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Vocabulary Learning Strategies in an ESP Context

Abstract

The paper focuses on vocabulary learning strategies as a subcategory of language learning strategies and their instruction within the ESP context at the Faculty of Maritime Studies and Transport in Portorož. Vocabulary strategy instruction will be implemented at our faculty as part of a broader PhD research into the effect of language learning strategy instruction on strategy use and subject-specific and general language acquisition. Additional variables that will be taken into consideration are language proficiency, motivation and learning styles of the students.

The introductory section in which the situation that triggered my PhD research is presented is followed by a theoretical introduction to the concept of language and vocabulary learning strategies. The aspects that the paper focuses on are the central role of lexis within ESP, vocabulary learning strategy taxonomies, and the presentation of research studies made in the examined field to date. The final section presents the explicit vocabulary learning strategy instruction model. In the conclusion, some implications for teaching can be found.

Introduction

In Slovenia students enter tertiary education and within it further language instruction after having learnt what is called the first foreign language – English in most cases – for eight years. Depending on the secondary school language program completed and the geographical area, other foreign or second languages are learnt (e.g., German, Spanish, and French, and Italian or Hungarian). In addition to learning foreign languages in the formal school setting, modern technology, in particular the internet, and cable and satellite TV, provide daily opportunities for the acquisition of English. We should also not forget that several students attend language courses abroad before enrolling in postsecondary level institutions.

At the Faculty of Maritime Studies and Transport of the University of Ljubljana, English is the only foreign language taught. The syllabus focuses on English for Specific Purposes (ESP) tailored to the needs of the students of traffic technology (and of maritime studies as a separate department). The starting level at the three-year study program of traffic technology is set at B1 and at the 4-year study program of traffic

technology at B2.

At the beginning of the freshman year, ESP teachers at our faculty meet students at both extremes of the language competence continuum. The present situation analysis (Jurković, 2002) conducted within a broader framework of needs analysis revealed extremely varied general language proficiency levels among freshman students, ranging from A1 to C1. Needless to say, students at level A1 fail to meet the language standards that would allow them to efficiently engage in further (specific) language instruction. In addition, the target needs analysis (Jurković, 2002) indicated the daily use of English for working purposes among faculty graduates and the required high level of English language competence for effective communication with foreign partners.

The presented situation motivated my current PhD research into what has been identified as one of the possible reasons for the differences in the language proficiency levels among freshman students – efficiency of use of language learning strategies – and the effect explicit language learning strategy instruction would have on the development of (discipline-specific) language proficiency in relation to the four skills and vocabulary within a tertiary education ESP context. A further motivation for my PhD study was the results of the learning needs analysis that revealed (Jurković, 2002) a low frequency of use of language learning strategies, in particular among freshman students of the three year college study programme. The frequency of use of language learning strategies across all language learning strategy groups measured by SILL[1] (Oxford, 1990: 293-300) among freshman students at the Faculty of Maritime Studies and Transport is lower than that among learners in comparable groups as determined by other studies (4-year study programme/3-year study programme: memory – 3.01/2.45; cognitive – 2.97/2.65; compensation 3.07/2.84; metacognitive – 3.21/3.10; affective – 2.97/2.34; social – 3.25/2.74). The categories that bear special importance for vocabulary learning are memory strategies but also social, metacognitive, and cognitive strategies. Although the frequency of use of language learning strategies is not the only criterion to be applied given that less effective learners might use strategies as frequently as their more proficient peers (Chamot et al. 1999), it was the varied language proficiency levels at enrolment that provided a decisive stimulus for my PhD research that will be presented further in the next paragraph.

In addition to determining the effect explicit language learning strategy instruction has on the development of general and discipline-specific language proficiency in relation to the four skills and vocabulary, the research will take into account additional variables that exert a significant influence on language acquisition. The observed variables will be:

- the frequency of language learning strategy use,

- the influence of language proficiency, motivation and learning styles on the above variables, and vice versa.

Given the central role of vocabulary and lexis as carrier content in ESP, also confirmed by different authors, for example Robinson (1991: 4) who says that: "It may often be thought that a characteristic, or even a critical feature, of ESP is that a course should involve specialist language (especially terminology) and content." or Dudley-Evans and

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[1] Strategy Inventory for Language Learning

StJohn (1998: 5) that include lexis among absolute defining features of ESP: "ESP is centred on the language (grammar, lexis, register), skills, discourse and genres appropriate to these activities.", the present paper concentrates on vocabulary learning strategies (VLS) within the broader framework of language learning strategies. In other words, the paper is about how to learn (discipline-specific) vocabulary and not what (discipline- specific) vocabulary is. The aim of the paper therefore is to present some theoretical premises underpinning VLS and learning of lexis, research studies made to date throughout the world, and language learning strategy instruction models including VLS instruction. The practical section consists of a sample teacher's unit plan introducing VLS instruction in accordance with O'Malley's and Chamot's (1994) 5-step model and the language learning strategy taxonomy as presented by Oxford (1990). In the conclusion, some implications for teaching can be found.

Vocabulary language learning strategies

Given the multitude of competing terms found in professional literature, the concept of VLS should be defined first.

VLS are a subcategory of language learning strategies (which in turn are a subcategory of learning strategies in general). If language learning strategies can be defined as "specific actions taken by the learner to make learning easier, faster, more enjoyable, more selfdirected, more effective, and more transferable to new situations." (Oxford, 1990: 8), VLS constitute knowledge about what students do to find out the meaning of new words, retain them in long-term memory, recall them when needed in comprehension, and use them in language production (Catalan 2003, in: Ruutmets, 2005).

To date, several VLS taxonomies have been proposed (Gu and Johnson, 1996; Schmitt, 1997; Nation, 2001; all in: Segler et al., 2001). Several advantages of Schmitt's taxonomy over others have been determined, namely that it can be standardized as a test, can be used to collect the answers from students easily, is based on the theory of learning strategies as well as on theories of memory, is technologically simple, can be used with learners of different educational backgrounds and target languages, is rich and sensitive to the variety of learning strategies, and allows comparison with other studies, among them Schmitt's own survey (Catalan 2003, in: Ruutmets, 2005). The most important advantage for the purpose of this paper is that it is organized around an established (Oxford's) scheme of language learning strategies (Segler et al., 2001) that will be used as the basic framework for my PhD research into language learning strategies in general.

As mentioned earlier, Schmitt's (1997, in: Segler, 2001) taxonomy of VLS is based on Oxford's (1990) division of language learning strategies into direct (memory, cognitive, and compensation) and indirect (metacognitive, affective, and social) strategies. In order to cover cases where meanings of new words are discovered without other people's assistance, Schmitt introduced another category – determination strategies. However, he excluded affective and compensation strategies as categories yet shifted some of the strategies to other groups (e.g., guessing, as will be seen later in this paper). Schmitt's taxonomy is two-dimensional. The second dimension, reflecting the

different processes necessary for working out a new word's usage and meaning (discovery strategies) and for consolidating it in memory for future use (consolidation strategies), was borrowed from Nation (1990, in Segler, 2001). Schmitt's taxonomy with sample VLS is presented in Table 1.

	DISCOVERY	CONSOLIDATION
DETERMINATION	e.g., guess from textual context	
SOCIAL	e.g., ask classmates for meaning	e.g., interact with native speakers
MEMORY		e.g., use semantic maps
COGNITIVE		e.g., keep vocabulary notebook
METACOGNITIVE		e.g., use L2 media

Table 1. Schmitt's taxonomy

Before proceeding to a shortcoming of VLS taxonomies as identified by Segler et al. (2001), it is necessary to mention that in relation to language learning strategies in general Ehrman and Leaver (2003) talk about surface, achievement, and deep strategies. Surface strategies are used for a specific task and entail minimum cognitive or emotional investment, the aim of achievement strategies is good interpersonal relationship, while deep strategies make elaborations and associate between previous and new knowledge, most directly resulting in long-term retention of information.

One of the shortcomings of all VLS taxonomies as identified by Segler et al. (2001) is that none of the proposed taxonomies includes the depth-of- processing (DOP) factor. Although the DOP hypothesis proposed by Craik and Lockhart (1972, in: Segler et al., 2001) as a whole remains controversial, its central idea is generally agreed upon – that deeper analysis (involving more cognitive effort or semantic involvement) leads to a more persistent memory trace.

In addition, several studies have confirmed that among language learners low DOP strategies prevail (Lawson and Hogben, 1998: 75% of the reported strategies did not involve any elaboration that anchors knowledge into existing schemata; Schmitt 1997, in: Ruutmets, 2005: written repetition was the main strategy among Japanese learners; O'Malley and Chamot 1990, in: Segler, 2001: the most popular language learning strategies require little cognitive processing of learning materials). This is particularly interesting in the light of the fact that Gu and Johnson (1996, in: Segler, 2001) found out that the 'shallow' (also surface or mechanical) strategy of visual repetition was the strongest negative predictor of learning outcome, as opposed to deeper strategies.

Let us have a look at the results of some research studies examining other aspects inherent to VLS.

In order to be effective, strategy use has to be conscious and language users active processors of information (Gu 2005, in: Atay and Ozbulgan, 2006: successful learners intentionally select, consciously monitor and evaluate the strategy while less successful learners employ similar strategies yet are not aware of them and do not have a learning aim). The implication for VLS (and language learning strategy in general) training is that making the learners aware of the strategies they might employ is not enough.

Instruction has to be explicit and students informed about the value and purpose of learning strategies as well as their potential use, as will be restated and presented in the following chapter.

Moreover, Schmitt's study (1997, in: Segler, 2001) confirmed that vocabulary learning strategies change as learners mature and that the general trend entails moving away from mechanical repetition to deeper strategies as learners begin to understand their value. The question at this point, however, is – especially in the light of the situation presented in the introduction – whether after eight years of learning the first foreign language and given the low language competence levels at enrolment, many students at our faculty can be considered as mature language learners. The obvious answer is 'no'. Would they be, though, were they (had they been) exposed to VLS instruction and trained in using efficient VLS?

Other researchers concentrated on the different strategies appropriate for highly proficient learners and their less proficient peers, which is an aspect related to contextualized or decontextualized vocabulary learning. While according to the lexical approach (Lewis, 1993) contextualized learning is preferable because learning vocabulary means more than memorization of lexical phrases, other authors claim that greater amounts of decontextualized vocabulary instruction should be given to beginner-level learners, gradually increasing toward more context-based vocabulary learning as their language ability develops (e.g., Meara 1997 in: Nielsen, 2002). The third approach combines decontextualized vocabulary discovery and consolidation through contextualized activities, or vice versa.

Vocabulary learning strategy instruction model

Based on the premise that (vocabulary) language learning strategies are teachable and that they can have a significant impact on the development of linguistic and specifically lexical competence in the examined case, the following section concentrates on the theoretical presentation of language learning strategy instruction models followed by the presentation of the VLS instruction model as a classroom intervention that will be implemented at the Faculty of Maritime Studies and Transport within the broader framework of language learning strategy instruction.

There are different ways in which language and vocabulary learning strategy training can be conducted that can generally be divided into two categories: direct strategy training and embedded strategy training. In direct (or explicit) strategy training students are informed about the value and purpose of strategies while in embedded training the strategies are embedded into learning materials but not explicitly discussed. Another option is separate strategy training organized in the form of a language-independent module (O'Malley and Chamot, 1994). While several strategy instruction models have been proposed (Oxford, 1990; O'Malley and Chamot, 1994; Cohen, 1998), all researchers agree that to be effective strategy instruction has to be explicit to the learners, as already mentioned earlier.

The structure for explicit strategy instruction presented by O'Malley and Chamot (1994) that the model of language learning strategy instruction at our faculty will be based on

consists of the following five steps:

> 1. preparation – the prior knowledge of students in relation to a specific language learning strategy is analysed,

> 2. presentation – a new language learning strategy is presented and its use is demonstrated,

> 3. practice – the presented strategy is practised using the usual classroom material,

> 4. evaluation – students evaluate how well the strategy is helping them,

> 5. expansion – students attempt to extend the examined language learning strategy to new tasks.

Let us consider which language learning strategies in general and VLS specifically the presented language task may focus on. The example will be illustrated on a text extract taken from the textbook used with freshman students at our faculty (Jurković and Harsch, 2004).

Container Ship Sizes: How Big is "Big"?”
(extract)

Container vessel sizes have been increasing, apparently without limit. As we design ports, we are always asked: "How big will they get?". So, what are the limits on vessel size?

Bigger vessels consume less <u>fuel per ton-mile</u>, and use fewer <u>crew-hours</u> per tonmile. Ship operators will use the biggest ship that is technically feasible and meets their logistics needs.

Since 1985, each new generation of container vessel has employed the largest single diesel engine ever built. Diesel fuel is the fuel of choice, because it is cheap and universally available. Engine size is critical. To properly serve a <u>port rotation</u>, a ship must have the proper speed, usually in the range of 25 to 28 knots.

Vessel length and width are limited by navigational issues. The Panama Canal locks represent one dimensional limit. Many ships are now bigger than the Panama Canal locks, but many ships are still built "<u>Panamax</u>" or smaller if they are expected to transit the Canal. Vessel length also has a profound impact on navigation through winding port channels and turning basins. Many major ports are beginning to experience this problem. The only way to test for this problem is with sophisticated navigational modelling on a <u>ship pilot simulator</u>.

A container <u>ship's draft</u> is driven by <u>container stacking height</u>. Stacking height is limited by the structural strength of <u>shipping containers</u>, which is dictated by international standards. The current practical limit seems to be seven-high stacking on deck and nine-high or ten-high stacking below deck. There are proposals for altering ship design to alleviate these problems, and so allow for higher stacking, leading to increased draft.

Some of the instructions that the textbook suggests are:

> 1. Have a look at the title of the text: *Container Ship Sizes: How Big is 'Big'?* Write down five questions related to container ships and their sizes that you would like the text to answer.

> 2. Compare your questions with two partners and complete your lists.

3. Read the text. Have any of your questions been answered? If yes, which?

4. In the text some words and expressions have been underlined. Read the text again and try to guess their meaning from the context.

5. Work with two partners and try to paraphrase the underlined terms.

6. …

Analyzing the instructions above we can see that they refer to the following language and vocabulary learning strategies:

1. Compensation learning strategy of 'guessing intelligently using other clues' (Oxford, 1990: 92-94);

2. Social learning strategy of 'cooperating with others-cooperating with peers' (Oxford, 1990: 171);

3. Cognitive learning strategy of 'receiving and sending messages-getting the idea quickly' (Oxford, 1990: 80-81);

4. Vocabulary learning strategy of 'guessing intelligently-using linguistic and other clues' in Oxford's taxonomy listed under compensation strategies (1990: 91-94) and 'guess from textual context' in Schmitt's taxonomy, found under discovery determination strategies (Schmitt, 1997 in: Segler, 2001: 31);

5. Social learning strategy of 'cooperating with others-cooperating with peers (Oxford, 1990: 171); vocabulary learning strategy of 'paraphrasing', in Schmitt's taxonomy listed under discovery social strategies (Schmitt, 1997 in: Segler, 2001: 31).

6. …

Referring to Brown's and Payne's five steps in the process of learning vocabulary (1994, in: Ruutmets, 2005) that VLS instruction may focus on (Fan 2003, in: Ruutmets, 2005), the activity relates to the first three steps: having sources for encountering new words, getting a clear (auditory or visual) image of the new words, and learning the meaning of the new words. Additional strategies would have to be introduced in relation to the last two steps: making a strong memory connection between the forms and the meanings of the new words, and using the new words.

Therefore, a single activity may involve a variety of language and vocabulary learning strategies. Other strategies could be added to the list, such as 'translating', 'asking questions', 'using imagery', and so forth.

Given that the present paper concentrates on VLS and that, as mentioned earlier, in order to be effective strategy instruction has to be made explicit to the learners, one of the two VLS presented under points 4 above – guessing the meaning from context using linguistic or other clues – will be presented in detail in relation to the five-step explicit strategy instruction model. Effective and explicit strategy instruction also entails concentrating on a single strategy or group of related strategies at a time (Ehrman, 1996), which is why in this case the other strategies discussed above would simply be

embedded into language activities yet not explicitly discussed (but would be on another occasion and with a different language activity).

Date: dd-mm-yy	Textbook page/s: 42-44	Time: 15'	Group: Year 1
Content: Container ship sizes			
Language skill: Vocabulary			
Strategy: Guessing the meaning from context using linguistic or other clues			

Strategy set:[2]
  ○ memory
  ○ cognitive
  x compensation
  ○ metacognitive
  ○ affective
  ○ social			

Strategy instruction phase/s:[3]
  x preparation
  x presentation
  x practice
  x evaluation
  x expansion			

5-step instruction process:			
Preparation 1. Group work – students discuss ways in which they can deal with unknown vocabulary in a text. 2. Class discussion.			
Presentation 1. Present 'guessing the meaning from context using linguistic or other clues' as a strategy. Use the following sentence as the basis for presentation: "In the early 1960s, American railroads introduced the piggyback car, designed to carry two truck trailers at the same time. This breakthrough meant the beginning of intermodal transport." 2. Discuss what linguistic or non-linguistic clues can be used to guess the meaning of the term 'intermodal'. 3. Explain strategy benefits – awareness that you do not have to understand every single word to get the overall meaning of the text, many words can be understood through guessing, making mental associations with previous knowledge.			
Practice See: textbook instructions, pp. 42-44.			
Evaluation 1. Ask if students found the strategy of guessing helpful in learning new vocabulary. 2. Ask how students would modify it to make it more helpful to them.			
Expansion Homework assignment – Give students another text with potentially unknown terminology. Ask them to use guessing first and then check their guesses using a dictionary.			

Table 2. Proposed VLS instruction unit plan

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[2] In accordance with Oxford's (1990) division of strategies in the listed groups.

[3] In accordance with O'Malley's and Chamot's (1994) five-step model of strategy instruction presented earlier.

A proposed VLS instruction unit plan that may precede the language activity described above (related to the strategy of 'guessing the meaning from context using linguistic or other clues') is presented in Table 2.

The presented VLS and activity rely on contextualized learning of new vocabulary. In order to enhance the retention of the new vocabulary, VLS for decontextualized consolidation of vocabulary could be applied, thus generating a combined approach. Examples of VLS used for decontextualized consolidation of vocabulary are grouping, placing new words in a context, translating, using imagery, using keywords, using mechanical techniques, and so forth.

Conclusion

The paper concentrates on a presentation of language learning strategies in general and on vocabulary learning strategies specifically. The final section of the paper focuses on language and vocabulary learning strategy instruction presented in a practical model of strategy instruction that will be implemented at our faculty within an attempt to enhance the language (and vocabulary) acquisition process.

In relation to discipline-specific vocabulary my PhD study presented in the introduction should therefore provide the answer to the question whether VLS instruction was beneficial in terms of enhanced frequency of use of (deep) VLS and better discipline-specific vocabulary knowledge compared to the results in the control group where no explicit VLS instruction will be implemented.

Given that strategy instruction presented in the paper is based on the textbook used with freshman students that has been written with (vocabulary and language) learning strategies in mind, it would be interesting to find out which of the strategies in the two taxonomies that were presented (Oxford, 1990; Schmitt, 1997) are stimulated by the instructions alone.

The implications for teaching that can be derived from the present paper are that a) explicit vocabulary strategy instruction should be embedded into regular course activities, b) students should be informed of a whole array of strategies in order to enable them to choose the most effective ones for themselves, c) teachers themselves should have a good command of language and vocabulary learning strategies, and d) focus should be laid on both contextualized and decontextualized vocabulary learning in dependence of the task objective and language competence of the students.

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