyond analysing their strategy use (or lack thereof) to focus on the factors that affected how they managed their learning process.

> I haven't used the strategies because I haven't had time. I was lazy to do it. (Excerpt 9, S12, interview)

Throughout the study, we observed that different students reacted differently when incorporating new methodologies and, accordingly, learned new vocabulary at different paces. For such reasons, we encouraged students to set individual vocabulary learning goals in accordance with their individual levels of autonomy and awareness.

Engagement

Some learners were positive about using metacognitive and vocabulary learning strategies, and such engagement may have resulted from intrinsic motivation. Becoming more proactive in devising actions to influence the learning environment may have also promoted learner engagement, as illustrated in Excerpt 10.

> My motivation was to learn new words, new vocabulary, how to recycle in order to help people to be conscious of their bad actions and recycle. (Excerpt 10, S10, interview)

Excerpt 10 also suggests that the student had set additional objectives to those of learning the language and wanted to use the new language to fulfil this personal purpose. This finding aligns with Ushioda's (2008) notion that for intrinsically motivated learners the 'rewards of learning are inherent in the learning process itself in the shape of feelings of personal satisfaction and enhanced personal competence' (p. 21).

Expectations

Novak (1998) argues that meaningful learning encourages learners' engagement and autonomy as they relate new information to existing relevant

419

aspects of their individual knowledge structures, concluding that meaningful learning develops intrinsic motivation, crucial for the acquisition of new knowledge. The present study's results show that students who related the topic of land pollution to their own environmental conditions were likely to use metacognitive strategies and vocabulary more autonomously to both create achievable solutions within their communities and perform the final WebQuest activity.

Discussion

This study examined the influence of strategy training on a group of eighth-graders' performance on a vocabulary learning task in terms of both vocabulary learning and the development of autonomy. For RQ1, the results show a correlation between increased awareness of learning strategy use and the number of words recalled. Participants (53%) claimed to have incorporated new vocabulary learning strategies into their repertoires, such as remembering the context where the word was first seen, writing sentences, drawing charts, or making associations with images, and using these new strategies seems to have positively affected the participants' vocabulary recall (68%). These findings align with Barcroft's observation (2009) of a positive correlation between the number of strategies used and vocabulary recall (in which he concluded that the most frequently used strategies were L2-picture association, L2-L1 association, and L2-L1 translation).

We also observed more evident metacognitive behaviour as, when reflecting on their execution of vocabulary learning tasks, five of the participants mentioned being aware of how they selected words and the appropriate strategies for learning them, as well as their efforts to monitor the effectiveness of those strategies. This result emphasizes the importance of including explicit strategy training in the classroom and supports Anderson's (2008) claim that educators can structure a learning atmosphere where, in addition to learning about a language, students are encouraged to think about their learning processes. We would add that this

could lead to the development of stronger language skills. Helping students become more familiar with learning strategies and how to use them in turn fosters their abilities to make conscious decisions about their own learning and, therefore, constitutes a valuable use of instructional time in EFL classes (Diehb-Henia, 2003).

For RQ2, we found that the respondents reached varying levels of learner autonomy. Nine students were unwilling to implement new strategies and managed to only complete part of the tasks; these students had difficulty involving themselves consistently in the strategy development process. This finding was not unexpected because intrinsic motivation, a prerequisite for success in a learning endeavour, may have been low in this group of students. Other students who placed in levels 2, 3, and 4 (14, 5, and 2 students, respectively) were observed as being more involved in their learning processes and, in consequence, achieved higher levels of autonomy (Table 3), and were more likely to learn new vocabulary. This result is in accordance with Wenden's (1991) claim that autonomous student behaviours inexorably encompass the use of strategies, which in her view are 'operations that learners use to learn a new language and to regulate their efforts to do so' (p. 18). Participants in the present study who were active in strategy development also became more involved in their learning processes by performing the WebQuest activities outside the classroom (with reduced teacher guidance) and interacting with their classmates to plan, monitor, and evaluate their progress in the vocabulary learning tasks.

Pedagogical Implications

The present study's results show that when teachers guide students in the exploration of new strategies and in thinking about what works effectively for their own learning—rather than just telling them what to do and how to do it—the students are more likely to act and learn autonomously, which undoubtedly benefits their own learning processes. Therefore, we argue that

metacognitive and vocabulary strategy training should be more widely integrated into language teaching curricula (Rubin et al., 2007; Nguyen and Gu, 2013). Such integration could be supported by Web-based environments that enhance learning opportunities as students interact with classmates, their teachers, and parents to 'actively use their planning, monitoring and evaluating skills to complete their vocabulary learning tasks' (Nguyen & Gu, 2013, p. 25). Projects such as that implemented in the present study would also encourage teachers to act as facilitators, making use of the levels of independence students have already reached to support the development of further learner autonomy. Teachers could set topics and tasks that motivate more dependent learners to learn, use, and reflect on the efficacy of new strategies. Curricula could be improved by designing and implementing context-related units and tasks, as well as specific strategies, that encourage learners to select the vocabulary learning strategies most suitable for achieving their learning goals.

Accordingly, we argue for an approach to teaching and learning that (1) encourages students to exploit similarities between Spanish and English more effectively, and (2) trains students in new strategies that help them (a) recognize when they have encountered a difference between the two languages, and (b) overcome that difference by using the L2. For example, in a case such as that of Student 6 (Appendix B), who claimed that one of their difficulties was learning English vocabulary words that were very different from Spanish, the learner would be encouraged to reflect on the strategy already being used (leveraging knowledge of Spanish to help with English) to help find other strategies better suited to handling points of difference between the languages.

Moreover, it should be noted that metacognitive strategies, once learned, can be transferred to other areas of knowledge, and this may help enhance students' awareness and autonomy in contexts beyond the language classroom. If students are trained to set their own learning goals, monitor their task performance, and evaluate their results in terms of content and language learning, this should help them better learn and retrieve information in any content area.

Finally, we argue that using Web-based learning activities outside of class provides learners with additional opportunities to reinforce what they study at school, to practice English outside the classroom at their own pace, and to strengthen their digital literacy skills (e.g., how to find, evaluate, and use information). Introducing students to the use of Web-based technologies for language learning may also be helpful for them to get familiar with tools for lifelong learning and, as in the case of the present study, a pedagogical space in which to exercise autonomy with the strategies learned. However, we should emphasize that participants in the present study received advance preparation in the necessary ICT and digital literacy skills and that the particular WebQuest adapted for the study was specifically designed to ensure students could perform its activities in a safe environment in which constant support from teachers was available. In all cases, the use of Web-based tools for pedagogical purposes must be accompanied by careful preparation to support learners' current and future success.

Limitations and Further Research

Although the current study yielded valuable results concerning the use of metacognitive strategies for vocabulary learning, the sample was relatively small, limited to 30 A1-level eighth-graders, which complicates generalization of the results. Further research should trial the approaches used in the present study with larger groups of learners and with the use of a control group. Additionally, although participants in this study were, in general, quite committed to achieving the objectives proposed, the intervention lasted a relatively short time. As Moir and Nation (2008) observe, only when learners 'reach a satisfactory level of comfort [with one vocabulary learning strategy] it is unlikely that they will truly experience its effectiveness and find it easy to use as their default strategy' (p. 170), and this level of comfort is only

421

achieved with considerable effort and time. In the case of the present study, it was evident that participants would have benefited from a longer training period. Unfortunately, time restrictions dictated by the school calendar prevented the provision of further strategy training within the same academic year. Another limitation was that the processes studied did not reach an operationalized stage at which students could transfer the strategies learnt to different learning situations and thus provide evidence of systematic use of the strategies. Future longitudinal studies with larger populations could provide a more complete picture of the effects of strategy training for the enhancement of vocabulary in EFL contexts.

One fundamental area of research needed in the field of second language acquisition in Colombia concerns the social and cultural factors affecting teaching and learning processes, a better understanding of which could help explain why dependent students are often reluctant to adopt new practices that could help them become more independent learners. Such knowledge could help teachers design new methodologies to better support the development of learner autonomy. Additionally, further study on the effective use of Web-based technologies to support the development of metacognitive strategies could help teachers better guide students in navigating learning environments beyond the classroom. Such studies need not, of course, be focused on L2 vocabulary acquisition but more widely on the use of metacognitive strategies with any of the discrete skills or language systems, thereby contributing to a better understanding of how students can become more autonomous when learning English (or other languages) and, indeed, content subjects.

Conclusions

The outcomes of this study, notwithstanding its limitations, provide new evidence of the benefits of strategy training for EFL students. Analysis of both its quantitative and qualitative data indicate that students who managed to use metacognitive strategies outside the classroom through a WebQuest were able to enhance their use of strategies appropriate to support learning vocabulary related to a specific topic. This study also confirms that using metacognitive strategies can positively influence affective factors such as beliefs about, engagement with, and attitudes toward vocabulary learning. Additionally, the use of a technologically-based tool (such as WebQuests) can provide further opportunities for using relevant metacognitive and vocabulary learning strategies to learn different sets of words related to topics interesting to the students, which helps learners recall vocabulary outside the classroom context. Ultimately, such results emphasize that when learners plan, monitor, and evaluate learning in both individual and collaborative environments, inside and outside the classroom, they are likely to obtain superior results. Furthermore, learners who find personal satisfaction through the effective use of metacognitive strategies are thereby motivated to continue using them, which in turn enhances their autonomy and growth as effective life-long learners.

References

Anderson, N. J. (2002). *The role of metacognition in second language teaching and learning.* ERIC Clearinghouse on Languages and Linguistics. Retrieved from ERIC database (ED463659).

Anderson, N. J. (2008). Metacognition and the good language learners. In C. Griffiths (Ed.), *Lessons from good language learners (*pp. 99-109). Cambridge, UK: Cambridge University Press.

Barón, C. & Martínez, M. (2012). *The world in our hands.* [WebQuest]. Retrieved from: http://www.zunal.com/webquest.php?w=60584

Barcroft, J. (2009). Strategies and performance in intentional L2 vocabulary learning. *Language Awareness, 18*(1), 74-89. doi: 10.1080/09658410802557535

Burns, A. (2003). *Collaborative action research for English language teachers.* Cambridge, England: Cambridge University Press.

Burns, A. (2010). *Doing Action Research in English Language Teaching: A Guide for Practitioners.* New York, NY: Routledge.

Chamot, A. U., & O'Malley, J. M. (1996). The Cognitive Academic Language Learning Approach (CALLA):

A model for linguistically diverse classrooms. *The Elementary School Journal*, *96*(3), 259-273.

Cohen, L. Manion, L. & Morrison, K. (2007). *Research methods in education*. New York, NY: Routledge.

Cook, L. K., & Mayer, R. E. (1983). Reading strategies training for meaningful learning from prose. In M. Pressley, & J. Levin (Eds.), *Cognitive Strategy Research* (pp. 14-27). New York, NY: Springer Verlag.

Council of Europe. (2001). *Common European Framework of References for Languages: Learning, Teaching, Assessment*. Cambridge, UK: Cambridge University Press.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approach* (4th ed.). Thousand Oaks, CA: Sage.

Cotterall, S. (2008). Autonomy and Good Language Learners. In Griffiths, C. (ed.), *Lessons from Good Language Learners*, pp. 83-98. Cambridge, UK: Cambridge University Press.

Deschambault, R. (2012). Thinking-aloud as talking-in-interaction: Reinterpreting how L2 lexical inferencing gets done. *Language Learning*, *62*(1), 266-301. doi:10.1111/j.1467-9922.2011.00653.x

Diehb-Henia, N. (2003). Evaluating the effectiveness of metacognitive strategy training for reading research articles in an ESL context. *English for Specific Purposes*, *22*, 387-417.

Dodge, B. (1995a). WebQuests: A technique for internet-based learning. *Distance Educator*, *1*(2), 10-13.

Dodge, B. (1995b). Some thoughts about WebQuests. *Distance Educator*, *1*(3), 12-15. Retrieved from http://webquest.sdsu.edu/about_webquests.html

Dörnyei, Z. (2003). *Questionnaires in second language research: Construction, administration and processing*. Mahwah, NJ: Lawrence Erlbaum Associates.

Dörnyei, Z. (2005). *The Psychology of the Language Learner*. Mahwah, NJ: Lawrence Erlbaum Associates.

Fan, M. Y. (2003). Frequency of use, perceived usefulness, and actual usefulness of second language vocabulary strategies: A study of Hong Kong learners. *Modern Language Journal*, *87*(2), 222-241.

Fandiño Parra, Y. (2008). Action research on affective factors and language learning strategies: A pathway to critical reflection and teacher and learner autonomy. *PROFILE: Issues in Teachers' Professional Development*, *10*, 195-210.

Friesner, T., & Hart, M. (2005). Learning logs: Assessment or research method. *The Electronic Journal of Business Research Methodology*, *3*(2), 117-122.

Griffiths, C. (2003). *Language Learning Strategy Use and Proficiency: The Relationship between Patterns of Reported Language Learning Strategy (LLS) Use by Speakers of other Languages (SOL) and Proficiency with Implications for the Teaching/Learning Situation* (Order No. 3094436). Available from ProQuest Dissertations & Theses A&I. (305297847).

Griffiths, C. (2008). Strategies and good language learners. In Griffiths, C. (ed.), *Lessons from Good Language Learners* (pp. 83-98). Cambridge, UK: Cambridge University Press.

Gu, Y. (2009). LALS 516 Learner Autonomy and Learning Strategies course notes. School of Linguistics and Applied Language Studies, Victoria University of Wellington, NZ.

Harris, V. (2003). Adapting classroom-based strategy instruction to a distance learning context. *TESL-Electronic Journal, 7*(2), 1-19.

Hyland, F. (2004). Learning autonomously: Contextualising out-of-class language learning. *Language Awareness, 13*(3), 180-202.

Little, D. (1991). *Learner Autonomy 1: Definitions, Issues and Problems*. Dublin, Ireland: Authentik.

McLeod, D. (1992). Research on affect in mathematics education: A reconceptualization. In D. A. Grouws (Ed.), *Handbook of Research on Mathematics Teaching and Learning* (pp. 575-596). New York, NY: Macmillan.

Mizuki, P. (2003). Metacognitive strategies, reflection, and autonomy in the classroom. In A. Barfield & M. Nix (Eds.), *Autonomy you ask!* (pp. 143-156). Tokyo: Learner Development Special Interest Group of the Japan Association for Language Teaching.

Mooney, M. E. (1990). *Reading to, with, and by Children*. Katonah, NY: Owens.

Moir, J., & Nation, I.S.P. (2008). Vocabulary and good language learners. In C. Griffiths (Ed.), *Lessons from Good Language Learners*. Cambridge, UK: Cambridge University Press.

Mukoroli, J. (2011). *Effective Vocabulary Teaching Strategies for Academic Purposes ESL Classroom* (TESOL Collection, Paper 501). Retrieved from the SIT Digital Collections website: http://digitalcollections.sit.edu/ipp_collection/501/

Nation, I.S.P. (1990). *Teaching and Learning Vocabulary*. Boston, MA: Heinle & Heinle Publishers.

Nation, I.S.P. (2011). Research into practice: Vocabulary. *Language Teaching, 44*(4), 529-539. doi: http://dx.doi.org/10.1017/S0261444811000267.

423

Nation, I.S.P. (2013). *Learning Vocabulary in Another Language.* Cambridge, UK: Cambridge University Press.

Nguyen, L. (2012). Learner autonomy in language learning: How to measure it rigorously. *New Zealand Studies in Applied Linguistics, 18,* 50-68.

Nguyen, L. & Gu, Y. (2013). Strategy-based instruction: A learner-focused approach to developing learner autonomy. *Language Teaching Research, 17,* 9-30. doi:10.1177/1362168812457528

Novak, J. D. (1998). *Learning, Creating, and Using Knowledge: Concept Maps as Facilitative Tools in Schools and Corporations.* New York, NY: Lawrence Erlbaum Associates.

Nunan, D. (1990). Action research in the language classroom. In J. Richards & D. Nunan (Eds.), *Second Language Teacher Education* (pp. 62-68). Cambridge, UK: Cambridge University Press.

Nunan, D. (1997). Designing and adapting materials to encourage learner autonomy. In P. Benson & P. Voller (Eds.), *Autonomy and Independence in Language Learning* (pp. 192-203). London, UK: Longman.

Rátiva, M., Pedreros, A., & Nuñez, M. (2012). Using Web-based activities to promote reading: An exploratory study with teenagers. *PROFILE: Issues in Teachers' Professional Development, 14*(2), 11-27. Retrieved from http://www.revistas.unal.edu.co/index.php/profile/article/view/34034

Ross, S. (1998). Self-assessment in language testing: A metaanalysis and analysis of experiential factors. *Language Testing, 15*(1), 120.

Rubin, J.; Chamot, A.U., Harris, V., & Anderson, N.J. (2007). Intervening in the use of strategies. In A. D. Cohen & E. Macaro (Eds.), *Language learner strategies: 30 years of research and practice* (pp. 141-160). Oxford: Oxford University Press.

Shao, H., & Wu, Z. (2007). Nurturing language learner autonomy through caring pedagogic practice. In A. Barfield & S.H. Brown (Eds.), *Reconstructing autonomy in language education: Inquiry and innovation* (pp. 95-108). New York: Palgrave Macmillan.

Schmitt, N. (1997). Vocabulary learning strategies. In N. Schmitt & M. McCarthy (Eds.), *Vocabulary: Description, acquisition and pedagogy.* Cambridge, UK: Cambridge University Press.

Schraw, G. (1989). Promoting general metacognitive awareness. *Instructional Science, 26*(1-2), 113-125.

Sims, R. R., & Sims, S. J. (1995). *The importance of learning styles: Understanding the implications for learning, course design, and education.* Westport, CT: Greenwood Press.

Swartz, R. (2003). Infusing critical and creative thinking into instruction in high school classrooms. In D. Fasko (Ed.), *Critical thinking and reasoning* (pp. 293-310). Cresskill, NJ: Hampton Press.

Trujillo, C. L., Álvarez, C. P., Zamudio, M. N., & Bohórquez, G. (2015). Facilitating vocabulary learning through metacognitive strategy training and learning journals. *Colombian Applied Linguistics Journal, 17*(2), 246-259. Available at: http://revistas.udistrital.edu.co/ojs/index.php/calj/article/view/8744/10681

Ushioda, E. (2008). Motivation and good language learners. In Griffiths, C. (ed.), *Lessons from good language learners* (pp. 19-34). Cambridge Language Teaching Library. Cambridge, UK: Cambridge University Press.

Valdivia, S., McLoughlin, D., & Mynard, J. (2011). The importance of affective factors in self-access language learning courses. *Studies in Self-Access Learning Journal, 2*(2), 91-96.

Wenden, A. (1991). *Learner strategies for learner autonomy.* Englewood Cliffs, NJ: Prentice Hall.

Wheeldon, J. P., & Faubert, J. (2009). Framing experience: concept maps, mind maps, and data collection in qualitative research. *International Journal of Qualitative Methods, 8*(3), 52-67.

Zhou, M. (2016). The roles of social anxiety, autonomy, and learning orientation in second language learning: A structural equation modelling analysis. *System, 63,* 89-10.

424

Appendix A: Pre-Questionnaire

Dear student,

We want to learn a bit more about you as an English language learner and how you learn vocabulary. So please help us complete this questionnaire. It will only take you some minutes.

There are no good or bad answers. Your answers will be confidential and have no relationship with your grades in the subject.

Thanks for your collaboration.

Estimated time: 15 minutes.

DATE _____   AGE _____

PART 1

Mark with an X the option (s) that best describes the way you learn new vocabulary in English.

1. How much time do you usually spend for the learning of new vocabulary in English?
a. Everyday
b. On weekends
c. Only when I have scheduled exams/tests
d. Never
e. Other

425

2. Explain what you do in order to understand an unknown word when you are reading a text:

STATEMENT	Never	Rarely	Sometimes	Usually	Always
You try to guess the meaning by looking for contextual clues (words around the unknown word).					
You ask a classmate for its meaning.					
You look it up in the English–Spanish dictionary.					
You ask your teacher for its meaning.					
You look for similarities between the unknown word in English and any word you already know in Spanish.					

3. In which way(s) do you learn new vocabulary in English?

STATEMENT	Never	Rarely	Sometimes	Usually	Always
You make a mental image of the new word.					
You make associations between the word and objects/real experiences.					
You make associations with synonyms that are familiar to you (e.g. angry = upset).					
You make relationships forming groups of words with the same characteristics (e.g. fruits: banana, mango, apple, etc.).					
You associate the new word with a rhythm or song that you can remember easily.					
You associate the new word with the image of the place where you saw it first (e.g. the textbook, the board, the street).					
You use the new word in similar sentences/contexts.					
You write the new word several times.					
You repeat the new word several times until you feel you have learned it.					
You make a drawing that reminds you the meaning of the new word.					
Other (please explain)					

4. Do you use any way to keep a register of new vocabulary that allows you to remember it easily?

YES _____   NO _____   SOMETIMES _____

If you answer yes, which of the following techniques do you use?

a. Cards alphabetically organized with the image and the word in English

b. A notebook with the vocabulary bank

c. Write the new words at the end of the notebook of English

d. In a word document in my PC

e. Other (please explain)

PART 2

Mark with an X in the option that best reflects the way in which you learn new vocabulary in English.

STATEMENT	Never	Rarely	Sometimes	Usually	Always
PLANNING					
You set your own goals before starting any activity that requires the learning of new vocabulary.					
You plan how to learn new vocabulary while you are completing each activity (e.g. what you need to know, the steps to follow, the kind of language, the vocabulary previously learned, the resources, etc.).					
You can self-motivate in order to increase the amount of words that you know in English.					
MONITORING					
You organize the activities using techniques that facilitate the learning of new words (drawing, writing, singing, drawing concept maps, counting).					
You focus your attention in doing the task until the end, learning as much words as possible.					
You think in the progress that you are making during the development of any task in English (e.g. the words that you have already learned, the ones that have been difficult to learn, the ones that you do not remember).					
EVALUATING					
You evaluate whether you have achieved the goals (learned words) at the end of the activity.					
You evaluate how many words you have learned at the end of the task.					
You check how well your learning techniques have worked.					
Other					

PART 3

Mark with an X the option that best describes your personal experience.

1. Learning new vocabulary is

a. Easy

b. Difficult

Please explain.

2. I know that I have learned a new word in English when: (you can mark more than one option)

a. I can use it when reading or writing a text

b. I can remember it easily

427

c. I remember it in a test

d. I know in which situations to use it

e. Other _____

Appendix B: S6 Learning Log

How many words can you remember?

WORD	1	2	3	4	TRANSLATION
Trash		X			
Clean		X			
Garbage				X	*Basura*
Recycle				X	*Reciclar*
Reuse		X			
Reduce			X		*Reducir*
Pollute			X		
Fertilizers		X			*Fertilizar*

What strategies did you use to learn vocabulary?
With the words I considered difficult I did some charts in a piece of paper and pasted them on the closet so that I could remember them, this was a good strategy for me'
What were the most difficult words to learn? Why?
Bury
reduce
How do you plan to learn new words?
Asking a classmate, using context or identifying cognates
What difficulties have you had to learn new vocabulary?
I have had problems with those words that are very different from Spanish.

METACOGNITIVE STRATEGIES
1. Have I planned how to learn new vocabulary? ____ Yes, at times, when I like the topic.
2. Can I tell when I have learnt new words if I see them in a different context?____ Yes.
3. Do I test myself on the new words I learn? ____ No, I don't have much time.
4. Can I work independently with the WebQuest? ____ Yes, activities are easy to understand.
5. Have I found team work easy while working on the WebQuest?____ Yes, because we understand each other.

Appendix C: Mind Map

Figure 2. Mind Map.

Appendix D: Interview

Q1 Were there any words you had to learn on your own?

(¿Hubo palabras que tuviste que aprender por tu cuenta?)

Sí, algunas como biodegradación, cans *son latas,* clean *es limpio,* recycle *es reciclar,* reducir *reduce,* dump *es como la caneca grande, ya las sabía pero tuve que aprender otras como* somewhere *en algún lugar,* moisture *es humedad,* manage [sic] *es daño,* air *es aire, emmm . . .* garbage *es basura,* landfills *es vertedero,* throw away *es arrojar, y* energy *es energía.*

Q2 Did you select strategies to remember words by yourself?

(¿Seleccionaste tú mismo estrategias para recordar las palabras?)

Con las palabras que me parecieron difíciles realicé como unos cuadritos en hojas y los pegaba en el closet para yo poderme acordar. Para el mapa mental me acordé mucho del producto que realizamos con el grupo. Eso me ayudó a recordar muchas palabras que utilicé en el producto, en las descripciones me acordaba de los dibujos, cuando decían una palabra en español yo la relacionaba con una en inglés que yo había escrito en el trabajo . . .

Q3 Did you plan your vocabulary learning?

(¿Planeaste aprender vocabulario?)

Student*: Sí. Tú nos habías dado una hoja sobre la planeación sobre las... cómo aprendí a planear hacer el trabajo, cómo a planear cuáles eran nuestros objetivos y colocamos ahí que... pues para mí era aprender las palabras... las 60 palabras. Aunque creo que lo logré, pero en algún caso se me dificultó aprender las palabras porque no las relacionaba con sinónimos o con oraciones.*

429

Q4 Did you monitor what you were learning?

(¿Monitoreabas lo que ibas aprendiendo?)

Student*: Sí. Yo monitoreé. Digamos, por ejemplo, las hojas de monitoreo que tú nos dabas sobre las 20 palabras que tocaba revisar, esa era una forma para mí de monitorearme, porque yo realizaba mis oraciones y yo colocaba la fecha en la que me aprendía para entregar mi trabajo. Entonces esa era la forma de monitorearme. Además, yo ejercía listas con las palabras que yo creía que eran importantes de ese contexto sobre la WebQuest y las iba estudiando.*

Q5 Did you evaluate how you were learning?

(¿Evaluabas cómo aprendías que aprendías?)

Sí. Pues para mí el trabajo del producto que realicé sobre la WebQuest, para mí fue, creo que valió mi trabajo durante toda la WebQuest, porque ahí se mostró el resultado de todo mi desarrollo, monitoreo y planeación sobre la WebQuest.

Q6 Which strategy did you find the most difficult?

(¿Cuál estrategia fue la más difícil para ti?)

La más difícil fue monitorear, porque en el momento que vamos realizando el trabajo no tenemos en cuenta cómo vamos a ir evaluando mientras que lo hacemos. Entonces creo que es como ir practicando, pero creo que es la parte más difícil que toca hacer.

Q7 What where your expectations about the topic addressed in class?

(¿Cuáles eran tus expectativas respecto al tema de clase?)

El tema me pareció bueno, porque es un tema muy cotidiano y donde podemos relacionar el inglés con un tema tan importante que hoy en día es un problema que creemos que solo lo podemos tratar solo con el área de ambiental. Creo que fue un momento importante en el que nosotros nos pudimos concientizar más sobre este problema.

Q8. In your opinion, how was your attitude and that of your classmates when you worked together?

(¿Cómo crees que fue tu actitud y la de tus compañeros cuando trabajaban juntos?)

A y B eran vagos y no entendían esto de las estrategias pero a pesar que todos somos diferentes en la forma de aprendizaje, creo que fue… que hicimos bien el trabajo en el grupo porque todos aportamos algo a pesar de que tenemos diferentes conocimientos todos pudimos aprender el uno del otro.

Q9. What was your perception about your own use of the strategies?

(¿Qué opinas respecto a tu uso de las estrategias?)

Para mí fue importante aprender estas estrategias porque era algo diferente y me di cuenta [de] que si trabajaba mucho en clase y con la WebQuest podía aprender. Creo que me faltó un poco de monitoreo en la parte del vocabulario, y… es por eso, porque no tenía mucho en cuenta cuánto me iba aprendiendo, sino que yo me iba aprendiendo palabras y palabras pero nunca me puse a pensar cuántas llevo.

Q10. If you had the opportunity to learn again using a WebQuest, would you do it?

(Si volvieras a tener la oportunidad de aprender usando una WebQuest, ¿lo harías?)

Sí, sí lo haría. Me parece que es una muy buena herramienta didáctica en la que podemos aprender nuevo vocabulario, nuevas formas de aprendizaje y en las que podemos coger yo creo que un poco de independencia sobre nuestro aprendizaje, porque nosotros adquirimos mucha responsabilidad con respecto a los temas trabajados.

Q11. What about metacognitive strategies?

(¿Y las estrategias metacognitivas?)

Sí, las utilizaría. Mejor, la de monitorear… aunque son muy buenas porque puedo tener en cuenta a lo que yo me propongo, como es en el caso de planear, a los objetivos que quiero tener, a cómo lo voy a hacer, a, digamos… por ejemplo, en la parte del monitoreo me gustaría arreglarla, porque siempre […] tener en cuenta cuántas llevo aprendiéndome, cuántas me gustaría seguir aprendiéndome, y no solo aprenderme por aprenderme.