

# Lexical card as the students' vocabulary level extending tool

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**Abstract.** The article analyses the ways of solving the modern problem of non-linguistic faculty students' foreign language proficiency. This problem is relevant nowadays because when students enter the university the majority of them show low level of foreign language proficiency accordingly to the Common European Framework of References. The purpose of the article is to describe the positive impact of the developed new tool for extending the students' vocabulary level. The research was done in three stages: ascertaining, forming and control. Ascertaining stage showed the differences between the required student's foreign language proficiency and their real level of it. The forming stage of the research devoted to show the procedure of students' vocabulary extending process, and the control stage was about to test the level of students' vocabulary level after using the new tool as a student lexical card. The research was conducted at Samara University, where 324 non-linguistic faculties' students took part. As the result of the research it is necessary to be mentioned the lexical card that was developed as the tool for extending students' vocabulary level had positive impact for students in the process of studying, and for teachers in the process of teaching.

## 1 A problem statement

Modern psychological and pedagogical researches study the basic features of students' development as a social community [1], as a subject of their own personal and professional development [2], and as potential competitive specialists [3]. And also these researches study students' development in other aspects [4].

Nowadays the higher education system is being transformed under the influence of many different processes like: digitalization, globalization, standardization and others. Talking about standardization it is should be mentioned that this process has advantages such as future students' perspectives and the resources for their development, however at the same time this process has certain difficulties. And the process of standardization influences the foreign languages teaching.

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## 1.1 The objective of the work

Accordingly, to the problem above, in the article authors consider the psychological and pedagogical higher education problems in the field of teaching foreign languages. In other words, it is no longer enough for a modern specialist to have knowledge and information in their own languages, it is necessary for a specialist to be able to study the modern scientific researches in foreign languages. And in that case the foreign language fluency is the essential component of the modern specialist professional activity.

In order to determine the level of a student foreign language competence at the employment or at master`s program admission the Common European Framework of References (CEFR) should be used. And that fact makes us think about the correspondence between the requirement for the language competences that graduates should have and their capabilities. However, there are a number of differences in the initial level of teaching students foreign languages, it happens because of the secondary and higher education systems disconnection.

Based on the foreign scientists` researches, there was found out the one of the factors that negatively affects the psychological and pedagogical process of teaching foreign languages is the students` lack of vocabulary knowledge [6].

It should be mentioned that a great attention is paid to the quantitative analysis of vocabulary at the present stage of psychology and pedagogy of teaching foreign languages development. The students` vocabulary level is one of the most important parameters that reflect the language proficiency level.

## 2 Results of the research

Vocabulary qualitative and quantitative characteristics correlate with the level of language competence, and also show a lot about the intelligence, psychological profile, type of activity and even habits of a person.

The study of these characteristics is significant for the tasks of pedagogy (for instance, to determine the language proficiency level and the quality of subject vocabulary assimilation). Hence, in that case many questions have risen, such as: what number of the vocabulary unit (VU) should be corresponding to a certain language level; how to memorize these VU; the language native speakers` vocabulary features (L), and the foreign language learners vocabulary features (L2).

A number of scientists: Nation P., Schmitt N., Schmitt D., Meara P., Buxton B. and others formulated a new, scientifically-based approach to the study of second language vocabulary, focused primarily on adult learners.

The Russian State Educational Standard expects that students` level of foreign (English) language after completion the basic level of high school education will reach B1 level that correlates with the Common European Framework of References.

This level corresponds to a vocabulary of 3000-3200 thousand words. To conduct a quantitative analysis of the vocabulary of first-year students, our study was conducted on the basis of Samara University non-linguistic faculties, such as: mathematics, biology and economics.

The experiment had 3 stages: the ascertaining, forming and control. The ascertaining stage was conducted in 3 years (2017-2020), during that period the hypothesis was put forward and confirmed that the volume of the vocabulary of some students does not correspond to the B1 language level. The experiment was conducted using the method of observation and testing. For conducting the experiment 324 Samara University first-year students of non-linguistic faculties, of the same age (18-19 years), of different sexes, with a level of language proficiency from A1 to B2 took part in it. All the

participants were put on an equal footing, given the same amount of time (45 minutes) and clear instructions. For that we used an online test <https://my.vocabularysize.com/>, which was developed by scientists from the University of Victoria (New Zealand) under the leadership of Professor Paul Nation – one of the largest experts in the methodology of teaching English field. The test determines the knowledge of 140 English words, but they are selected in a way that each of a word represents not one, but 100 words. And that test is based on the concepts of a “head word” and a “word family”. The “word family” includes all word derivatives, such as: word form (e.g. plural or future tense), single-root words and others. Thus, if a person knows 140 words it basically means that he/she knows 14000 words. This test is designed for students who studies English as the second language (L2). And it should be mentioned that among 140 words there are a number of high-frequency and low-frequency words combined. When a person does the test he/she is proposed to determine the meaning of the question word from the list of its destructors, and the meaning of that word in the context that word is used, which allow us to judge about the possession of a lexical unit at the level of passive or active vocabulary [8]. After the test is done we can get a frame that indicates the number of words you have in your vocabulary. Each of the tests we did with students was recorded and further processed. As the result of the experiment we got the following distribution of students by their vocabulary: 35% - 1500-4500 words; 53 % - 4500-7500 words; 12% - 7500 -10500 words.

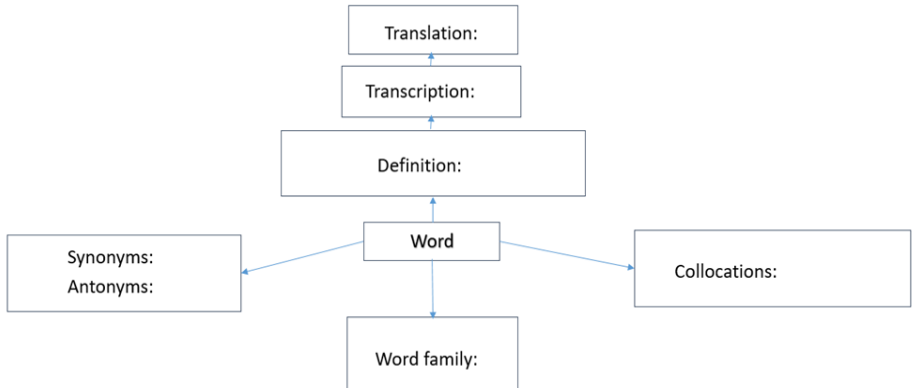
In order of the research the results correlation turned out to be quite significant, where students demonstrated both a high and insufficient vocabulary for mastering the university studying program, one of the requirements of which is the professional vocabulary possession. It should be noted that the following grammar placement test confirmed the results of our study, where it shown that students with a high vocabulary coped with the grammar test better than those with insufficient vocabulary.

Thus, the quantitative analysis of non-linguistic faculties' students' vocabulary is relevant nowadays from the psychological and pedagogical point of view and from the standardization of education. This study made it possible to determine the level of language proficiency when entering a university non-linguistic faculty more accurately, and at the same time it helped to determine the need to find different methods to expand students' vocabulary. The second stage of the study analyses the existing practical methods of vocabulary expending.

The next stage of our research was devoted to the vocabulary expending experience; methodology for expanding student' vocabulary; and specific of teaching foreign language to students of non-linguistic faculties. In or study we defined the principles of organizing the teaching process where students had to learn new vocabulary; and also we developed the tools for expanding students' vocabulary that are meet the experiment goals and objectives. That was done on the basis of V.A. Slastoynin's studies about teaching process, where he mentioned that principles of teaching process reflect the basic requirements for the teaching process organization, indicate its direction, and help to make teaching process more creative.

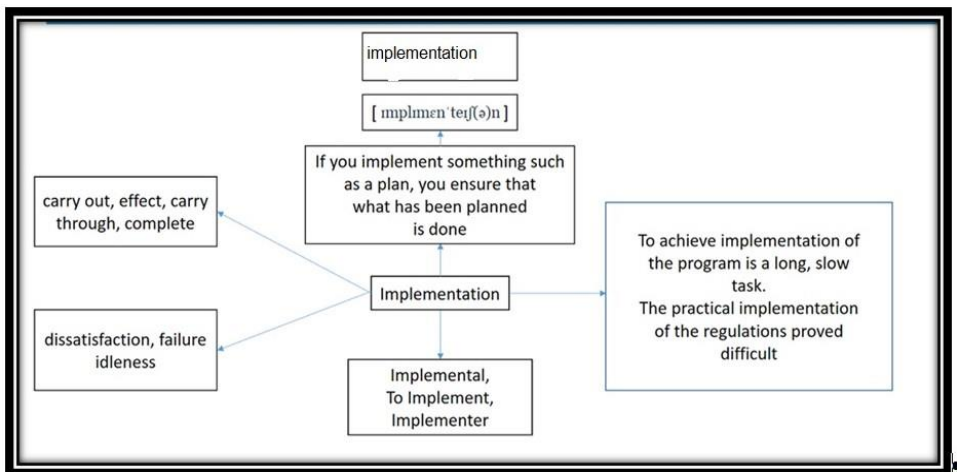
The forming stage of the research had been conducted during 4 months from September, 2019 till June, 2020. The 24 students of Biology faculty participated in the experiment; all of them were at the same age around 18-19 years old, male and female, with different language proficiency level (A1-B1). The most important thing of the formation that experiment group was the students' selection, which was done by the Biology faculty members (who do not speak English). It is important in the way that the experiment was more truthful, because people formed the experiment group did not know English, and they were not engaged into the experiment process. The students' control group (CG) and experimental group (EG) were formed without taking into

account their language proficiency level. During the vocabulary formation experiment the topics in the field of biology: “History of Biology”, “Biology Today”, “Life Origin”; and the general conversational topics: “Life Stories”, “Time Off”, “Beginnings”, “How we met”, “Getting Qualified”, and “Job Hunting” were studied in both (CG and EG) groups. Thus, the CG students studied new vocabulary with the help of students book where that vocabulary was written and the EG students studied new vocabulary with the help of extra task as filling out the lexical cards (Figure 1).



**Fig. 1.** Lexical card.

Those cards were developed with the help of graphical material organization into a cluster for expanding students’ vocabulary. That cluster makes possible to visualize thinking process that happen when a person learn a new topic (Figure 2).



**Fig. 2.** Filled out lexical card.

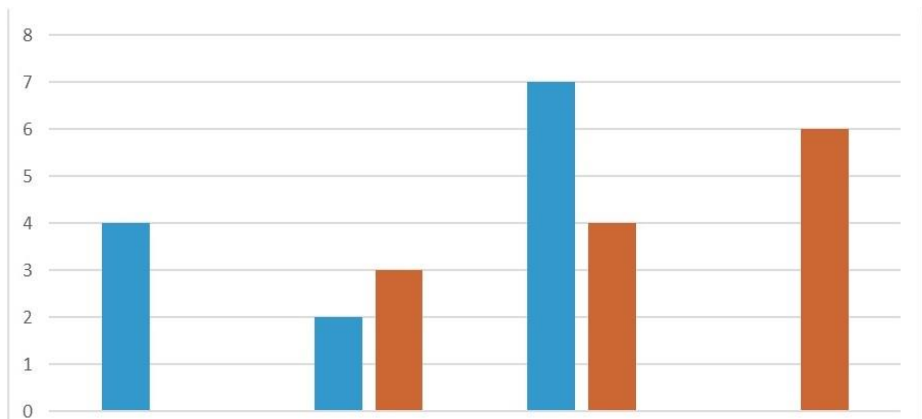
The second picture shows us the students thinking process, but the filling out lexical card tasks was given by a teacher with the following instructions:

1. The central part of the table you put the word that you need to remember
2. Determine the meaning of the word by using any help resources:
  - <https://www.collinsdictionary.com/dictionary/English>
  - <https://www.thesaurus.com/>

- <https://www.english-corpora.org>
- <https://dictionary.cambridge.org/>
- <https://www.macmillandictionary.com/>
- 3. Write a transcription.
- 4. Write a translation.
- 5. To find out and write a word synonyms and antonyms.
- 6. Write the central word “family words”.
- 7. To find out and write collocations with the central word.

It is needed to be mentioned that the activity of filling out the lexical card is universal, because they can be used as a form of independent work, as an educational project, or as a form of a test. Each student filled out the lexical card using the Microsoft Word application, after filling out those cards, saved them for making his/her own set of lexical cards. At the process of lexical cards filling out the students were high motivated. However, some difficulties in the process of performing that task were identified, such as: working with terminology, because a great number of scientific terms do not have synonyms and antonyms, and it made the work with lexical card more complicated.

At the control stage of experiment the CG and EG of students were retested with the help of on-line test [7]. And according to test's results a conclusion was made and mathematically proved using the Mann-Whitney [9] and Wilcoxon criteria that is about a more significant vocabulary extending level among EG students (Figure 3).



**Fig. 3.** Vocabulary level changes (CEFR) in experimental group (EG) of students.

The Vocabulary Level Test was chosen as an additional test with the help of which we determined the vocabulary extending level among EG students; their vocabulary had a positive shift in the extending level. The test choice was determined by its validity, standardization and its correspondence to the experiment purpose.

### 3 Conclusions

At the conclusion it should be said that first of all, the study showed that the students vocabulary level extending affects the foreign language proficiency level; and the vocabulary volume control helps to determine the initial foreign language level proficiency among students of non-linguistic faculties.

Secondly, the development of linguistic cards as a tool for vocabulary level extending had a positive impact on the teaching process and it makes the vocabulary

memorizing more effective and productive, and the study proved those cards could be used for teaching students of different faculties and more of that of different educational institutions.

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