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The importance of strategies in learning and acquiring medical English vocabulary

ABSTRACT

Being somewhat different from General English vocabulary, Medical English vocabulary for Academic Purposes is usually considered to be more difficult to learn.

As language learning strategies have been rather popular in the field of L2 acquisition for quite some time, this paper deals with the possibility of using them to facilitate learning Medical English lexis. The paper first briefly deals with the specific nature of ME vocabulary and then it moves on to strategies, their types and recent results in this field. Finally, a questionnaire, which is aimed at checking students' attitudes to Medical English in general, their awareness of strategies and to what degree they use strategies, is analyzed and discussed. This research has also inspired certain ideas for promoting strategies and making them more practical for students to use.

Key words: vocabulary, Medical English, learning strategies, students, research.

1. Introduction

Being an ever-developing linguistic issue, language learning strategies have been attracting linguists' attention for quite some time and have inspired many a fruitful research since the last decade of the 20th century. There are many linguists who have contributed to the popularisation of learning strategies in the field of L2 acquisition, Oxford (1990), O'Malley and Chamot (1990) being only the most conspicuous ones. Although numerous studies have been conducted to prove that language

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learning strategies could enhance learning and acquiring certain aspects of languages, little has been done to link language learning strategies to ESP.

As most conspicuous differences between ESP and General English are related to vocabulary, this paper deals with the importance of using strategies in the field of Medical English vocabulary and the possibility of using them to facilitate learning this type of lexis. Being somewhat different from General English vocabulary, Medical English vocabulary for Academic Purposes is usually considered to be more difficult to learn and use in practice and as a result students tend to have poor results in academic tests.

For this reason, the paper first briefly deals with the specific nature of ESP in general and Medical English vocabulary in particular, stating their differences in comparison to General English lexis. The types of strategies and different taxonomies are discussed, as well as the recent results and achievements in this field. Results and conclusions of these studies may differ, but they still have one thing in common – they are all done in order to check the importance of using strategies when learning a language. This paper is aimed at comparing the results from our university with the conclusions of other studies, so a qualitative questionnaire has been designed to this purpose. The questionnaire checks students' attitudes to Medical English in general, their awareness of strategies and to what degree they actually use them. This research also stresses the difference between theory and practice when it comes to applying strategies to actual learning situations and it inspires certain ideas for promoting strategies and making them more practical for students to use.

The results of the qualitative research, which included a relatively big number of informants, partly match the results of particular studies that this paper refers to, but some of them are rather surprising as well. The research methodology, the detailed analysis of the results and the particular conclusions will be presented in the paper.

2. ESP and Medical English vocabulary

Unlike General English (GE), ESP (English for Specific Purposes) is usually described as "applied ELT" as it is designed to meet specific needs of learners and it has contents that are related to particular professions and situations (Dudley-Evans and St John, 1998 in: Gatehouse, 2001). The purpose for which learners learn the language is crucial for choosing (authentic) materials in ESP and deciding on a teaching methodology, which can be in contrast with that of GE (Gatehouse, 2001). As ESP is divided into EAP (English for Academic Purposes) and EOP (English for Occupational Purposes), it usually targets adult learners at the intermediate or ad-

vanced level. Due to globalisation, the increase in vocational training and the fact that English is the language of international communication, ESP is becoming more important and more practical (Harding, 2007: 6 - 7). ESP aims at promoting professional and academic communication, it is extremely precise and it is specific terminology-wise. It involves using professional literature, taking part in conferences, writing scientific papers and it also facilitates using Internet technology (Mićić, 2009: 88).

Characterized by a specific needs analysis and carefully selected materials, ESP depends on vocabulary even more than GE. In order to be able to function in any of the areas that ESP covers, a student needs to gain knowledge of specific *technical* and *non-technical* words (Harding, 2007), to store them in their long-term memory and be able to use them productively.

Owing to the fact that all the greatest medical discoveries have been published in English (Mićić, 2009: 82), it could be said that English for Medical Purposes is a large and ever-developing sub-system of ESP which has a specific nature, as the majority of vocabulary in this field is highly technical. In other words, these are terms that have a restricted, specific meaning in the field, are not used in GE and mostly have Latin and Greek origin (Robinson, 2009: 37). There are also some general terms that are highly frequent in the field of Medical English (e.g. *fatigue*), general English words which have a specific meaning in this particular discipline (e.g. *benign*), as well as numerous collocations (Dudley-Evans and St John, 1998: 83; in: Robinson, 2009: 37). Apart from technical and semi-technical terms, Medical English is characterized by abundant use of synonyms (e.g. *myopia = short-sightedness*), abbreviations (e.g. *AIDS*) and eponyms (e.g. *Parkins – Parkinsonism*). The words of Greek and Latin origin have irregular plural as they keep Greek and Latin formants (e.g. *bacterium – bacteria*, *criterion – criteria*) and it is thus necessary to learn them by heart, which is usually not very popular among students. Another morphological specificity of Medical English is a great number of compound words, whereas grammar is mostly simplified and characterized by the use of Present Simple Tense and conditional sentences as well as passive voice. Furthermore, Medical English is rich in medical phrases that sound strange in everyday communication (e.g. *The patient presented with laryngitis*). Finally, Medical English is characterized by specific spelling and pronunciation rules which must be strictly respected in order to avoid making serious mistakes concerning the meaning (Mićić, 2009: 75 – 83). All of the above mentioned characteristics make it clear that Medical English is a very demanding sub-system of ESP.

3. Language learning strategies – an overview

So, the question is - how to facilitate learning and acquiring the complex Medical English, especially its vocabulary? This paper's aim is to check whether this could be done with a help of language learning strategies whose popularity has been constantly growing in the field of GE.

Despite the fact that numerous attempts have been made at defining language learning strategies, there are many authors who still think they are vague and difficult to identify and define (Ellis, 1997: 37). Oxford (1990: 8) describes them as "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective and more transferrable to new situations", whereas Nunan (1991: 167) simply defines them as "mental processes which learners employ to learn and use the target language". Learning strategies are considered to be problem-oriented, as learners use them to overcome a particular learning problem they need to deal with (Ellis, 1997: 532) and having the knowledge of strategies could be important as learning seems to be more effective when you are aware of the process underlying the learning you are involved in (Nunan, 1999: 171) . A good strategy is supposed to increase the efficiency of vocabulary learning and vocabulary use (Nation, 2001: 216). Oxford (1990: 9-11) considers strategies to be tools that make sense only when students are willing to take greater responsibility for their own learning, which is not often the case, owing to the passive cultural and educational system they may be part of.

The basic problem, according to some authors (Nunan, 1991: 168) is the lack of a coherent taxonomy, as most researchers have developed their own lists that most often differ from each other to a certain extent. Strategies were researched as early as 1980s when Tarone (1980, in: Ellis, 1997: 529) differentiated among three types of strategies: *production* (e.g. simplification or discourse planning), *communication* (i.e. attempts to deal with problems in communication) and *learning* (e.g. inferencing or initiation of conversation with native speakers), whereas Wenden (1983, in: Ellis: 1997: 540) put self-directing strategies into three categories: *knowing about language, planning* and *self-evaluation*. Rubin (1981, in: Ellis, 1997: 535) considered *clarification/verification* to be the top strategy; it involves putting a word in a sentence, looking it up in a dictionary, asking for the meaning, etc. O'Malley and Chamot (1987) divided strategies into three major types: *cognitive* (e.g. note-taking), *metacognitive* (e.g. mixing with natives or other nations) and *social* (e.g. asking for clarification).

After inventing SILL (the Strategy Inventory for Language Learning) in 1986, where 64 individual strategies were divided into two main groups – primary and

supporting strategies - Rebecca Oxford came up with a new taxonomy (1990: 17). This taxonomy is thought to be more comprehensive and detailed, as well as more systematic and deprived of too many technical terms (Oxford, 1990: 14). She divided all the language learning strategies into *direct* and *indirect* ones. *Direct* strategies involve direct learning and they branch into *memory* (e.g. associating, using imagery or keywords, semantic mapping)*, cognitive* (e.g. repeating, translating and transferring, taking notes and highlighting) and *compensation* (e.g. getting help, avoiding communication, using mime and gesture), whereas *indirect* strategies contribute indirectly to learning and branch out into *metacognitive* (e.g. organizing, setting goals, seeking practice opportunities), *affective* (e.g. taking risks, discussing your feelings with others) and *social* strategies (e.g. asking for clarification/verification, cooperating with peers, asking for correction).

Research has shown that learners vary in the frequency with which they use strategies and the choice of particular strategies they use (Ellis, 1997: 540). The factors that affect the strategy choice could be numerous and largely depend on the author. For example, Ellis (1997: 541) highlights individual learner differences (i.e. attitudes, affective states and general factors), age, motivation and even personality types, whereas Oxford (1990: 13) stresses the importance of the degree of awareness, stage of learning, task requirements, teacher expectations, age, sex, nationality, general learning style, personality traits, motivation level, etc. Doing her extensive research she has come to a conclusion that females use a much wider range of strategies, which Ehrman (1990, in Ellis: 1997) also reported. Oxford and Nyikos (1989, in Ellis 1997: 541) came to a conclusion that motivation played a great part in the choice and frequency of using language strategies, especially the presence of instrumental motivation. Chamot (1987, in: Ellis 1997:) stated that task type had an important role in learner's choice of both cognitive and metacognitive strategies and Oxford (1990: 13) claimed that learners' choice of strategies could be often inspired by teacher expectations and testing requirements. Studies also showed that experienced learners were superior over novice learners and that they used strategies more frequently (Oxford and Erhman, 1987, in: O'Malley and Chamot, 1990: 107), whereas good learners were superior over bad learners (Naiman et al 1978, in: O'Malley and Chamot: 102).

A 'good language learner' is usually said to be able to find their own way through learning a language, which means they can organize information about the language, use every opportunity to practice what they have learned, get the meaning without necessarily understanding every single word, learn to make intelligent guesses, etc (Nunan, 1991: 171). Moreover, successful language learners are characterized by knowing what their vocabulary goals are and by being able to choose

what vocabulary to focus on (Gu and Johnson, 1996; in: Nation: 218). Having administered a questionnaire and compared the results with learners' scores on vocabulary tests, Gu and Johnson (1996; in: Nation: 225) even came up with five different types of learners according to their choice of strategies. According to these authors, the best students are those who learn through natural exposure, carefully, but without exact memorization and they are named *readers*. Next best students, or *active strategy users*, would be those who use a variety of strategies to learn the words they find important. *Non-encoders* are average users of strategies, whereas *encoders* usually use associations, imagery, visualisation or prefer breaking words into parts. Finally, *passive strategy users* are the least successful learners, who make very little use of strategies as they strongly believe in memorization. This categorization builds up to a certain extent on the personality types theory by Erhman and Oxford (1990), where Myers-Briggs scale was used in order to identify different types of personalities and compare them with the strategy choice.

There are several methods for investigating the use of learning strategies. Apart from actually observing learners performing tasks in classroom settings, structured interviews and questionnaires can be used as well, as they give us a retrospective insight into the strategies learners used (Ellis, 1997: 534). There are also diary studies and think-aloud tasks, but they are not considered to be practical enough. Generally speaking, questionnaires are thought to be the best option, although they have their downside as well, mostly because not all the learners are able to describe the strategies they use (Ellis, 1997: 533). Another problem could be the subjectivity of self-reports and the fact that many people could be uncertain what to report (O'Malley and Chamot, 1990: 91). On the plus side, questionnaires are easier to manage and data manipulation is much simplified (O'Malley and Chamot, 1990: 94), which is one of the reasons a questionnaire was chosen for this study as well.

4. The study

4.1. Goals and informants

The qualitative research that was conducted for the needs of this paper aimed at checking certain results of the studies mentioned above and investigating the possibility of using language learning strategies in learning and acquiring Medical English vocabulary. The sub-goal was to investigate students' attitudes towards Medical English in general. All the students were divided into two groups – first year students and second year students, so that we could check the potential differences between more and less experienced students.

Taking the results of the recent studies into consideration, this research has focused on answering several key questions:

1. if informants are aware of the importance of learning Medical English;
2. if females use strategies more often than males;
3. if females use a wider range of strategies than males;
4. if the instrumentally motivated informants use strategies more often than others;
5. if more experienced learners are more aware of strategies and use them more often than less experienced ones;
6. if informants use strategies unconsciously rather than consciously;
7. if direct and indirect strategies are used equally.

128 informants willingly took part in this research by filling in the questionnaire and there was an equal number of males and females. All of them are medical students who were currently attending Medical English classes, either as first year students (50%) or second year students (50%). Most of them had been learning English for 10 or 12 years, although there were some who admitted learning it for only 2 or 3 years, as well as those who had been exposed to it much longer (probably through private classes and language courses, outside formal education). The majority of informants were students from Serbia whose mother tongue is Serbian, but there were four informants (all females) who had the status of foreign students who were studying in Serbian using it as a second language and whose mother tongue was different.

4.2. The questionnaire

The research participants were asked to fill in a questionnaire that consisted of three parts. In the first part, informants were asked to provide some basic information (their name, what year they were on and how long they had been learning General English), to evaluate their knowledge of GE on the scale from very good to poor and to say how important they thought knowing General English was for them (very important, important or not important).

The second part of the questionnaire consisted of four multiple-choice questions and three open questions. The students had to state whether they thought Medical English was easier or more difficult than GE and to what extent; if they thought ME was more difficult, they had to explain why. They were also asked to say whether learning Medical English was important for them or not and to explain why they thought so. Furthermore, students had to decide what was particularly difficult to learn in Medical English in general and what they themselves found the most com-

plicated. Finally, they were asked if they thought they used any strategies when learning the language and what they were.

The third part of the questionnaire was based on Oxford's (1990: 293-299) SILL (version for speakers of other languages learning English) and it consisted of six multiple-choice questions where students were invited to circle as many statements as they held true for themselves. Each question covered a particular direct or indirect group of strategies (i.e. memory, cognitive, compensation, metacognitive, affective and social) and some of the questions were slightly changed (or even omitted) so as to fit Medical English learning situation.

4.3. Result analysis and comments

The analysis of the results was done by comparing two groups of females and two groups of males after which males and females were compared as well.

When asked to evaluate their overall knowledge of English, 31% of male first year students, 22% of female first year students, 37% of male second year students and 19% of female second year students stated it was very good. The majority of all the students described their knowledge as ‚good' – 47% of male first year and 38% of male second year students, as well as 44% of female first and second year students. A relatively small number of students admitted their knowledge was ‚satisfactory' – 16% of male first year and 19% of male second year students, but 25% of female first year and as much as 28% of female second year students. The smallest number of all the students described their knowledge as ‚poor' – 6% of male first and second year students and 9% of female first and second year students.

The majority of students stated that knowing the English language was 'very important' for them, whereas only one male second year student said it was not important at all. Students' answers to this question are shown in Table 1.

Table 1

I think that knowing English is .... for me.			
Informants	very important	important	not important
male 1st year	66%	34%	0%
female 1st year	78%	22%	0%
male 2nd year	91%	6%	3%
female 2nd year	84%	16%	0%

When asked to compare Medical English to General English, the majority of informants stated they were equally difficult, but the percentage of this answer was higher among second year students than among first year students (23 male and 29 female second year students gave this answer, whereas there were 13 male and 16 female first year students who opted for the same answer). The majority of male first year students (14 out of 32) said Medical English was more difficult and there were 13 female first year students who had the same opinion. As for the second year students, only 7 male students said it was more difficult, whereas there were 11 female students who shared their opinion. Surprisingly, there were 8 first year students (5 males and 3 females) who said Medical English was easier than GE, whereas only 4 second year students (2 males and 2 females) agreed with this.

Those students who claimed that Medical English was more difficult than GE were asked to explain why they thought so and they mostly gave similar answers, regardless the year they were on. Most of them mentioned specific medical terms that are not possible to hear in everyday communication, as well as a great number of words of Latin and Greek origin that are difficult to pronounce in English. Some of them were aware of the necessity to use a dictionary of Medical English, especially because of the fact that there are many words that have different meanings in Medical English in comparison with GE. Others complained of the huge number of words that they should learn and of spelling problems. Some female second year students thought Medical English was more difficult because it is not used in everyday, colloquial, communication, so it is necessary to have medical knowledge in order to understand these difficult terms that could be problematic even in their mother tongue. According to the answers the students gave to this question, we can conclude that a great number of them are aware of the importance and specificity of vocabulary in Medical English. Communication and discourse were also mentioned as importantly different, whereas none of the students mentioned structures as a reason for claiming ME was more difficult than GE.

Students also had to decide whether it was important for them to learn ME or not and almost 100% of them answered positively. Only one male second year student opted for the negative answer and it was the same person who claimed that knowing GE was unimportant for him. He explained that he simply didn't need English at all in his future workplace, so we can only suppose that this person intends to work in the country or in a small town where he expects not to have contact with foreign patients. Moreover, he probably doesn't have any career aspirations or at least he doesn't think that the knowledge of English is connected with it in any way. Those students who thought it was important to learn ME explained their choice by a wish to study or work abroad at some point, to use important medical literature

which is mostly in English nowadays or to take part in international symposia. They also claimed that English had taken over the leading role as the language of international communication (i.e. lingua franca) and that owing to globalization it was impossible to function without speaking this language. Some of them mentioned ME facilitated using the Internet, reading the latest medical studies and exchanging ideas with colleagues from abroad, as well as communication with foreign patients. Some students had a very clear idea about their future and they explained knowing ME would help them a lot in getting a job, doing scientific research or earning a Master and PhD degree. Some female second year students said that everyone should know English, especially doctors, as it is a way to gain general knowledge and to be well-informed.

The explanations students gave could help us conclude that they are aware of the importance of knowing ME, which is the first question this paper intended to answer. They obviously have all the good reasons for learning ME and both instrumental and integrative motivation are present. There were no great differences between first and second year students or male and female students, as they mostly gave identical reasons.

Most of the informants, especially first year students, thought that vocabulary was the most difficult thing to learn in ME, whereas a much smaller number of them thought it was grammar or everything. The results are shown in Table 2.

Table 2

What is particularly difficult to learn in Medical English?			
Informants	**Grammar**	**Vocabulary**	**Everything**
male 1st year	16%	69%	15%
female 1st year	22%	59%	19%
male 2nd year	53%	31%	16%
female 2nd year	31%	56%	13%

The difference between first and second year students could be explained by the differences in the curriculum. First year students learn words of Latin and Greek origin for the first time, they have to learn irregular plural and the classes mostly cover organs and systems. On the other hand, second year students are already familiar with most of the difficult lexis, but they do more complicated grammar sections (e.g. conditional sentences, causative have, cloze tests, transformations...).

As for the exact things that in their opinion hinder learning ME vocabulary, the majority of all the students opted for pronunciation, the only exception being the group of male second year students who thought the words of Latin and Greek origin were the biggest obstacle. The frequent use of prefixes and suffixes and irregular plural got almost equal number of votes, whereas there were also some students who opted for ‚other' and gave their own answers (e.g. not possessing a medical dictionary, too many new terms at a time, all of the above mentioned or nothing at all). The results are shown in Table 3.

Table 3

What do you find particularly difficult when learning Medical English vocabulary?					
Informants	Pronunciation	Words of Latin and Greek origin	Frequent use of prefixes and suffixes	Irregular plural	Other
male 1st year	34%	28%	19%	19%	0%
female 1st year	28%	25%	22%	16%	9%
male 2nd year	22%	28%	19%	22%	9%
female 2nd year	47%	0%	19%	22%	12%

Finally, at the end of the second part of the questionnaire, students were asked if they thought they used any strategy when trying to learn new ME vocabulary and if they did to state which ones. Only 10 out of 32 male first year students and the equal number of female first year students said they used some strategies. As for second year students, 12 female and 16 male students admitted using strategies, whereas others denied using any.

Those who claimed they used strategies gave rather interesting answers. Most of them mentioned creating mental linkages with the words they already know either in Latin or in Serbian, as well as associating new words with those they are already familiar with or making ‚personal associations'. One male first year student said that he usually wrote a particularly difficult new word on a post-it note and put it on the wall, whereas another male student said he usually wrote down the new and difficult word several times in order to memorize it. Constant repeating of problematic vocabulary and noting down the new words were also mentioned, as well as watching films without sub-titles and one student from this group (i.e. male first year) said he

repeated English words while studying anatomy. Female first year students mentioned the same strategies as their male peers, but they also said they analyzed word parts (i.e. affixes and stems), pronouncing the words repeatedly and trying to use new words in everyday conversation or other contexts. One of them mentioned imagining a situation where a particular word could be used and noting down several sentences containing that word. Watching American medical TV-shows (e.g. "Dr House" and "Grey's Anatomy") was mentioned as well. Male second year students repeated what the first year students mentioned, but some of them also said they used translation into their mother tongue or Google Translate as a tool. Some of them mentioned memorizing new words according to songs they remind them of or by comparing them with the words from Roman languages. They also said they read textbooks in English, tried to think in English and did a lot of repetition. Finally, female second year students mentioned creating linkages to Latin, exchanging letters with colleagues from abroad and trying to find a ‚sound' association (if a word is difficult to pronounce). One of them said she usually classified new vocabulary into various categories in small notebook dictionaries and learning word families.

After analyzing the answers students gave to this question, we can conclude that there are not many differences between male and female students, but that both female groups were more inventive than male groups. They listed more different strategies that are not necessarily connected with creating linkages or associations with the words they already know. They also seem to be more aware of the difficulties they might face while learning ME vocabulary (e.g. pronunciation) and they are more likely to organize their vocabulary in a logical way. So, we could say that females use a wider range of strategies than males and that they think about them more profoundly, which means that the third hypothesis was confirmed. However, we cannot say that females use strategies more often than males, as they are rather equal and the number of male second year students who use strategies is higher than any other group. So, the second hypothesis was not confirmed. The results also show that more experienced learners (second year students) use strategies more often and are more aware of them (16 males and 12 females), so the fifth hypothesis was also confirmed.

The aim of the final part of the questionnaire was to check if students used strategies unconsciously even if they claimed they didn't use them at all, as well as what type of strategies were most popular among this population of students. The first question consisted of seven direct strategies that can be grouped under memory strategies as they are all aimed at remembering things (vocabulary in this case) more effectively. As expected, the greatest number of students opted for creating linkages and thinking of relationships with the words they already knew (24 male first year,

19 female first year, 20 male second year and 22 female second year students). Another popular strategy was connecting the sound of a new English word and an image or picture of the word to help them remember (50% of all the students) and remembering the new word by creating a mental picture of a situation in which the word might be used (38%). A smaller number of students opted for reviewing English lessons often (only 21 out of 128 informants, mostly male first year students) and using rhymes to remember new English words (14 students). 20 students opted for memorizing new words by remembering their location on the page or in the book and some students gave their own ideas, one of which was watching medical films or serials.

The second question consisted of ten direct strategies that involve using all our mental processes and that are called cognitive strategies. 63% of all the students chose watching English language medical TV shows, but second year students chose this option more often than first year students. 58 out of 128 students said they always highlighted the word they wanted to learn, but females chose this option more often than males (35 females and 23 males). There were also many students who said they always noted down and pronounced a word they wanted to remember several times (36%), but females were more numerous here as well (27 out of 128). A certain number of students opted for all the other strategies in this group as well, such as trying to talk to native speakers, using the words they know as often as possible, reading medical texts outside classes, trying to find a Serbian word that is similar to the new English word, studying the word parts and breaking words into parts in order to figure out their meaning (this one was more popular among second year students, both males and females).

The third question consisted of three direct strategies that involve compensating for missing knowledge and are called compensation strategies. The most popular strategy in this category was making guesses in order to understand the new word. 62% of all the students circled this strategy and there were almost equal number of students in each group. They also admitted asking their teacher for help (42%) and the smallest number of students who chose this option belongs to the group of male second year language students. They also gave their own options, such as looking the word up in a dictionary, using Google Translate or guessing from context.

The fourth question consisted of eight indirect strategies that are connected with organizing and evaluating one's knowledge – the so-called metacognitive strategies. 56 out of 128 students said they noticed their mistakes and used the information to help them do better and most of them belong to the group of male first year students (17) and female second year students (15). A great number of students opted for paying close attention to their teacher pronouncing new words (47 students),

but females were more numerous, especially female first year students (17). Also, many students said they thought about their progress in learning English (61 out of 128, females being more numerous). Interestingly enough, only 4% of all the students opted for planning their schedule so they could have enough time for learning English, which can be explained by a very tight schedule and loads of work they need to do for other subjects. 43 students said they tried to read a lot in English and that they had clear goals for improving their English skills (29 students).

The fifth question consisted of three indirect strategies that imply managing one's emotions and that are called affective strategies. Not many students chose strategies from this category, but the most popular one was using English even when they knew they would make a mistake (63%) and both males and females chose this strategy. A relatively small number chose the strategy of talking to someone else about how they felt when learning English (10 male students and 12 female students). Some students gave their own answers to this question, so they mentioned not using English at all when they felt insecure or not using it because they were afraid of making a mistake in presence of a good English speaker or because they didn't like the way their English sounded and most of these answers were given by females.

The final question consisted of four indirect strategies that are connected with learning with others and which are thus called social strategies. The most popular answers in this category were asking someone to repeat or slow down if not understanding something in English (40 males and 44 females) and asking for help from someone who speaks English well (42 males and 38 females). A small number of them said they regularly asked their teacher for help (8% of males and 9% of females), which was rather surprising. They gave their own options as well – looking for the answers on the Internet, using a dictionary, checking exercises with peers who are better at English, taking private classes.

The most popular and the least popular strategies from each group of direct and indirect strategies among students are presented in Table 4 and Table 5 respectively.

Taking these results into consideration, we could conclude that the most popular strategies among students are cognitive and compensation strategies. All the three compensation strategies in the questionnaire got a relatively big number of votes, as well as the cognitive strategies, although they were also the most numerous in the questionnaire. Metacognitive strategies seem to be least popular, whereas memory and social strategies are rather popular among students. So, there are no great differences between direct and indirect strategies popularity-wise (which means that the seventh hypothesis was proved), although it could be said that students are more

Table 4

Type of strategy	Most popular strategy	Students in %
Memory	i think of relationships between what I already know and new things I learn.	66%
Cognitive	i often watch medical films and TV shows.	63%
Compensation	i try to guess the meaning of a new word.	62%
Metacognitive	i notice my English mistakes and use that information to help me do better.	44%
Affective	i speak English even when I am afraid of making a mistake.	63%
Social	if I don't understand something in English, I always ask somebody to help me understand.	66%

Table 5

Type of strategy	Least popular strategy	Students in %
Memory	I use new English words in a sentence so I could remember them.	9%
Cognitive	I often practice pronunciation in English.	16%
Compensation	If I don't understand a word in a text, I continue reading, as I think I don't have to know all words.	21%
Metacognitive	I plan my schedule so as to have enough time for learning English.	4%
Affective	I talk to someone else how I feel when I am learning English.	17%
Social	I regularly ask my teacher for help.	9%

aware of direct strategies as they more often mentioned them in the second part of the questionnaire. Indirect strategies were rarely mentioned, especially affective ones, but the final part of the questionnaire proved that students used them unconsciously. It is also important to say that every single student who took part in this

study voted for some strategies in each category, even those who earlier denied using any strategies. It means that a large number of students (63%) are not aware of the existence of strategies or the way they could help them learn the language, thus proving our sixth hypothesis (i.e. that informants mostly use strategies unconsciously). As for the differences between first year and second year students, we can conclude that second year students are more aware of strategies and they more often reported using some of them (44%, whereas 31% of first year students did the same). The difference is not big, but we could say that more experienced students are more aware of the existence of strategies and use them more consciously. As for their answers to the questions in the third part of the questionnaire, there are no great differences, so it could be said that first year and second year students use strategies equally often and in approximately the same number.

Considering all the results, several conclusions could be drawn. First of all, the first and second year medical students from the University of Belgrade are perfectly aware of the importance of knowing both GE and ME and they have all the good reasons for thinking so. Secondly, they are able to recognize the obstacles in learning and acquiring ME and some of them are aware of using strategies to help them learn ME vocabulary. More students use strategies unconsciously, but they all use at least several, both direct and indirect, strategies. Female students seem to be more creative when it comes to choosing strategies and being aware of them, which matches the findings of other studies we have mentioned. Females also seem to be better organized and to care more about organizing their knowledge. More experienced students seem to be more aware of strategies and report using them more often, which matches some other findings from abroad in the field of GE. A great number of students who took part in the study seem to be highly motivated and their motivation can be described as both instrumental and integrative. All the motivated students used more strategies than less motivated students and they knew exactly what they should target, so the fourth hypothesis (i.e. that only instrumentally motivated informants used strategies more often than others). This finding also matches some other studies we have mentioned.

As for the types of strategy users, according to Gu and Johnson (1996; in: Nation: 225), it seems that most medical students from the University of Belgrade fall into two categories – *non-encoders* and *encoders* – whereas there is a small number of *active strategy users* as well. There are almost no *passive strategy users*, which is encouraging, but there are no *readers* either, which is probably the result of the fact that these students have no idea of what strategies are and what to do with them. If they use any strategies, they use them unconsciously and simply because they find it natural, not because they have a clear idea of how to facilitate their learning.

5. Ideas and suggestions

Having this problem in mind, it is clear that teachers should help their students by promoting language learning strategies and stressing their importance. In other words, students should be informed of the existence of strategies and shown how to use them in particular aspects of Medical English learning.

How can this be done? First of all, students' awareness of strategies should be checked at the beginning of a new school year. They could be given a questionnaire similar to the one described above, which would aim at discovering whether they have heard of any strategies, if they personally use any and in what situations. Teacher should note down how many active and passive strategy users there are in the group, so that their progress could be followed. Depending on the results, teacher should then choose most useful strategies to present to students and give several examples of their use. It is important to do this at the very beginning of a new term, so that the progress could be followed throughout the academic year. During classes, teacher should constantly remind students of the strategies that were presented to them and point out various situations where these strategies could be naturally used. In order to follow students' progress more accurately, students can be asked to report on their use of strategies from time to time or to "think aloud" while doing a particular vocabulary task. The knowledge of active and passive strategy users should be checked in a test after some time and if active strategy users are proven to have better results, strategies should be integrated into classes as a common method.

However, in order to make this possible, it is important for teachers themselves to be aware of strategies and how they can use them to facilitate teaching and learning certain aspects of language, especially vocabulary.

6. Conclusion

In conclusion, English for Medical Purposes, as a demanding and thriving sub-system of ESP, could make use of language learning strategies, as they could facilitate learning and acquiring some of its aspects, especially vocabulary. Although very popular and widely used in the field of GE, strategies have not been researched a lot in the field of ESP and its various sub-systems. Several important studies in the field of strategies have shown that their appropriate use can enhance memorization and acquisition of vocabulary, so the question is how these findings could be applied to the field of ME and if they would show any results.

The questionnaire that was created to check if strategies are used at Faculty of Medicine, University of Belgrade, revealed several interesting things. First of all, strategies

are used by a great number of medical students, but rather unconsciously, as they are not even aware of their existence. More experienced students (second year students) seem to use strategies more than novice students, whereas females seem to be more inventive and creative when it comes to choosing particular strategies. However, males and females use strategies equally often and they choose both direct and indirect strategies, memory and social strategies being most popular and metacognitive least popular. Finally, students' motivation seems to be connected with their use of strategies, as both integratively and instrumentally motivated students opted for strategies more often than unmotivated ones.

Having these results in mind, the paper offered some ideas of how to integrate language learning strategies into ME classes and how to help students to use them and recognise them. The classes that stress the importance of strategies and promote their use might have better test results as a consequence which is why language learning strategies should be taken seriously by teachers themselves in the first place.

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