

Influence of Foreign Language Grammar on the Development of Professional Skills and Qualities of Students at Agricultural Universities

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The paper focuses on the influence of foreign language grammar on developing professional skills of students majoring in Economy at agricultural universities. The paper presents the principles of the experimental methodology we have developed, which is based on the following: (1) identifying professional qualities valuable for economists; (2) focusing the attention of students on the importance of these qualities in professional activities; (3) substantiating the importance of some properties of a foreign language to form professional qualities; (4) applying these properties; and (5) selecting special techniques for a solid mastery of the corresponding grammatical structures. In the paper, we compare the results obtained from the practical application of language constructions by students of the control and experimental groups at the Institute of Economics. The research has found that students trained according to the experimental method showed a higher level of professional qualities when performing speech activity in a foreign language than students of the control group trained according to the traditional method.

Keywords: accuracy, analytical skills, grammar, foreign language, causative-consecutive conjunctions, professional qualities, professional skills, comparative analysis

INTRODUCTION

The relevance of the research is due to the fact that the grammar of any language (in particular, English) has tremendous opportunities to be studied from different points of view. There are several definitions of the concept of *grammar*. From a pragmatic point of view, grammar is a collection of laws and rules for using spoken and written language. From a scientific point of view, grammar is a linguistics section that analyzes and describes the structure of words and inflection, and types of phrases and sentences. This term has a long history. It is known that modern methods of grammar originate in the works of the ancient Indian linguist Panini (Voloshina, 2018). The system of concepts and categories of modern grammar, including terminology (names of parts of speech, cases, etc.), goes back to the ancient linguistic tradition. The ancient Greek scientist Plato was the first to distinguish a word and a sentence (Saveliev, 2000). Another ancient Greek philosopher, Aristotle, analyzed the features of affirmative, negative, and nonverbal sentences (Sadikov, 2010). In the history of linguistics, we are interested in the modern grammar of the English language, which is called *normative*, that is, based on strict rules for using the language. In some research, one has studied the concept of *grammar* from a psychological point of view. Here we can refer to Aristotle,

who believed that logic was the basis of grammar (Bocharov, 1984). We can assess this statement as rational since language, speech, and thinking are closely interrelated.

The main sections of grammar we are interested in for our research are syntax and morphology. Syntax is a section of linguistics that analyzes the structure of sentences and phrases. Translated from Greek, this term means *composition* and *order*. Many linguists have studied syntax. In particular, V. D. Arakin found that the modern strictly fixed word order in the English language finally took shape only at the end of the 17th century (Arakin, 2014). G. A. Zolotova and S. Dik based their studies of the syntactic structure of language on the initial assumption of functionalism, which stated that the conditions of language use and the nature of meanings determined the use of linguistic means (Zolotova, 1973). Morphology is as a section of grammar, the main objects of which are words of natural languages, their significant parts, and morphological features. H. Sweet, the founder of the scientific grammar of the English language, put forward three basic principles of classification that exist in morphology: meaning, form, and function of a word (Lebedev, 2019, p. 228). According to the linguist L. S. Barkhudarov, one can consider the main property of a word as its ability to be defined by other parts of speech (Barkhudarov, 2009).

The research relevance is also due to the urgent need to develop work programs, in which teachers need to pay special attention to forming universal competencies of students majoring in different areas of study. Universal competence is a set of personality traits on which the success of a person depends in almost all areas of professional activities. Psychologists D. McClelland and S. Spencer are the founders of the competence-based approach (Makeeva, 2018). Interest in this issue is that students should become highly qualified professionals capable of contributing to the progress, development, and prosperity of the country.

The research aims to analyze the influence of foreign language grammar on developing the professional skills of students at agricultural universities. Within the study, we solve the following objectives: (1) identification of personality traits that form the basis of the competence of future professionals; (2) analysis of grammatical structures and properties of a foreign (English) language that develop certain professional qualities of students; (3) consideration of ways for organizing the assimilation of grammatical structures in a foreign language, which develop professional skills of students; and (4) development of criteria for diagnosing the level of professional skills of students performing speech activity in a foreign language.

MATERIALS AND METHODS

We have conducted the study on the second-year students at the Institute of Economics and Management of Agroindustrial Complex of Russian State Agrarian University – Moscow Timiryazev Agricultural Academy. There have been two groups: (1) D-E204, a control group of students majoring in *World Economy*; and (2) D-F203, an experimental group of students majoring in *Finance and Credit*.

The teaching of the students in the control group on the grammatical side of the foreign (English) language was according to the traditional method. The students performed such types of work as translating sentences from Russian into English and vice versa and translating and retelling professionally-oriented texts.

The students of the experimental group have been taught according to the experimental technique we specially developed. It is based on identifying and developing professionally-oriented qualities through a foreign language. Accuracy is the first and most important property for economists. Word order in a sentence, which is one of the grammar topics in a foreign (English) language, allows one to develop this quality. This is because fixedness is the main property of the English word order, unlike the word order in the Russian language. As an example, we will speak about the principles of teaching students to write statements on the topic *The Role of Government in Different Economic Systems*. First of all, the control and experimental groups have received different instructions on how to complete the task of writing sentences. The students of the first-mentioned group have received an assignment to **translate** the sentence **into Russian**: *The government plans production in the command economy (В командной экономике правительство планирует производство)*. The students of the second-mentioned group have received the instruction to **build** this sentence **in English**. That is, the need to fix the components of the system (the parts of the sentence) in certain positions is emphasized in the second case. To focus the attention of students

on the differences in the construction of English and Russian sentences, teachers use the so-called structured tables for entering the individual components of the sentence construction in its columns (Table 1).

TABLE 1
WORD ORDER IN A SENTENCE

Parts of a sentence					
Principal		Secondary			
Subject	Predicate	Object		Adverbial modifier	
Who? What?	What does it do?	Questions of objective cases		How?	Where? When?

In addition to presenting the table, a teacher asks the students of the experimental group to perform the following sequence of actions: (1) build the sentence in Russian; (2) ask the necessary questions for each word and determine the members of the sentence; (3) put a number in brackets near each member of the sentence according to the word order in the English sentence; and (4) build the sentence in a foreign (English) language (Table 1). Here is an example of the task: *В командной экономике (4) правительство (1) планирует (2) производство (3).* – *The government (1) plans (2) production (3) in the command economy (4).* We have assumed that, since our students are Russian native speakers, the Russian language should be the basis for understanding the laws of the English language. At the same time, one can achieve this understanding when identifying the similarities and differences in language components.

A high level of analytical skills is the second important criterion for the professionalism of economists. In particular, students are taught the operations of analysis and synthesis using the example of summarizing professionally-oriented texts. However, organizing the process of teaching this type of speech activity was different for the students of the experimental and control groups. The task for both groups was to make a plan of the text, the items of which should consist of separate words and phrases, and introduce it into the retelling with special speech-thinking structures. The students of the control group simply received the task to make a plan of the text. Simultaneously, teachers did not conduct special training in the principles of making a plan. As a result, students could construct a two-word phrase like *Теория спроса* as *Theory (1) of (2) demand (3)*. In this case, the number of words in the English word combination constructed prevailed over the number of words in the Russian word combination. The students of the experimental group underwent special training in the methods of constructing phrases for making a plan of the text. The goal of this training was to teach how to remove unnecessary prepositions from a word combination. These students developed practical skills related to mastering the topic *Attributive noun*. However, such work causes significant difficulties. Telling the students about the goal of this activity is an incentive to master these skills. From a linguistic point of view, the goal is to reduce the number of lexical units in a phrase by changing the location of English words compared to the components of the Russian language. From a professional economic point of view, the goal is to develop rationalism in future economists to obtain knowledge and achieve results through the prism of mind. When working with the students of the experimental group, teachers used schematization, which begins from individual components – lexical units of the Russian language and contributes to the construction of speech segments in a foreign (English) language (Fig. 1).

FIGURE 1
THE DIRECTION OF CHANGING WORD ORDER



Students write the Russian phrase and set the direction of changing word order in English using the arrow. Then they build an English phrase by changing places of words: *Demand theory*. Cases when the number of lexical units in a phrase exceeds two, are more complicated. Thus, it may be necessary to use an adjective between two nouns of a phrase. Students formulating a plan item of this type face the problem of finding the correct location for this adjective in a phrase (Table 2).

TABLE 2
LOCATION OF AN ADJECTIVE AMONG TWO NOUNS IN ENGLISH AND RUSSIAN PHRASES

Noun 1	Adjective	Main noun
<i>Свойства</i> (<i>Properties</i>)	<i>Предельной</i> (<i>Marginal</i>)	<i>Полезности</i> (<i>Utility</i>)
Adjective	Main noun	Noun 2
<i>Marginal</i>	<i>Utility</i>	<i>Properties</i>

Table 2 demonstrates that despite the difference in the word order of the Russian and English languages, the adjective is placed immediately before the main noun.

Making a text plan, the students of the control and experimental groups got acquainted with special speech-thinking phrases, which made it possible to clearly record the sequence of plan items and introduce them into the general outline of the retelling. However, the students of the control group received these speech-thinking constructions ready-made. At the same time, teachers used a table, allowing the students of the experimental group to dismember the structure into parts (Table 3).

TABLE 3
A WAY OF UNDERSTANDING THE COMPOSITION OF SPEECH-THINKING STRUCTURES FOR RETELLING A PROFESSIONALLY-ORIENTED TEXT

Sequence	Intention	Speech	Plan item
<i>Firstly</i>	<i>I <u>would</u> like to</i>	<i>speak about</i>	
<i>Secondly</i>	<i>I <u>shall</u></i>	<i>tell you (whom) about</i>	
<i>Thirdly</i>	<i>let me</i>	<i>say a few words (what) about</i>	
<i>Fourthly</i>	<i>I <u>am going</u> (planning, intending) to</i>	<i>analyze (consider, discuss)</i>	

Furthermore, the students compose a variety of constructions allowed by the rules of grammar in the form of a didactic game with cards based on Table 3.

The ability to solve problems is another important property of an economist. According to the logic of constructing Table 3, the main problem for the students to create new speech-thinking constructions is to determine the method of using the infinitive – with or without the particle *to*. As a result, the constructs are connected to a plan item, for example: Thirdly, I am going to tell you about price variations.

In addition to general analytical skills, we distinguish several types of analysis that students of the experimental group studied. We conventionally call the first type of analysis comparative. Teaching comparative analysis was based on making a monologue by students on the topic Comparative analysis of command, market, and mixed economies based on the texts Market and command economies and Mixed economy (Glushenkova & Komarova, 2004, p. 9). Teachers showed the students how to use various constructions with the meaning **в отличие от...** (compared with..., in contrast (comparison) with..., unlike...) and **подобно...** (similar with..., like...) to increase their level of analytical skills.

In addition to completing the final task of making a monologue, students of both groups performed grammar training exercises to translate sentences containing comparative phrases from Russian into English. However, sentences for the students of the experimental and control groups were different. In particular, the Russian equivalent of sentences for students of the control and experimental groups were characterized by similar content but different sentence structures. Sentences built in Russian for the students of the control group contained a hint for translation into English. In turn, the word order in the Russian sentences for the students of the experimental group differed from the word order in the appropriate English sentences, which created conditions for provoking mistakes. Thus, the students of the experimental group had to overcome the interference effect of the native language on the foreign one.

We conditionally characterized the second type of analysis as causal analysis. Among the constructions to be learned, we singled out causative-consecutive conjunctions used in the meanings *потому что* (because) and *следовательно* (therefore). The location fixity of the cause and effect relative to the conjunction chosen is the main property of these structures. Working with students of the experimental group, we used an important technique that we characterize as a learning algorithm. Here is a description of the algorithm used in work with the students of the experimental group: (1) translate both parts of the sentence into Russian; (2) find the cause and effect; (3) choose a causal chain and build it in Russian (Table 4); (4) make sure if it is necessary, that the noun is in the first part of the sentence, and the pronoun is in the second one (Zaitsev & Vasbieva, 2020); (5) translate the resulting sentence into Russian.

TABLE 4
LOCATION OF CAUSE AND EFFECT RELATIVE TO DIFFERENT CAUSAL CONJUNCTIONS

Effect	Потому что	Cause
	<i>Because, for, since.</i>	
Cause	Следовательно	Effect
	<i>- Therefore, thus, so; - So that, for this reason, that is why.</i>	

Here is an example of how this algorithm functions: 1) *The demand for normal goods increases, therefore the prices of them grow as well*; 2) *The prices of normal goods grow because the demand for them rises as well*.

For the convenience of interpreting information, we have developed criteria for determining the level of professional skills of students according to the language means they use. Students at a high level of development have formed all professional skills when they are manifested in speech activity in a foreign language. Simultaneously, their level is diagnosed by the following factors: (1) unmistakable determination of the location of all components in phrases and sentences in different linguistic situations; (2) ability to alternate all possible synonyms; and (3) ability to competently combine the components of phrases into new statements. Students at a good level of development also demonstrate all professional skills we have identified in almost all communicative situations. Students at this level understand the difference in constructing sentences in foreign and Russian languages. They possess the necessary language tools and synonyms. However, when applying these tools according to the communicative situation, students can make not grammatical, but other types of mistakes: logical (if they do not quite correctly locate the cause and effect relative to the chosen conjunction) and stylistic (if they irrationally construct the phrase in the direct word order instead of the reverse one). Students at a good level know all variants of speech-thinking structures proposed by teachers for abstracting the text. They also try to create their language variants, but they can make mistakes. Students at a medium level of development demonstrate a range of professional skills in some language situations. However, they make mistakes in the arrangement of words, especially when Russian and English configurations of sentences and phrases are different. At the same time, they correct mistakes when teachers present a sample of the corresponding Russian-language construction with the word order identical to the foreign language. Such students use only one or two comparative

constructions according to the communicative task without making mistakes in the arrangement of words. When constructing causal statements, students with this level of professional skills use only the equivalents of the conjunction *nomomy чmo* (*because*). While summarizing a professionally-oriented text, students at this level are not capable of independently combining new speech-thinking structures from the existing components. They use the constructions offered by teachers while making some mistakes in their use. Students at a low level of development do not demonstrate any particular professional skills when performing speech activity in a foreign language. Attempts to build a sentence in a foreign language end with applying exclusively Russian-language templates for arranging lexical units to this type of activity. Teachers hardly succeed in encouraging students to correct these mistakes on their own. Students confuse linguistic situations when applying causal constructions and constructions of comparative analysis. Students at a low level of development cannot structure the text – make a plan and use speech-thinking constructions for organizing the text.

RESULTS

Table 5 presents the primary research results obtained in the control and experimental groups.

TABLE 5
THE NUMBER AND PERCENTAGE OF STUDENTS AT DIFFERENT LEVELS OF
DEVELOPING PROFESSIONAL SKILLS ACCORDING TO THE SPEECH
ACTIVITY THEY PERFORM IN A FOREIGN LANGUAGE

Group	Total number of students in a group	Level (Number of students)			
		High	Good	Medium	Low
D-E204	9	1	2	2	4
		Percentage (%)			
		11.1	22.2	22.2	44.4
D-F203	11	9	2	-	-
		Percentage (%)			
		81.8	18.18	-	-

Since the total number of students in each selected group differs from other groups, we calculated the percentages of different subgroups according to the level of translation skills in each subgroup (Table 5). In general, the error was 0.1% for the D-E204 group and 0.02% for the D-F203 group. In the control group, D-E204, the number of students with a high level of professional skills according to the speech activity they perform in a foreign language is lower than the number of students at other levels. At the same time, the number of students with a low level of professional skills according to the speech activity they perform in a foreign language significantly exceeds the number of students at a medium and good level. We also suppose that the same percentage of subgroups with a good and medium level of professional skills in this group is explained by the fact that second-year students have sufficient language experience. We have also revealed that in the experimental group D-F203, the largest number of students are with a high level of professional skills according to the speech activity they perform in a foreign language. In the same group, the number of students with a good level of professional skills exceeds the number of students with a medium level. In turn, in the experimental group D-F203, there is completely no category of students with a low level of professional skills according to the speech activity they perform in a foreign language. Simultaneously, we have not identified a subgroup of students with a medium level of professional skills in the experimental group D-F203.

DISCUSSION

This study correlates with the results of our study on the development of logical thinking in mastering an oral monologue in English (Ulanova, 2020). We have concluded that a particular organization of classes in a foreign language (selection of lexical and grammatical material, methods of conducting classes) contributes to developing some psychological characteristics of students (thinking abilities, professional qualities of a person).

CONCLUSION

Thus, in general, the students of the experimental group have demonstrated a higher level of developing professional skills according to the speech activity they perform in a foreign language. Our research is of practical importance since it contributes to developing the professional competencies of economists through a foreign language. The results obtained can be applied in a similar way to forming professional competences of students majoring in various university subjects.

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