Jovana Milovanović[*]
University of Belgrade
Faculty of Philology[2]

CROSS-LINGUISTIC INFLUENCE OF L2 ON COMPREHENSION OF L1 ACADEMIC VOCABULARY

This article reports on the findings of an empirical study of cross-linguistic lexical influence on the comprehension of cognates in Serbian and French, Italian or German language on one hand and non-cognates on the other hand. The lexical items chosen for the study are considered to belong to academic vocabulary. The participants are third and forth-year undergraduate students of French, Italian and German language respectively. They are all native speakers of Serbian language and speak English and at least one more foreign language. The participants took a multiple-choice test consisting of four types of words based on their formal similarities between Serbian and the three analysed L2 languages. Based on the results obtained in the study, we discuss cross-linguistic influence of foreign lexis on comprehension of words in participants' L1, with special attention to both positive and negative effects of such an influence. We argue that multilingualism can be an important factor in the comprehension of academic vocabulary and can facilitate manipulation with this specific type of lexis.

Key words: cross-linguistic influence, academic vocabulary, L2-L1 influence, lexical transfer

1. Introduction

Cross-linguistic influence is a field that has attracted significant attention in recent years. The term refers to the influence of one language on another at any given level. Although it can operate in multiple directions, most studies in the field have focused on one particular interaction: L1 influence on L2, L3, etc. With a growing number of multilingual individuals across the globe, interaction between different languages has come to be understood as a dynamic system with its own specificities and the influence of foreign languages on L1 has gained more attention.

The focus of this paper is L2 influence on L1 academic vocabulary comprehension. We report the results of an empirical study involving French, Italian and German language undergraduate students based on a multiple-choice context-independent test consisting of academic lexis in Serbian language. The study aims to examine the cross-linguistic influence of analysed languages and its potential for exploitation in the development of academic language skills. Before discussing the results of our study, we will briefly present the concepts of cross-linguistic influence, multilingualism and academic vocabulary.

---

[*] jovana.milovanovic@fil.bg.ac.rs

2. Theoretical framework

2.1 Cross-linguistic influence and multilingualism

In a globalised world where communication knows no borders, the number of bilingual and especially multilingual individuals keeps increasing. With this in mind, cross-linguistic influence has become a significant topic in linguistic research. Cross-linguistic influence, otherwise known as language transfer, linguistic interference and language mixing (Odlin 2008: 436), is the influence that stems from either similarities or differences between languages an individual acquires (Talebi 2013: 432). We will use the term cross-linguistic influence throughout this paper. This phenomenon used to be seen primarily as the influence of L1 on L2, L3, etc. despite the fact that bidirectionality is a known notion in the field (Pavlenko, Jarvis 2002: 190). Certain researchers consider it as a transference, other view it as a constraint, and more recent studies suggest that multilingual mind functions as a unique super-system (Cook 2003: 2). Given this multidirectional nature of cross-linguistic influence, there is a need to examine different varieties, such as L2-L1 influence in adult population that we will address in this paper.

Cross-linguistic influence can occur in different parts of the language system, at phonological, morphological or lexical levels for example. The present study aims to outline some features of cross-linguistic influence on the vocabulary of L1. Lexical cross-linguistic influence can be described as «the influence of word knowledge in one language on a person's knowledge or use of words in another language». (Jarvis, Pavlenko 2008: 72). Furthermore, the studies done in this field affirm that during language acquisition process, speakers' competence may change as new items are added to the existing knowledge, even in L1 (Pavlenko 2000: 178). The effects of L2-L1 influence can be positive, negative or neutral (Cook 2003: 11). We will take a particular interest in the effects of cross-linguistic influence on cognates.

2.2 Cognates

Cognates are defined as two lexical items which are historically related, whose meaning is often particularly similar, although this is not always the case. Items which are similar by pure accident, such as pain in French and English are not considered cognates (Ringbom 2007: 72). The interest in cognates in terms of cross-linguistic influence can be explained by the fact that they tend to be treated differently in our mind (Jarvis, Pavlenko 2008: 85). Cross-linguistic influence is noticeable in items that share a formal similarity or equivalence as it is believed that learning and manipulating such items requires less effort (Ringbom 2007: 72). Furthermore, some studies indicate that L2 may influence L1 performance in this regard, but only at the advanced levels of proficiency (Pavlenko 2000: 188). In the multilingual lexicon, mental connections between cognates are particularly strong, which explains why we believe that cross-linguistic influence could be detected by researching this type of interlingual connection (Müller-Lancé 2002: 124).

2.3 Academic vocabulary

The term (general) academic vocabulary is used to describe the lexis which oc-

curs frequently in academic texts, yet rarely in other types of texts (NATION 2001: 303). This kind of vocabulary is not closely related to the topic or field of the text itself (COX-HEAD 2000: 214) and occurs in various genres, such as textbooks, articles, keynote lectures, etc. (KRISHNAMURTHY, KOSEM 2007: 365). Academic vocabulary typically contains a large number of words from Greek and Latin (NAGY 23: 93). The latinate nature of this type of vocabulary creates the effect of transparency, familiarity and learnedness among its users (NATION 2001: 312; RINGBOM 2007: 72). Moreover, Greek and Latin words are often internationalisms and therefore cognates in numerous languages across the world. It is important to remark that existing studies mostly focus on foreign academic language, while academic language in L1 still needs more detailed research (BAUMANN, GRAVES 2010: 4). In fact, academic vocabulary is an important element for comprehension of academic writing and it is of great importance not only for non-natives, but for all students and educators alike (SNOW, UCELLI 2009: 114).

One of the most significant works on academic vocabulary is the *Academic Word-list* (AWL) (COXHEAD 2000). This list was created from an analysis of a corpus compiled from different academic texts counting more than 3.5 million tokens. When it comes to Serbian academic vocabulary, AWL served as the base for the PhD thesis *General and academic vocabulary in high-school-aged children* (Бранић Латиновић 2016). As its title suggest, academic vocabulary is not the sole topic of this study, but nevertheless, to this date, it remains the most comprehensive research of academic vocabulary among Serbian L1 speakers. Branić-Latinović based her Academic Vocabulary Test on Xue & Nation's academic list as well as AWL (Бранић Латиновић 2016: 83). The author extracted lexical items from these lists, found their Serbian correspondents and checked them against high-school textbooks. The selected words consist solely of nouns, adjectives and verbs (Бранић Латиновић 2016: 76), a portion of which was used in the present research as well. While high-school textbooks can be seen by some as insufficiently academic as they are written with the intention to serve a fairly large audience, unlike university textbooks for example, they can and should be considered academic because the term itself can refer to any type of resource related to academic activities, which certainly include high-school teaching. Another aspect worth commenting is the word choice for the mentioned wordlist. Despite the fact that the study of Branić-Latinović relies on lists for English academic vocabulary, this test remains a precious measuring tool for comprehension of academic vocabulary in Serbian.

3. Methodology

The purpose of the present research is to analyse cross-linguistic influence, and specifically L2-L1 influence, on comprehension of academic vocabulary. Given the results obtained in studies on multilingualism and cross-linguistic influence described in the section Cross-linguistic influence and multilingualism, in this research we will consider the following question: can L2 knowledge facilitate comprehension of cognates in L1?

In order to answer this question, we examined the comprehension of academic vocabulary in Serbian among native speakers. Cognates from three languages were taken into consideration: French, Italian and German. As receptive vocabulary is typically tested through multiple-choice tests (Бранић Латиновић 2016: 34), for the purpose of this

study, we used a multiple-choice context-independent vocabulary test. The test consists of 28 items that can be considered as academic vocabulary, as defined in section Academic vocabulary. The items in the test are divided into four categories, based on word origin:

Type 1: cognates found in Serbian, French and Italian language, the French cognate being more similar to the Serbian form. This type contains the following words: *suptilan* (subtle), *egzaktan* (precise), *hijerarhija* (hierarchy), *evoluirati* (evolve), *koherentan* (coherent), *adaptirati* (adapt), *resurs* (resource);

Type 2: cognates found in Serbian, French and Italian language, the Italian cognate being more similar to the Serbian form. Type 2 consists of the following words: *proporcija* (proportion), *alternacija* (alternation), *minoran* (minor, insignificant), *modifikovati* (modify), *rigorozan* (rigorous), *konzumirati* (consume), *primaran* (primary);

Type 3: cognates found in Serbian, French, Italian and German language. They are as follows: *sekvenca* (sequence), *indicija* (indication), *teološki* (theological), *virtuelan* (virtual), *empirijski* (empirical), *parafrazirati* (reformulate), *stabilizovati* (stabilise);

Type 4: words which do not bear resemblance to their corespondents in French, Italian and German language. This group includes: *letimičan* (superficial), *iskonski* (original), *ovaplotiti* (epitomise), *nasumičan* (random), *ukazivati* (imply), *raspon* (range), *odlika* (feature).

Each type contains 7 words. All items from Types 1, 2 and 3 as well as three items from Type 4 were taken from the *Academic Vocabulary Test* (Бранић Латиновић 2016). Branić Latinović based her test on AWL. She translated items from AWL and compared them with high school textbooks used in the school system in Serbia. Only those words which were confirmed in the textbooks were used in the test. Due to the lack of non-cognates in the *Academic Vocabulary Test* that would satisfy the criteria for Type 4, only three items from this type were taken from the aforementioned test (*letimičan*, *iskonski*, *ovaplotiti*). We proceeded to select four additional items directly from AWL and chose items whose Serbian correspondents are not cognates with the three foreign languages taken into consideration in this study. We closely followed the description of characteristics of possible answers from the original *Academic Vocabulary Test* and selected five possible answers for every item we added.

Not all word categories are present in our test. Each of the four types contains three adjectives, two nouns and two verbs. These word categories were not selected randomly. In fact, as Muyksen (2006: 161) states, the chance of finding a borrowed noun, adjective or verb is significantly greater than that of finding a borrowed function word (article or conjunction for example). This is especially true for non-related languages which have different morphosyntactic systems, as is the case with Serbian and French, Italian and German.

The subjects had the task of selecting the correct synonym or definition among five suggested answers for each given item. The items in the test were presented in a random order, with items from four types mixed. Additionally, the proposed answers were also randomized and there is an equal amount of correct answers under a, b, c, d and

e. Due to the Covid-19 imposed restrictions, it was impossible to meet with the participants in person and the test was administered online via Google forms without any time constraints for the participants. The study of receptive vocabulary was also partly chosen because receptive tests offer more control than productive (Sᴄʜᴍɪᴛᴛ 2010: 38), which was preferred in the given circumstances described above.

4. Subjects

In total, 105 subjects participated in the study. All subjects are undergraduate third and fourth-year students, at the Faculty of Philology, University of Belgrade. They are native speakers of Serbian language and are all multilingual. The research does not include younger undergraduate students (first and second-year students) as it is assumed that individuals who were exposed to a language for longer periods of time tend to show more signs of cross-linguistic influence. The participants were divided into three groups based on their major.

Group 1

Group 1 consists of 37 students of French language, 17 participants are third-year students and 20 fourth-year students. All students speak English. The majority of them have learned Latin in high school and at university, with the exception of one participant. Only 15 students speak basic Italian (A1 or A2), while 6 students speak German, also at a lower level of proficiency.

Group 2

In Group 2, 43 students of Italian language participated in the present research, 24 third-year students and 19 fourth-year students. All students speak English and learned Latin in high school and at university. Eleven participants speak French, while 10 of them speak German. For both languages, participants stated they have basic knowledge, mostly levels A1 and A2 and rarely B1.

Group 3

In Group 3, there are 25 students of German language, 10 participants are third-year students and 15 fourth-year students. All participants speak English. Unlike students from Group 1 and Group 2 who had mandatory Latin courses at university, participants from Group 3 did not take Latin at university and could have only studied it in school. Therefore, 23 participants from Group 3 learned Latin in high school, while 2 of them didn't. Students from this group are often not familiar with French nor Italian: only 3 students speak French (A1-B1) and 9 of them speak Italian (A1-B1).

5. Results

We collected answers from the Google Forms tests and calculated the median of answers for each type and group respectively. The median value was chosen as an indicator of the central tendency value. All participants showed a high level of academic vocabulary comprehension. The medians for all types do not go bellow 6/7. Participants from Group 1 (French language students) were most successful with the items from Type

3 (cognates existing in all four languages) and had equal success for the other three types. Participants from Group 2 (Italian language students) had the highest median throughout all four types, with little difference between them. Participants from Group 3 (German language students) were the least successful with items in Type 3, which is the only group containing Serbian-German cognates.

Table 1. *Median results classified by group and type.*

	Type 1	Type 2	Type 3	Type 4
Group 1	6	6	7	6
Group 2	7	7	7	7
Group 3	7	7	6	7

When we compare answers by type, the results are the following. For items in Type 1, which are the items most similar to their French correspondent, Group 2 (Italian language students) was the most successful, while Group 1 was the least successful (French language students). For items in Type 2, which are the most similar to the Italian form, Group 3 was the most successful, followed by Group 2 and Group 1. With items in Type 3, Group 2 had the highest results, while Group 3 had the lowest results. Finally, with Type 4, Group 3 had the highest median, closely followed by Groups 2 and 1.


Figure 1. Results, Type 1.
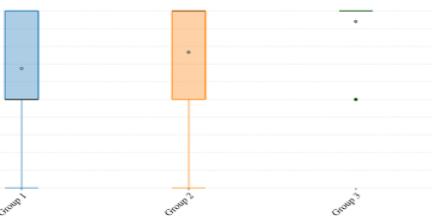
Figure 2. Results, Type 2.
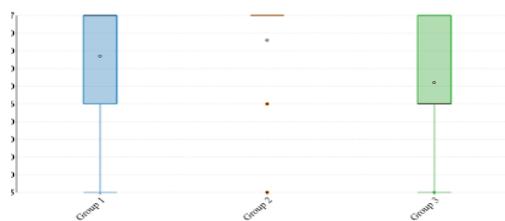

Figure 3. Results, Type 3.
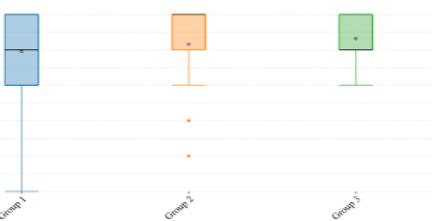
Figure 4. Results, Type 4.

In all four types, the highest individual score was 7/7 correct answers. The lowest individual scores in Types 1 and 3 was 4/7, in Type 2 5/7, while the lowest score in Type 4 was significantly lower with only 2/7. It is clear that overall, participants had the least difficulties with items in Type 2 (Serbian-French-Italian cognates, where Serbian and Italian forms are particularly close). On the other hand, items from Type 4, which are not cognates in Serbian and French, Italian and/or German proved to be the most challenging on our test.

6. Discussion

Based on the collected results of the study, several observations can be made. Firstly, the results indicate that all participants were successful in answering the majority of given items. This may be due to the fact that the items were taken from a test intended for high-school students and it is expected that university students shouldn't have much difficulty with this kind of a test. It would be preferable to repeat this study with more advanced-level lexical items, however, as there are no comprehensive academic wordlists for Serbian language, this would require us to develop our own comprehensive list of this type, which was not possible for the present study.

Secondly, the median answers obtained in the study show that among the tested students, there is not a strong cross-linguistic influence of French, Italian and German as L2 respectively on comprehension of academic lexis in Serbian L1. In fact, the students of French language had the lowest median in Type 1, where Serbian items resembled their French correspondents the most. The same can be said for German language students who scored the lowest in Type 3, the only type to have Serbian-German cognates. Italian language students had high results throughout the four types.

Thirdly, although no specific languages in our study showed a strong influence on the comprehension of cognates from that particular L2, it is noticeable that participants had less incorrect answers in Types 1, 2 and 3 than in Type 4, which does not contain cognates with analyzed L2 languages. Moreover, the lowest individual score obtained on the test was in Type 4. This can indicate that there is an overall difference between items found in other languages the participants speak and those only found in Serbian, but not other wide-spread languages, such as French, Italian or German. The participants may have made use of their multilingual competence, which explains the higher success levels in the aforementioned types. Numerous studies, such as Cook (2003) indicate that brains of multilinguals function in a particular way and this may have led to more successful results with items that can be tracked throughout different languages. It would be beneficial to do a follow-up study related to the production of academic vocabulary and examine whether this difference between the four types would persist.

Lastly, one particular item from our test indicates a negative case of cross-linguistic influence which is worth noting. In Type 1, for the item *minoran* (meaning minor, insignificant, not a person who is underage), one of the possible answers was *maloletan* (underage). A portion of the participants from Groups 1 and 2 chose this answer instead of the correct one *neznatan* (minor). This was the case for 15/37 French language students and 7/43 Italian language students. On the other hand, no participants from Group 3 made the same mistake. This could be a sign of cross-linguistic influence from either Italian or French, as both languages have a cognate with the chosen (incorrect) meaning. An additional possibility is that the incorrect answer was influenced by the English noun minor. Unlike the French, Italian or English forms, the German language uses a different word (*minderjährig*). Since no German students made this mistake, we believe it is probable that these incorrect answers were influenced by either of the Romance languages the participants speak and not English which is spoken by all participants.

The results of our study lead us to believe that it would be crucial not only to

develop further research in this area, but also to work on explicit instruction and competence development of academic language skills with regard to cross-linguistic influence. In fact, instruction is key in teaching important skills and strategies in word study, vocabulary comprehension, and fluency (Marchand-Martella 2013: 176). With guidance, students can increase the use of cognates that can help them recognise or form lexical items that belong to this category (Ringbom 2007: 108). This is particularly important with negative cross-linguistic influence as Ringbom notes that when perceived similarities are numerous enough, learners may assume that there are more similarities between languages as a whole (Ringbom 2007: 180), which can in turn result in negative influence as seen in the case of *minoran* in our study. The necessary guidance can rely on teaching similarities between languages and increasing metalinguistic awareness (Ringbom 2007: 106). Additionally, instructions focused on cognates and morphological features can have a positive impact on both word knowledge and writing (Hiebert Lubliner 2008: 22). It is upon teachers of L1, as well as L2, L3, etc. to work together on this matter and explore overlapping language areas in order to offer a coherent set of skills through a consistent approach (Talebi 2013: 435). With proper attention brought to this subject, students can acquire valuable knowledge on how to exploit their multilingualism and facilitate not only the learning process of L2 vocabulary, but also their comprehension and possibly production in their L1.

Conclusion

The results of our study indicate that within the group of students that were tested, there is no strong cross-linguistic influence of French, Italian or German language respectively on the comprehension of academic vocabulary in Serbian L1. Students of all three languages mentioned in this research had high results on the test, but showed no consistent improvement with cognates from the L2 they are studying at university. The data suggest however that words of foreign origin tend to be easier to understand, which could indicate that multilingual competence can facilitate overall comprehension. On the other hand, cross-linguistic influence can also be a negative factor in comprehension of academic vocabulary, as can be seen in the case of *minoran*. With this item, a number of participants whose L2 is French or Italian wrongly concluded that the meaning in Serbian was similar to that in L2, whereas students of German did not make the same mistake, possibly because the German correspondent bears no formal resemblance to the Serbian word. Whether cross-linguistic influence has a positive or negative effect on comprehension of academic vocabulary in Serbian L1, we can conclude that it is necessary to address this phenomenon in a systematic manner in order to facilitate positive effects of multilingualism and avoid constraints. Lastly, it is necessary to expand research on the topic as to include productive vocabulary and examine thoroughly multiple facets of cross-linguistic influence of L2 on L1 lexis.

Works cited

БРАНИЋ ЛАТИНОВИЋ, Биљана. *Општи и академски вокабулар на средњошколском узрасту*. Београд: Филолошки факултет, 2016. [PhD dissertation]

BAUMANN, James, GRAVES, Michael. "What is Academic Vocabulary?" *Journal of Adolescent and Adult Literacy*, book 54, issue 1, (2010): p. 4-12. https://doi.org/10.1598/JAAL.54.1.1

COOK, Vivian (ed.). *Effects of the Second Language on the First.* Bristol: Multilingual Matters, 2003. https://doi.org/10.21832/9781853596346-003

COXHEAD, Averil. "A New Academic Wordlist." *TESOL Quarterly*, book 34, issue 2, (2000): p. 231-238. https://doi.org/10.2307/3587951

HIEBERT, Elfrieda., LUBLINER, Shira. "The nature, learning, and instruction of general academic vocabulary." *What Research Has to Say About Vocabulary Instruction*, (2008): 106-129.

JARVIS, Scott., PAVLENKO, Aneta. *Crosslinguistic Influence in Language and Cognition*. Abingdon-on-Thames: Routledge, 2008. https://doi.org/10.4324/9780203935927

KRISHNAMURTHY, Ramesh, KOSEM, Iztok. (2007). "Issues in Creating a Corpus for EAP Pedagogy and Research." *Journal of English for Academic Purposes,* issue 6, (2007): p. 356-373. https://doi.org/10.1017/CBO9780511609664.008

MARCHAND-MARTELLA, Nancy. et al. "Key Areas of Effective Adolescent Literacy Programs." *Education and Treatment of Children,* book 36, issue 4, (2013): p. 161-184.

MÜLLER-LANCÉ, Johannes. (2002). "A Strategy Model of Multilingual Learning." *The Multilingual Lexicon*, (2002): p. 117-132. http://dx.doi.org/10.1007/978-0-306-48367-7_9

MUYSKEN, Pieter. "Two Linguistic Systems in Contact: Grammar, Phonology and Lexicon." *The Handbook of Bilinguism*, (2006): p. 147-168.

NAGY, William et al. "Words as Tools: Learning Academic Vocabulary as Language Acquisition." *Reading Research Quarterly*, issue 47, book 1, (2012): p. 91-108. https://doi.org/10.1002/RRQ.011

NATION, Paul. *Learning Vocabulary in Another Language.* Cambridge: Cambridge University Press, 2010. https://doi.org/10.1017/CBO9781139524759

ODLIN, Terence. "Cross-Linguistic Influence." *The Handbook of Second Language Acquisition,* (2008): p. 436-486. http://dx.doi.org/10.1002/9780470756492.ch15

PAVLENKO, Aneta. "L2 Influence on L1 in Late Bilingualism." *Issues in Applied Linguistics*, book 11, issue 2, (2000): p. 175-205. https://escholarship.org/uc/item/7gs944m5

PAVLENKO, Aneta, JARVIS, Scott. "Bidirectional transfer". *Applied Linguistics*, book 23, issue 2, (2002): p. 190-214. http://dx.doi.org/10.1093/applin/23.2.190

RINGBOM, Hakan. *Cross-linguistic Similarity in Foreign Language Learning.* Bristol: Multilingual Matters, 2007.

SCHMITT, Norbert. *Researching Vocabulary.* London: Palgrave McMillan, 2010. https://doi.org/10.1057/9780230293977

SNOW, Catherine, UCELLI, Paola. "The Challenge of Academic Language." *The Cambridge Handbook of Literacy*, (2009): p. 112-133.

TALEBI, Seyed Hassan. "Cross-linguistic Transfer (from L1 to L2, L2 to L1, and L2 to L3) of Reading Strategies in a Multicompetent Mind." *Journal of Language Teaching and Research,* book 4, issue 2, (2013): p. 432-436. doi:10.4304/jltr.4.2.432-436

Јована Миловановић

ТРАНСЈЕЗИЧКИ УТИЦАЈ Л2 НА РАЗУМЕВАЊЕ АКАДЕМСКОГ ВОКАБУЛАРА НА Л1

Резиме

У овом раду приказујемо резултате емпиријског истраживања трансјезичког лек-
сичког утицаја на разумевање когната у српском, француском, италијанском и немачком
језику с једне стране и кореспонденaта у наведеним језицима који нису когнати с друге
стране. Испитаници су студенти 3. и 4. године основних студија подељени у три групе, пре-
ма студијској групи (француски, италијански и немачки језик). Сви су изворни говорници
српског језика и говоре енглески и најмање још један страни језик. Испитаници су радили
лексички тест са понуђеним одговорима који садржи 28 речи распоређених у четири типа
на основу формалне сличности кореспонденaта на српском језику и три анализирана Л2.
Резултати показују да су све три групе испитаника имале висок проценат тачних одговора.
Добијени резултати указују на то да не постоји јак појединачни трансјезички утицај фран-
цуског, италијанског или немачког језика на разумевање академског вокабулара у српском
језику као Л1. Међутим, уочљиво је да је код речи страног порекла виши постотак тачних
одговора, што може указати на то да вишејезична компетенција олакшава укупно разумева-
ње вокабулара. Такође, уочен је известан негативни утицај Л2 језика на разумевање лексике
на Л1 језику, као што је то случај код речи миноран, коју су бројни испитаници тумачили
као малолетан, што је значење француског и италијанског когната, али не и српског коре-
спондента. Потребно је урадити даља истраживања у овој области која би испитала утицај
вишејезичне компетенције у смеру Л2 ка Л1, те истражити продуктивне вештине у сфери
академског вокабулара.

Кључне речи: трансјезички утицај, академски вокабулар, Л2-Л1 утицај, лексички трансфер