The Relevance of Metacognitive Skills to Autonomous Language Enrichment

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University students need to know a foreign language comprehensively. The acquisition and enriching a foreign language vocabulary is one of the essential part of it. Unfortunately, the restrictions imposed by the curricula often do not meet the actual needs of the students. Moreover, the recent research shows that students are not able to use their metacognitive skills that would allow them to be able to master their foreign language vocabulary autonomously. Teachers often teach the way they were taught rather than consider the advantages and disadvantages of alternative approaches and how to use them most effectively. The author suggests using Cognitive Apprenticeship method as means of promoting metacognitive skills in acquisition new foreign language vocabulary. The development and ability to manage metatacognitive skills will enable students to become autonomous.

Introduction

Nowadays Lithuanian university students have a lot of opportunities of making career not only in their home country but all over the European Union as well. Knowledge of a foreign language is one of the essential factors that would allow our students to match the European standards. The ultimate goal of nowadays education system to teach a learner to become autonomous in such a way helping him to be reflective, flexible, and easy-going learner of a foreign language who would be able to meet all the demands of a growing European market for the workforce. To be autonomous or self-directed means to be able to find the most suitable pace of learning, style of learning, to be motivated and to be self-critical to comprehend when formal counseling is needed for successful self-projecting in future.

There were carried out several researches by the author in relation to the topic of the article. One of them – defining the pitfalls in students' choice of strategies engaged in acquiring new vocabulary. It has proven that the role of a teacher is insufficient which prevents students from making the most suitable way of vocabulary acquisition. Moreover, students rely too much on a bilingual dictionary; they do not have any skills to self-direct their studying process.

Another research was designed to understand what the methods that teachers use during lectures are. The result are: teachers use mostly direct instruction, or even grammar

translation method, the teaching process is mostly teacher-centered, not student-centered.

The mentioned above surveys have spurred the conclusion that students should not just be given grammar rules and follow-up exercises, or just texts to translate, they should be recommended to be conscious about their learning process, it is necessary to explain what steps they should follow to be become autonomous. In other words their metacognitive skills need to be developed or mastered.

As O'Malley et al. (1985) state, "Students without metacognitive approaches are essentially learners without direction and ability to review their progress, accomplishments and future learning directions."

In other words, students need activities which incorporate reflection, thinking about what they are going to do and why, experimentation, doing a task and manipulating the language to achieve a goal, and further reflection, by asking such questions as What did I do? Why did I do it? How did I do it? How well did I do? What do I need to do next? In this way, the implicit becomes explicit – pupils become aware of what they are doing and why.

Bearing this in mind it was decided to carry out a research.

The aim of the research – to form the basic metacognitive skills of autonomous vocabulary enrichment of a foreign language.

The object of the research – The dynamics of autonomous vocabulary enrichment under the influence of different impacts.

The problem of the research – contradiction between students' needs of autonomous vocabulary enrichment and actual possibilities to achieve it.

Methods of the research – the analysis of scientific literature, the test, statistical data analysis (SPSS).

Aim of the article – to reveal the importance of metacognitive skills in the expansion of autonomous ESP (English for specific purposes) vocabulary.

What is metacognition? Why are metacognitive skills of urgent importance?

Metacognition refers to learners' automatic awareness of their own knowledge and their ability to understand, control and manipulate their own cognitive processes. Metacognitive skills are important not only in school, but throughout the life because:

1. Teaching specific strategies, such as the order in which to perform a particular task, will not give students the skills they need in the long run. Students must learn general principles such as planning, monitoring and how to apply them over a wide variety of tasks and domains.
2. Both the long-term benefits of training in cognitive skills and the ability to apply cognitive skills to new tasks appear to depend on training at the metacognitive level as well as the cognitive one. Metacognitive skills are needed for effective cognitive performance.
3. Usually students have an experience of blindly following instructions. They have not acquired the habit of questioning themselves to lead to effective performance on intellectual tasks.
4. Students with the biggest metacognitive skills deficiencies seem to have no idea what they are doing when performing a task.
5. Students have the metacognitive performance of: a) determining the difficulty of

the task; b) monitoring their comprehension effectively; c) planning ahead; d) monitoring the success of their performance or determining when they have studied enough to master the material to be learned; e) using all relevant information; f) using a systematic step-by-step approach; g) jumping to conclusions; h) using inadequate or incorrect representations.

6. Metacognitive skills and knowledge, as important as they are, are not often taught in most areas of the curriculum.

How the acquisition of metacognitive skills positively impact students?

Metacognitive skills positively impact students because they provide these students an efficient way to acquire, store, and express information and skills (Mercer & Mercer, 1993). For many students who have learning problems, their inability to efficiently retrieve information previously stored in memory negatively impacts their ability to accurately express what they know. Well developed metacognitive skills aid such information retrieval for these students. The key to the success of metacognitive skills is that when they are taught appropriately, they assist learners who are dependent on high levels of teacher support to become self-directed learners. When students have been directly taught a strategy, the strategy's purpose, how to use the strategy, and are provided the opportunities to practice using the strategy, these students posses a powerful learning tool that builds learning independence. Confronted with a problem-solving situation, these students can implement the appropriate metacognitive strategy when they have difficulty remembering how to solve a particular problem. Metacognition is not a linear process that moves from preparing and planning to evaluating. More than one metacognitive process may be occurring at a time during a foreign language learning task. This highlights once again that the orchestration of various strategies is a significant component of foreign language learning. Students with developed metacognitive skills are able to monitor and direct their own learning processes. When learning a metacognitive skill, learners typically go through the following steps (Pressley, Borkowski, & Schneider, 1987):

1. They establish a motivation to learn a metacognitive process. This occurs when either they themselves or someone else points them reason to believe that there would be some benefit to knowing how to apply the process.
2. They focus their attention on what it is that they or someone else does that is metacognitively useful. This proper focusing of attention puts the necessary information into working memory. Sometimes this focusing of attention can occur through modeling and sometimes it occurs during personal experience.
3. They talk to themselves about the metacognitive process. This talk can arise during their interactions with others, but it is their talk to themselves which is essential. This self talk serves several purposes:

- It enables them to understand and encode the process
- It enables them to practice the process.
- It enables them to obtain feedback and to make adjustments regarding their effective use of the process.
- It enables them to transfer the process to new situations beyond those in which it has already been used.

4. Eventually, they begin to use the process without even being aware that they are

doing so which means that they became autonomous.

What is the difference between cognition and metacognition?

Cognition can be defined as a learner's awareness of the thinking processes, which are complex and involve both knowledge and skills. Metacognition is a more elaborate notion. Usually it is described as thinking about thinking. Metacognition is used to oversee whether a cognitive goal has been met. In general there seems to be the agreement that metacognition involves two distinct areas: knowledge about cognition (metaknowledge) and processes which regulate cognition (eg Flavell 1981, Brown 1987). Too often teachers discuss and model their cognition (i.e. how to perform a task) without modeling the metacognition (i.e., how they think about and monitor their performance). Students need to know this difference if they want to become autonomous. Teachers, other students, and ability to reflect each play an important role in this process. The main task of the teacher is to model both cognitive and metacognitive skills for his/her students. The more explicit the modeling is the more it is possible that students will develop metacognitive skills. (Butler & Winne, 1995). What plays even more important role is extended practice and self-reflection in construction of metacognitive knowledge and regulatory skills. This is especially true when students are given regular opportunities to reflect on one's successes and failures.

How metacognition can be facilitated?

Through decades of teaching practice there have emerged several instructional principles in relation to the promotion of metacognitive awareness. First of all teachers should discuss the importance of metacognitive knowledge and regulation in self-regulated learning (Schon, 1987). Secondly, teachers should make a concentrated effort to model their own metacognition for their students. Too often teachers discuss and model their cognition (i.e. how to perform a task) without modeling the metacognition (i.e., how they think about and monitor their performance).Thirdly, teachers should allot some time for the group discussion and reflection, despite the many pressures from curricula.

The lecturer can facilitate metacognition in three ways: as direct teacher of the skills and strategies initially; as a model who makes explicit the mental processes going on in his or her own mind as he or she demonstrates a skill, solves a problem, composes creative writing or criticism, and so on; lastly a lecturer can act as a provider of the opportunities for practice. Gradually, it is suggested that as students acquire more awareness of their own mental processes and become skilled and able to monitor their own performance, control can be shifted from the teacher to the learner, and the learner given more responsibility for his or her own learning effectiveness.

In the providing the metacognitive instruction, one aspires to teach students to plan, implement, and evaluate strategic approaches to learning and problem solving. Students, therefore, obtain the control of their own learning. What is the method with the help of which students' metacognitive awareness, their social skills would be promoted in relation to better acquisition and enriching their vocabulary of a foreign language?

On the basis of the literature reviewed there was found a method which main steps coin-

cide meet the requirements of developing metacognitive skills in students.

Cognitive Apprenticeship method

Cognitive apprenticeship (Collins et al., 1989) is an approach in which learning is embedded in activities and which makes deliberate use of the social and physical context. The cognitive apprenticeship model has been applied in empirical experiments in different domains (Fermer, Buckmaster, & LeGrand, 1992; Guldimann & Zutavern, 1993; Johnson & Fishbach, 1992; Lajoie & Lesgold, 1989; Pieters & DeBruijn, 1992; Volet, 1991). This has been successful not only in promoting students' higher order thinking skills, but also in shaping the learning interaction from teacher-oriented teaching episodes to joint goal-oriented problem-solving between teacher and student.

Cognitive Apprenticeship uses many of the instructional strategies of traditional apprenticeship but emphasizes cognitive skills rather than physical skills.

Cognitive apprenticeship involves the following steps:

1. **Modelling:** The teacher models how someone proficient in the field would perform the task at hand by making thinking visible as s/he works through it.
2. **Coaching:** The teacher coaches the students through the observation while they practice a task.
3. **Scaffolding:** The teacher provides direct support at the right level of current skill while a student Is carrying out a task, and then gradually fades out the assistance.
4. **Articulation:** It leads students think about their actions and give reasons for their decisions and strategies in such a way making their tacit knowledge more explicit.
5. **Reflection:** Students reflect on their practice, and usually compare with the model provided by the teacher.
6. **Exploration:** Students use the skills they have learned to problem solve on their own. The supports are faded out, and students apply their knowledge to their own project, essay or assignment.

The theory underlying the cognitive apprenticeship (Collins, Brown & Newman, 1989) is that learning is a constructive process when students can meaningfully incorporate new knowledge into the existing knowledge structure. The cognitive apprenticeship method also suits the principles of sociocultural approach concerning learning through activity and learning in interaction with other people. To elucidate the basic idea of cognitive apprenticeship, some aspects must be emphasized. First, these methods are aimed primarily at teaching the externalization of processes that are usually carried out internally. Students do not usually have access to the teacher's relevant cognitive processes. Moreover, the teacher usually is not able to discover students' cognitive processes, because most subjects at school are taught and learned without revealing inner thinking processes.

Mandl and Prenzel (1992) suggest that the concept of the cognitive apprenticeship identifies two types of knowledge: explicit and implicit. Explicit knowledge consists of the general conceptual, factual and procedural knowledge on the one hand, and implicit strategic knowledge is how concepts, facts and procedures are applied in solving problems and coping with tasks, on the other hand.

The cognitive apprenticeship model also enables students to explore the relationship between explicit and implicit strategic know-

ledge, and how they are generated. The model also expands on these types of knowledge: it offers various types of conceptual and procedural knowledge that need to be made explicit in analyzing teachers' expertise and in using the model during solving a task, demonstrates how we can elicit teachers' implicit strategic knowledge, that is, how they apply concepts, facts and procedures. The nature of the teacher's assistance to learners consists of varying the degrees of the guidance. Cognitive apprenticeship includes high and low degrees of guidance by which learning begins with explicit modelling of an expert's actions with the expert verbalizing their cognitive processes or strategies. In working on a task more autonomously the support consists of coaching and scaffolding, consisting of procedures for analyzing tasks, generating explanations, etc. The emphasis is on how students learn to articulate and reflect on what they do during enriching their vocabulary and document how this is done.

Fostering students' cognitive and metacognitive skills during lectures by scaffolding learning.

How should motivated practitioners take their first steps in making it a reality in their teaching? It implies that teachers help pupils develop a knowledge base about their learning processes that explicit learning strategies are added to it and that pupils are encouraged to engage in self monitoring.

It is in the setting of lectures that students practice using various cognitive and metacognitive skills to learn to think like a teacher. The quality of their thinking about teaching events and other related sources of teacher knowledge, in texts, video, etc, is practiced so that they can link specific teaching instances to underlying theoretical ideas. This requires monitoring students' practical reasoning in order to construct a practical argument. Scaffolding learning reveals and conveys the cognitive nature of expertise, helping students to develop a set of cognitive and metacognitive skills that enables them to analyse and reconstruct problems. The essential principles of this type of learning consist of –

a) Coaching, in which students are reminded of the important aspects, propositions are made and judged to be valid in evidence provided;
b) modelling, not only as teaching performance but also practice in describing, explaining and justifying actions, in conversations of instruction;
c) scaffolding itself, which refers to the whole of help the tutor offers to support the learner in verbalizing and externalizing their thinking, representing in our model of instructional design and the criteria for argument.

The given below two methods are especially focused on helping students develop their own strategies for re-formulating what they can do and know to be able t enrich their foreign language vocabulary efficiently–

1) articulation of an argument, to examine students' principled pedagogical thinking, that is, their practical reasoning; and
2) critical discourse, that fosters comparisons between the learner's own learning strategies in justifying what they claim to have done and know.

Finally, practice is necessary to confront the learner with various contexts and to provide the possibility of conceiving problems from multiple perspectives that is experience diffe-

rent applications of the same knowledge. Teachers should encourage and facilitate vocabulary acquisition by helping students to form

Research

The above mentioned principles of the Cognitive apprenticeship method were used during lecturers of English in autumn of the year 2004. The experiment took place at Vilnius Gediminas Technical University with the Ist year students of the faculty of Business Management. It was decided that besides Cognitive apprenticeship method a part of the students would be instructed according to the Direct Instruction method and the control groups will get no specific instruction at all. The Direct instruction method was chosen because researchers agree that it rather effective for vocabulary acquisition, including vocabulary instruction in the content areas. The two main approaches of direct vocabulary instruction are: definitional and contextual. Besides, the author's previous research has proven that the majority of teachers of English among respondents prefer to use exactly this method during their lectures. The intake of the students was 92 (Cognitive Apprenticeship), 58 (Direct instruction) and 44 (none).

The Instruction took place according to Market Leader textbook (Cotton et al, 2001) and lectures were developed and delivered following the principles of the Cognitive apprenticeship and the Direct instruction method respectively.

In order to define students' knowledge of vocabulary students there were suggested two tests. The first test which was diagnostic one was suggested to the students at the beginning of the experiment, and the achievement test was passed by the students at the end, i.e. 4 months later. The tests were adopted from the Test file (Johnson, 2001) in such a way that all the tasks not related to the vocabulary were not included in it.

The diagnostic test was carried out before students had been exposed to any method of instruction of English vocabulary at the university.

The validity of the tests has been checked using *Cronbach Alpha* coefficient. The received results of the two tests are statistically valid and reliable because Ü=0, 7269 which is quite a high indicator. In order to verify the statistical validity of the tests there has been carried out *T-Test* statistical correlation analysis of pair-models. This criterion has defined a very high level of validity p=0,0000, justifying that the received data are statistically valid.

While processing the data there have been carried out several statistical operations one of which is ANOVA. It allows us to compare the means of several independent inputs. After there has been carried out the disperse analysis we have received the following data (Table 1)

Table 1. ***ANOVA***

	F	Sig.
VOCAB.DIA	3.979	.020
READ.DIA	.462	.631
ACHIEVEM	14.459	.000
ACHIEV+LG	15.173	.000
READ.ACH	2.373	.096
VOC.ACH.	56.085	.000
LANG.ACH.	55.980	.000

From the table 1 it can be seen that the biggest number significances (*Sig*) is smaller than 0, 05, so, we can say that the mean test scores in these cases in different teaching method are not equal. In other words the teaching method and the level of achievement are interre-

*Table 2. **Multiple Comparisons***

Dependent variable	Test	(Diag) Teaching method	(Ach) Teaching method	Mean differences (Diag-Ach)	Std. Deviation *Sign.*	Sig.
ACHIEV	LSD	Cognitive appr.	Direct instruction	0,123305*	0,046748	0,009088
			None	0,269566*	0,050668	3,09E-07
		Direct instruction	Cognitive appr.	-0,1233*	0,046748	0,009088
			None	0,146261*	0,055269	0,008865
		None	Cognitive appr.	-0,26957*	0,050668	3,09E-07
			Direct instruction	-0,14626*	0,055269	0,008865
	Bonferroni	Cognitive appr.	Direct instruction	0,123305*	0,046748	0,027264
			None	0,269566*	0,050668	9,26E-07
		Direct instruction	Cognitive appr.	-0,1233*	0,046748	0,027264
			None	0,146261*	0,055269	0,026596
		None	Cognitive appr.	-0,26957*	0,050668	9,26E-07
			Direct instruction	-0,14626*	0,055269	0,026596
ACHIEV+ LG	LSD	Cognitive appr.	Direct instruction	0,129375*	0,047275	0,006836
			None	0,27895*	0,051239	1,71E-07
		Direct instruction	Cognitive appr.	-0,12938*	0,047275	0,006836
			None	0,149575*	0,055891	0,008142
		None	Cognitive appr.	-0,27895*	0,051239	1,71E-07
			Direct instruction	-0,14957*	0,055891	0,008142
	Bonferroni	Cognitive appr.	Direct instruction	0,129375*	0,047275	0,020508
			None	0,27895*	0,051239	5,12E-07
		Direct instruction	Cognitive appr.	-0,12938*	0,047275	0,020508
			None	0,149575*	0,055891	0,024426
		None	Cognitive appr.	-0,27895*	0,051239	5,12E-07
			Direct instruction	-0,14957*	0,055891	0,024426
			None	0,055443	0,029789	0,06434
		Direct instruction	Cognitive appr.	0,010867	0,027312	0,691173
			None	0,06631*	0,032488	0,042697
		None	Cognitive appr.	-0,05544	0,029789	0,06434
			Direct instruction	-0,06631*	0,032488	0,042697
	Bonferroni	Cognitive appr.	Direct instruction	-0,01087	0,027312	1
			None	0,055443	0,029789	0,193019
		Direct instruction	Cognitive appr.	0,010867	0,027312	1
			None	0,06631	0,032488	0,128091
		None	Cognitive appr.	-0,05544	0,029789	0,193019
			Direct instruction	-0,06631	0,032488	0,128091
VOCAB. RELATION	LSD	Cognitive appr.	Direct instruction	0,175367*	0,023569	3,9E-12
			None	0,249054*	0,025707	0
		Direct instruction	Cognitive appr.	-0,17537*	0,023569	3,9E-12
			None	0,073687*	0,028036	0,009319
		None	Cognitive	-0,24905*	0,025707	0
			Direct instruction	-0,07369*	0,028036	0,009319
	Bonferroni	Cognitive appr.	Direct instruction	0,175367*	0,023569	1,17E-11
			None	0,249054*	0,025707	0
		Direct instruction	Cognitive appr.	-0,17537*	0,023569	1,17E-11
			None	0,073687*	0,028036	0,027958
		None	Cognitive appr.	-0,24905*	0,025707	0
			Direct instruction	-0,07369*	0,028036	0,027958
LANG. RELATION	LSD	Cognitive appr.	Direct instruction	0,187142*	0,025312	5,13E-12
			None	0,267847*	0,027608	0
		Direct instruction	Cognitive appr.	-0,18714*	0,025312	5,13E-12
			None	0,080705*	0,03011	0,008034
		None	Cognitive appr.	-0,26785*	0,027608	0
			Direct instruction	-0,08071*	0,03011	0,008034
	Bonferroni	Cognitive appr.	Direct instruction	0,187142*	0,025312	1,54E-11
			None	0,267847*	0,027608	0
		Direct instruction	Cognitive appr.	-0,18714*	0,025312	1,54E-11
			None	0,080705*	0,03011	0,024101
		None	Cognitive appr.	-0,26785*	0,027608	0
			Direct instruction	-0,08071*	0,03011	0,024101

lated, except of reading, though it can be noticed that it has started to differentiate during the experiment as well. ANOVA answers the question if there are any statistically significant differences in the means of the inputs but it does nor point out which input's means differ. In order to answer this question additional analysis is needed. For this purpose we will use Post Hoc Fisher LSD and Bonferroni tests. The results are presented in Table 2.

In this table the statistically significant mean differences are marked with the asterisks. The research significance level is equal to 0,05. The smaller the *Sig.* is the more reliable the exploratory indicator is. The reading test results are unfortunately not reliable as already in the ANOVA table it can be seen that it's significance exceeds 0,05. This implies that the results are statistically not valid. That is why it is not relevant to analyse them. Besides, in the given table mean difference between *Cognitive apprenticeship* and other methods is not marked with the asterisk which shows that the received data are not statistically valid. The indicator *Achiev* shows students achievement in vocabulary and reading areas. Using both *LSD*, and *Benferroni* tests we can notice that all the mean differences of this indicator are marked with the asterisk and could be explained that there are statistically significant differences among the three methods. When the *Cognitive apprenticeship* method is compared to the *Direct instruction* method the mean difference during *LSD* test is 0,123305, while comparing *Cognitive apprenticeship* with *None* is it equal to 0,269566. The received means' differences are positive numbers that is why is allows us to draw a conclusion that the students which were instructed according to the *Cognitive apprenticeship* method made a bigger progress in the areas of reading and vocabulary in comparison to other students who were received another type of instruction.

The indicator *Achiev+LG* demonstrates students' progress not only in the area of reading and vocabulary but in the area of language application as well. All the mean differences of this indicator are marked with the asterisk are we cam affirm that there are significant differences in vocabulary, reading and language among the learners instructed by different methods. *LSD* test indicates that the mean differences between the *Cognitive apprenticeship* and other methods are positive again and this evidences that in overall learning of English students who were instructed according to the *Cognitive apprenticeship* method made the biggest progress.

The mean differences of the Vocabulary and Language indicators are also significant because they are marked with the asterisks. Again, the leader is *Cognitive apprenticeship* method since when compared to the methods the results of the former are the highest.

According to the data shown in the table it is obvious that the learners instructed according to the *Cognitive apprenticeship* method make the most sizeable progress.

Conclusion

A student who only is able of memorizing new words blindly following the teacher's instructions and using only a small number of strategies is unable to learn new words comprehensively. He does not manage to enrich his foreign language vocabulary autonomously. His/her metacognitive skills which would help to monitor and reflect on the learning process need to be developed. There should be designed leaning environment by means of which students could

foster their metacognitive skills which eventually will help students to be autonomous.

The Cognitive Apprenticeship method was chosen as a teaching approach which could help students to master such methods as modelling and reflection which are very relevant in forming the metacognitive skills for enhancing foreign language vocabulary acquisition. Expected results: 1. students will acquire metacognitive skills; 2. students' ability to use their metacognitive skills will help them to become autonomous in enriching new vocabulary of a foreign language; 3. metacognitive skills could be transferred to other areas of learning not only to the acquisition of new foreign words; 4. metacognitive skills could be used throughout the life Cognitive Apprenticheship is not a model of teaching tat gives teachers a packaged formula for instruction. It is an instructional paradigm for teaching. Cognitive Apprenticeship is not a relevant model for all aspects of teaching. If the targeted goal of learning is a rote task, cognitive apprenticeship is not a appropriate model of instruction. It is a useful instructional paradigm when a teacher needs to teach a fairly complex task to students such as how to become autonomous in foreign language vocabulary enrichment.

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METAKOGNITYVIŲ ĮGŪDŽIŲ SVARBA SAVARANKIŠKAI TURTINANT KALBĄ

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Santrauka

Straipsnyje pateikiami pedagoginio eksperimento, atlikto Vilniaus Gedimino technikos universitete, rezultatai. Tyrimo tikslas buvo suformuoti pagrindinius metakognityvius įgūdžius, kurie padėtų studentams savarankiškai turtinti specialybės kalbos žodyną. Tyrimas parodė, kad studentų kalbos turtinimas yra nulemtas vien dėstytojo veiklos. Tas studentas, kuris vien tik įsimena, labai retai išmoksta bendrauti, sunkiai išmoksta žodžius, nesugeba savarankiškai turtinti savo kalbos, vadovaujasi tik atskiromis žodyninio darbo strategijomis, tarp kurių kognityvios bei metakognityvios strategijos nėra iš populiariausių. Daroma išvada, kad studentai nemoka naudotis savo metakognityviais įgūdžiais arba jų neturi. Autorė paaiškina, kodėl metakognityvūs įgūdžiai yra itin svarbūs mokantis užsienio kalbos, o ypač naujos leksikos bei kalbai turtinti. Pabrėžiama būtinybė ieškoti naujų dėstymo metodų ar būdų metakognityviems įgūdžiams skatinti, nes būtent jie leis studentams gebėti savarankiškai turtinti kalbą. *Cognitive Apprenticeship* metodas siūlomas kaip vienas iš metodų, kuriais galėtų būti tobulinami metakognityvūs įgūdžiai. Pedagoginio eksperimento taikant skirtingus mokymo metodus rezultatai parodė, kad studentų specialybės kalbos žodynas praturtėjo labiau taikant *Cognitive Apprenticeship* metodą nei pirmąjį *Direct instruction* metodą. Lyginant metodą su *Direct instruction* metodu, *LSD* testo vidurkių skirtumas gautas 0,123305, o *Cognitive appr.*, palyginti su *None*, 0,269566. Kadangi gauti vidurkių skirtumai teigiami skaičiai, galima daryti išvadą, kad *Cognitive appr.* metodu besimokę studentai padarė didesnę skaitymo ir žodyno pažangą nei kitais metodais mokęsi studentai.

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