

# MODULAR APPROACH TO TEACHING AND LEARNING ENGLISH GRAMMAR IN TECHNICAL UNIVERSITIES

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**Abstract.** *The aim of this research is to find out the effectiveness of a modular approach in teaching and learning to assess students' performance, achievement and motivation and to decide if a modular approach is more effective than traditional methods while performing an experiment with two groups of students learning English at a technical university.*

*The researchers consider a modular specification to be a technology in which the content is divided into a number of units or modules, each of which is examined separately. A module is considered to be a set of learning opportunities organized around a well-defined topic which contains elements of instruction, specific objectives, learning activities and self-assessment and evaluation using criteria-referenced measurement. This project combines quantitative and qualitative research methods to address the impact of modular teaching, learning and assessment on engineering students. The authors use a unique modular system and their own book on English Grammar.*

*This experiment shows that students of modular syllabuses find it useful and motivating and say that it encourages them to do better on the next modules. At the same time, modular learning and assessment does not remove the stress and workload of traditional approaches. Teachers in the modular system appreciate the better planning opportunity around the exams and the clarity of the focus of their teaching requirements. Still, the approach and the structure of modules used in the experiment requires improvement and development.*

**Keywords:** *approach, education, foreign language, grammar, modular, self-independence, students, system, teaching, training.*

## Introduction

In the XXI century Russia has been a part of the process of globalization and integration into the world economic, informational and educational environment. After the introduction of multi-level education system (Bologna process) young professionals have faced the challenges of performing their work effectively in the information society and coping with fundamentally new tasks. Education is the area that gives the opportunity to learn how to use modern

technology in learning process, and then in professional sphere (Prazner, 2015).

Expansion of contacts with foreign partners has had direct impact on the system of higher education. Sharing experience and beneficial cooperation with foreign colleagues is impossible without a rather high level of knowledge of foreign languages (FL). That is why in Russian Universities the process of reforming the educational system has gathered pace. The aim of this process is to endow university graduates with the foreign language communicative competence (Bagateeva, 2016).

One of the most effective technologies of teaching foreign languages is a modular approach. The aim of this research is to define the essence of the modular approach, to identify its key characteristics and principles, to consider the features of the modular approach for teaching grammar, to estimate the effectiveness of this approach in teaching foreign languages at technical Universities.

2 groups of methods have been used when conducting this research: theoretical and practical.

Theoretical methods include the analysis of scientific and methodological results and regulatory standard documentation on the topic of the research, comparison, systematization and generalization of Russian and international experience as well as lesson observation. These methods helped to formulate theoretical basis of the modular approach in teaching a foreign language, particularly grammar. Whereas practical methods include pedagogical testing, lesson observation, interviews, talks, pedagogical experiment and questionnaire survey. This group of methods was used for monitoring, systematization and estimation of practical results of applying the modular approach in teaching FL grammar (Bagateeva, 2016).

The object of the research is teaching a foreign language to students of a technical University (Bagateeva, 2016).

The subject of the research is the modular approach to teaching grammar in classes to students learning a foreign language at a technical University (Bagateeva, 2016).

### **The “Modular Approach” in Pedagogy**

For the first time ever the modular technology was mentioned in scientific papers at the end of the 1860s. Then it was called the “Russian system” or the “Russian method”. This approach to teaching was based on “the identification of clearly described components of occupational skills (operations and actions) which were studied and brushed up element by element” (Erofeeva, 2012). Using this approach, the teacher could control the process of teaching a large

number of students at the same time. Further on, the modular approach was used extensively as an alternative to traditional education in 60-ies in the English-speaking countries of Europe and the United States (Bashmakova, 2014).

Theoretical basis of modular teaching at high school was most fully developed in the works of Lithuanian researcher P. A. Juceviciene. She clarified the concept of “module”, formulated principles of modular teaching and developing modular programs. In the years that followed, the ideas of P. A. Juceviciene were extended by S. Ya. Batyshev, K. Ya. Vazina, V. M. Gareev, N. N. Surtaeva, T. N. Samova and other researchers (Kakurina, 2012).

The term “module”, borrowed from computer science, has become firmly established in the basic vocabulary of pedagogy. There are many derivatives with the word “module”: modular technology, modular method, modular approach, modular program, unit-modular and modular-rating technology. But in all these cases it is referred to the methodology based on the development of educational modules for different courses (Kakurina, 2012). As far as the “module” concept is concerned we have come across a great variety of definitions, both in foreign and Russian pedagogical literature.

For example, the founder of the modular approach P. A. Juceviciene defines the term as “an information block, including a logically complete unit of learning material, program of actions determined by a specific purpose, and a guidance for didactic objectives to be achieved” (Lapp, 2012). V. V. Karpov and M. N. Kakhtanov argue that a module is an “organizational and methodological interdisciplinary structure of educational material, providing semantic concepts definition in accordance with the academic knowledge structure. It structures information from the standpoint of cognitive logic of a would-be specialist” (Lapp, 2012).

Similar definitions were given by G. Owens and G. Russell. They emphasize the main characteristic of a module as a separate, comprehensive but flexible unit:

- “a module is a closed educational complex consisting of a teacher, a learner, material to be learnt and teaching technologies (Lapp, 2012);
- “a training package that covers conceptual unit of educational material and actions instructed for students” (Lapp, 2012).

In this study, we define the modular approach as a principle of teaching FL using independent, logically complete units into which the content of the discipline is divided (Kakurina, 2012). In contemporary pedagogy there are many definitions of the module, but, according to Yu. V. Lopukhova and M. V. Yurina, they can be divided into three groups:

- module as part of the Federal state educational standard of higher professional education, consisting of academic subjects specified by

- the standard (Lopukhova & Yurina, 2017);
- module as an interdisciplinary structure that accumulates topics or units from different academic disciplines necessary for learning the same basic educational program (Lopukhova & Yurina, 2017);
- module as “organizational-methodical structural unit in the framework of the same academic discipline” (Lopukhova & Yurina, 2017).

With that in mind, we understand the term “module” as a complete unit of a particular academic discipline, contributing to the formation of students' one or several universal and professional competences stated in the basic education program (Iovleva, 2016). Each module always includes a sequential testing of students' knowledge and skills. A teaching module as a unit of the discipline content has a relative independence and integrity at the level of the education plan or curriculum and it determines the logic of learning process organization. The module is both a data bank and the guidelines to learning these data. The contents of a module must meet the requirements of the integrity, compactness, independence, clarity (Iovleva, 2016).

The use of the modular approach in the educational process contributes to the solution of the following problems:

- integration of Russian universities into the European educational system;
- improving the quality of the educational process;
- increasing independence of students when planning educational process and implementation of training programs;
- making students acquire and brush up decision-making skills in the process of studying the educational program (Lopukhova & Yurina, 2017).

The fundamental principles of the modular approach can be divided according to the vector of their types

- 1) a teacher;
- 2) a student.

The first group includes the principles that allow a teacher optimizing the process of teaching students:

- individual and differentiated approach to teaching that allows to adapt any module to the knowledge level of a particular student (Bagateeva, 2016);
- clear division of the discipline content into separate units (Bagateeva, 2016);
- a flexible approach to forming the content of each modular unit (Bagateeva, 2016);
- unambiguous and clear definition of goals and objectives of the

module (Bagateeva, 2016);

- using the most advanced pedagogical technologies and methods;
- checking student's knowledge of each unit module with the help of the fund of assessment tools developed specifically for a particular module.

The second group includes principles of the modular approach to teaching FL that are designed for students and enable them to learn the material most effectively:

- students' awareness of correlation between separate modules of the discipline as well as integrated perspective of training;
- strengthening of students' self-study efforts (Bagateeva, 2016). As noted by authors «permanent education, whether through studying under someone's supervision, inspired self-education or self-study on one's own initiative, is becoming not only a necessity, but also a need» (Gil, 2015);
- intensive and detailed study of learning material;
- working out a list of supplementary literature for each module with aiming at in-depth study of the material (Bashmakova, 2014).

### **Structure of the Module**

Further on, the structure of the module is to be considered. The module comprises two parts: cognitive (informational) and educational and professional (activities or practice). The objective of the first part is to equip students with theoretical knowledge, whereas the second part develops professional skills. The advantage of the modular teaching approach is that learners can independently study the proposed program, including goals, objectives, theoretical information, practical exercises and final tests (Bashmakova, 2014).

Two-part module structure has predetermined the number of its units. The module always starts with formulation of the integrating goal, which should ensure the achievement of the overall goal of learning FL. This part is followed by the information block, which explains the material being studied, after which all uses and examples are given. This unit allows to save time that otherwise would be spent on searching for the necessary material, and its content helps a teacher explain grammar rules.

The most important element of the modular approach is a multi-level system of control. The information block is followed by exercises of entry control, with the help of which the entry testing of knowledge and skills is performed to determine readiness of students to work independently. Given exercises should correspond to the logic of presenting theoretical material in the information block, i.e. to put theory into practice step by step. Thus, this unit as

well as the following units realize the principle of interaction between theory and practice required when learning a foreign language (Kandalova, 2016). This is followed by intermediate and final control testing. At the same time, intermediate and final control testing is conducted at the final reflective and analytical stage of the module. The results of this test can serve as finals, if a student has advanced at the desired level, and/or as entry, if the student plans to continue learning a foreign language (Danilina, 2014).

The fourth block is revision and testing of learned material. Its goal is to provide students with skills to put the theoretical material, presented in the information block, in practice. The fourth block focuses on the internalization controlled by consciousness, and on learning with the use of meaningful and logical memorization. In this regard, each exercise is preceded by recommendations concerning what specific aspect of grammar under study should be revised, and the particular paragraph of the information block is specified. It is aimed at a step-by-step meaningful and logical revision, which helps students navigate the information block. At the stage of revision students must understand how to work with the module (guides). For this purpose the given and following blocks include not only exercises but tasks for self-control and self-correction of acquired knowledge and skills as well.

The goal of the fifth block is to consolidate the material. Before passing on to this block students should be warned that for their further success it is necessary to know by heart the rules of formation and basic uses of grammatical forms being studied (Kandalova, 2016).

The last element of the module is the summary that generalizes completed tasks and systematize the knowledge. This block contains the structural and logical schemes for material generalization, exercises of generalizing character, the purpose of which is to identify the degree of mastering the module content. The summary can include not only exercises with keys but also tasks with no keys which requires the involvement of a teacher or a high-achieving student (Kandalova, 2016).

The number of elements in the module and its content are determined by the entry test and depend on the level of knowledge and specialty of each student. The student passes a modular block and a whole module to the teacher at their own pace of work on the material, it is done by means of entry, intermediate and final testing. One of the main advantages of the modular approach in teaching is that the time of working on the module is student-specific and it can take the most advanced students only 1-2 months to complete the module compared to 4-5 months of the semester within a framework of the traditional system of University education (Bashmakova, 2014).

## **Practical Part and Experiment**

The key point of the modular approach to teaching is that a student learns the module to a greater extent on their own. Educators are involved only in organizing, advising and monitoring students' progress on educational material. It is the emphasis on a significant proportion of self-independent work that makes the modular approach optimal for studying FL grammar at a technical University in the conditions of reduction of classroom hours, intended for studying the discipline "Foreign language".

The Department of linguistics, intercultural communication and Russian as a foreign language at Samara State Technical University has performed an experiment on how the modular approach can be applied to studying FL grammar. 10 teachers of the Department and 124 first year full-time students of the Department of Industrial and Civil Construction participated in the experiment. During two semesters students studied grammar with the help of the Handbook on the basics of practical English grammar "English Grammar in Use", part I (authors: N. R. Belozeroва, Yu. V. Lopukhova, L. V. Fedotova).

The manual consists of 16 modules (the verb TO BE, the construction THERE BE, THE PRESENT CONTINUOUS TENSE, THE PRESENT SIMPLE TENSE, PRESENT SIMPLE & PRESENT CONTINUOUS, THE PRESENT PERFECT TENSE, THE PRESENT PERFECT CONTINUOUS TENSE, THE PAST SIMPLE TENSE. THE PAST CONTINUOUS TENSE, THE PAST PERFECT TENSE, THE PAST PERFECT CONTINUOUS TENSE, THE FUTURE SIMPLE TENSE, THE FUTURE CONTINUOUS TENSE, THE FUTURE PERFECT TENSE, THE FUTURE PERFECT CONTINUOUS TENSE, THE PASSIVE VOICE). Each of these modules consists of 8-9 training blocks:

UB – 1 – contains the integrating goal of the module which is aimed at ensuring the achievement of the complex goal of the entire modular program for studying FL grammar.

UB – 2 – contains theoretical information about a grammatical rule (information block).

UB – 3 – contains exercises for entry control of students' knowledge and skills. If necessary it is possible to carry out the corresponding correction of knowledge.

UB – 4, 5 – contain exercises for revision and consolidation of covered material. Current and intermediate control is carried out at the end of each training element (this is soft control – self-control, pattern comparative check). The current and intermediate control is aimed at identifying gaps in knowledge and their timely correction.

UB – 6 – contains exercises when students must translate from Russian into

English.

UB – 7 – contains exercises when students must translate from English into Russian.

UB – 8 – summary. This academic block realizes the possibility of revision, generalization and systematization of the main content. (The generalization can be done not only verbally, but also in the form of comparative characteristics, graphs, diagrams).

UB – 9 – following up. Here is the final control. It identifies students' level of developed skills. It is recommended to analyze the obtained results. The grade will be given only for training exercises, based on the percentage of the number of mistakes to the number of answers:

100 % – 90% – “Excellent”;

91% – 80% – “Good”;

81% – 60 % – “Satisfactory”;

Less than 60% – “Unsatisfactory”.

At the beginning of each module a teacher informed students about the scope and structure of the module, and also mode of work on the module. The key point in the experiment is that before starting the modular Handbook the entry control testing was conducted. At the end of the year, students completed a final control testing. The results are presented in table 1.

Table 1 **Comparative results of entry and final testing**

<b>Results of Testing</b>	<b>Type of testing</b>	
	<b>Entry Control Testing (%)</b>	<b>Final Control Testing (%)</b>
“Excellent”	25	29
“Good”	51	60
“Satisfactory”	24	11
“Unsatisfactory”	0,00%	0,00%

As the table illustrates, the modular approach significantly improves the results of mastering FL grammar at a technical University.

## **Conclusion**

Thus, in this paper, the relevance of using the modular approach in foreign language classes in a technical university was justified. The goal and tasks of the research were formulated and a methodological base was formed. In the main part of the article the main trends in understanding the modular approach were considered, the authors' definition of this pedagogical technology was given. In addition, the basic characteristics of the module were identified and its structure

was determined.

In the practical part, a training manual on the modular approach to the study of Practical Grammar of the English language and an experiment on its use for teaching English at a technical university were described. At the end of the study, the effectiveness of the modular approach was assessed.

The results of the study show that the module approach in teaching is effective for improving students' knowledge. The module approach is found to be effective in teaching and enhances students' understanding and critical thinking.

### Summary

As we live in a rapidly changing society, in the time of globalization, of impressive developments and great technological wonders, we have to find a way to adapt well to that using a new development, opening up new paths for learning and teaching. That means dealing with a modular approach in education.

Modular approach would be superior to traditional methods as the students' involvement and motivation would be increased. It would enhance their retaining capacity. It is to be considered as an alternative to traditional teaching methods for active participation and better learning of students.

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