COOPERATION BETWEEN ESP TEACHERS AND ENGINEERING STUDENTS IN THE CREATION OF EDUCATIONAL MATERIAL AND MOTIVATION FOR LANGUAGE ACQUISITION

Sultanova G.S.
Senior Lecturer of the Department of Social Sciences and Humanities
University of Geological Sciences
https://doi.org/10.5281/zenodo.7566351

Abstract. *The purpose of this article is to analyze the method of cooperation between English language teachers and carriers of specialized knowledge (in our case, they were production specialists and students). Since the literature on this aspect is generalized, we came to an analysis of how such a collaboration can be implemented within a particular educational institution. We considered aspects of joint creativity between ESP teachers and students studying oil and gas business at the Branch of the Russian State University of Oil and Gas named after I.M. Gubkin. The literature review conducted by us presents a theoretical basis in the area of interest to us, then the concept of this cooperation and the approach taken by us for independent work of students in learning the language are given. In conclusion, we summarize the results of the teacher-student collaboration and identify the advantages and disadvantages of this method.*

Keywords: *ESP, cooperation between teachers and students, joint creativity, independent work.*

Introduction

Today, the role of ESP teachers is no longer limited to the transfer of educational material to students, their task is expanding to a mutual exchange of information with specialists and students. The modern world puts before teachers of English in non-linguistic universities the task of complete immersion in the field of special and general education disciplines, the study and analysis of the needs of the profession being mastered by future specialists, an integration interdisciplinary approach to teaching a foreign language.

The characteristics and effectiveness of ESP methods are comprehensively considered in the work of G.V. Astashova. The results of her research proved that the development of the program depends on the analysis of the needs of the group being trained and the real situations of using the language for specific purposes. ESP is more effective in increasing students' motivation as it is directly related to their specific professional career and it is easier for students to adapt to their professional environment.

The method of co-creation in developing educational material for engineering students is dictated by the need for modern reality - in order to update the acquired language skills and develop the required competencies, future specialists must navigate the working environment even before entering their work duties. On the other hand, the ESP teacher, participating in the process of preparing specialists for the profession, not only keeps abreast of industrial events, but also accumulates this knowledge, constantly processes it and transmits it in the form of educational material. This process is cyclical and the interchange of knowledge requires a certain structuring. ESP teachers are initially general English teachers, their switch to teaching a language for

specialists occurs without any training, directly in the process. The success of this process occurs with the help of teachers of the main disciplines, or specialists. The task of ESP teachers is to analyze the needs of students, select and adapt educational material, build lessons, create a student-centered approach and evaluate student progress. A.A. Esteban highlights the following points in the work of an ESP teacher:

1. The needs are not determined by the usefulness of the language in society, but rather by a more immediate and real context, namely the target situation of the learners.
2. Goals and objectives are not determined by external educational factors, but by the profile of students.
3. Selecting and adapting learning material means using all kinds of sources, and textbooks are just one of them.
4. As a result, the teacher teaches, that is, textbooks are good helpers, but bad teachers.
5. Students are not only adults, but also experts in their field.
6. Assessment of students combines their English proficiency and proficiency in a professional situation.

Getting started on the creation of a training course, you should conduct a Needs Analysis of students. For this, a questionnaire method is used to determine expectations from lessons. Here, the English teacher is faced with a dilemma – on the one hand, it is necessary to identify the information that the student expects from the course, on the other hand, this information may not coincide or only partially coincide with the set of requirements of industry leaders from a specialist. To this end, it is recommended to study the requests of all interested parties - both students and company owners, managers, specialists, etc. In the process of requirements analysis, the goals and objectives of the created course are clarified, discussed and approved.

The amateur video material accumulated by students and teachers from production sites contains a huge informative potential. Since these plots are accompanied by comments in Russian, it is illustrative in the educational process and sets the topic of the lesson.

In our study, we tried to answer the following questions:

1. Efficiency of cooperation between ESP teachers and students in the creation of educational material.
2. The influence of independent work on the development of students' language competencies.

Literature review

The problem of interactive learning in the domestic scientific environment was dealt with by Zaripova G.K., Saidova N.S. on the example of a credit-modular system of higher education in the Moodle online system. “In the process of such cooperation, the professor-teacher, along with the development of students' speech, also performs a diagnostic function, that is, it reveals the vocabulary, interests of students, evaluates their creative abilities ... Interaction in the process of vocational training or training in information technology can help increase the effectiveness of training.". Isroilova D.M. dealt with the problem of teaching professionally oriented English in non-philological universities.

The issues of integration of processes in the foreign language training of future specialists are widely represented in the works of Russian scientists: G.V. Astashova, N.V. Dyorina, T.A. Savinova, T.Yu. Zalavina, Bezukladnikov K.E., Margaryan T.D., Bulash Yu.M.

M. Dove and A. Hoenigsfield, in their work on the problem of joint teaching and cooperation in teaching English, consider seven approaches, in each of which there are two teachers in the class - a teacher of the main discipline and an English teacher. Variations are in the roles that teachers play in the educational process as well as in the delivery of information. These researchers note the effectiveness of the method in the development of teaching qualities and in the learning ability of students. Taking into account the limited time of the teaching load, this approach seems difficult to us in the conditions of the educational process in a higher educational institution.

One of the types of cooperation in the educational process is autonomous learning of students. Offering students independent work, the teacher must have a wide range of resources, among which one of the leading places is occupied by Internet sources. As an important component of language training in a higher education institution, autonomous learning sets the following tasks:

- to develop the personal qualities of the student;
- to form students' critical thinking;
- develop their lateral (non-standard) thinking;
- prepare students for a continuous process of education, self-development and self-improvement.

When selecting the content of training, the interests and problems that concern students primarily should be taken into account in the selection of authentic textual material, in the choice of topics for discussion, etc. It is important that the selected material be somewhat redundant. This allows for a differentiated and individual approach to students, puts them in a situation of choice, encourages greater independence and activity. The latter is achieved thanks to the problematic presentation of materials, and not giving of "ready-made tasks", encouraging students to think, independently search for information, to independent conclusions, generalizations. For example, this is often achieved with the help of special tasks related to observation, comparison, analysis, which contribute to the development of the individual, self-awareness, self-esteem. In this regard, student’s self-report and self-assessment are important elements. Therefore, when selecting content, it is important to provide materials that appeal to the student's personal experience, feelings, emotions, encourage the expression of one's own opinion, assessment, which stimulates the formation of value orientations.

T.D. Margaryan notes that the choice of organizational form and place of its application are determined mainly by the nature of the material, the type of activity being developed, the age and psychological characteristics of students. Such assignments should be creative and productive. First of all, these include web quests, debates, project work. For her research, Margaryan opted for a web quest. An educational webquest is a problematic task with elements of a role-playing game, for which information resources of the Internet are used [18]. Web quests are designed to maximize the integration of the Internet into various academic subjects at different levels of learning in the educational process. They can cover a particular problem, subject, topic. A feature of educational web quests is that some or all of the information for independent or group work of students with it is located on various websites. The technology of web quests helps to form and develop the following competencies in students:

• the use of information technology to solve professional problems (including searching for the necessary information, formatting the results of work in the form of computer presentations, websites, flash videos, databases, etc.);

• self-learning and self-organization;

• teamwork (planning, distribution of functions, mutual assistance, mutual control);

• the ability to find several ways to solve a problem situation, determine the most rational option, justify one's choice;

• public speaking skill, as it is necessary to publicly defend the project, answer questions or take part in the discussion.

Melor Md Yunus, in his study, pointed out the advantages and disadvantages of introducing social networking tools in ESP in the writing class, which showed that this approach helps to expand students' knowledge, increase their motivation and structure competence in mastering writing skills in ESP. Difficulties include concentration when using a computer, lack of equipment as well as access to the Internet, and lack of time for teachers to interact with students.

Merita Ismaili's study on the effectiveness of using films in EFL (English as Foreign Language) classrooms in developing listening and speaking skills shows that authentic material not only enriches the teacher's toolkit, but also attracts students' attention, presents the language in a more natural way than in textbooks . In addition, visual context contributes to the understanding and improvement of students' learning skills.

Respondents

The study was conducted at the Branch of the Russian State University of Oil and Gas named after I.M. Gubkin in the second-year academic group URG18-01. By the time the study began, students had completed a course of general education disciplines (such as mathematics, physics, chemistry, and others), basic special disciplines (Development and operation of gas and gas condensate fields, underground storage, and others) and English (97 hours, including basic grammar and professional terminology). The group consisted of 24 students.

Methods and materials

During the development of the Video-Based Training Manual for Students of the direction of Oil and Gas, the approach of joint creativity of teachers and students was used, which we divided into three stages: 1. Creation of production videos and their selection for the manual according to the principle of the greatest relevance.

2. Creating lesson modules.

3. Approbation, analysis and correction of these modules with students of the following courses. The inclusion of these videos had a positive effect on the interest of students in the search and study of specialized information.

The students of the experimental group were tested on the level of English, which ranged from A2 to B2 in accordance with the language skills: reading, writing, listening and speaking.

	In the beginning		
	Comprehension	Writing	Speaking
3	9	7	8
4	10	11	12
5	5	6	4
	In the end		
3	7	5	7
4	7	10	9

5	10	9	8

We selected 12 videos out of approximately 20. The selection principles were as follows:

1. Video quality (since they are filmed in the production area, it is always noisy there, it was essential for us that the sound was perfect).

2. Correspondence of students' knowledge in special disciplines to the selected problems of the modules.

3. The length of the video is no more than two minutes.

The topics of the manual are arranged in chronological order of their appearance in the industrial process. The oil and gas industry is conditionally divided into two stages: Upstream (primary oil and gas industry) and Downstream (Hydrocarbon storage, transportation and processing). Engineering areas of the Federal State University represent both stages of the industry: Geological exploration, Drilling, Development and operation of oil and gas, Construction and maintenance of storage facilities. Thus, our guide covers the following topics:

1. Drilling operations
2. Lifting Operations
3. Well Development
4. Drilling Rig
5. Drilling Fluid
6. Progressive Cavity Pump
7. Drilled rocks
8. Christmas Tree
9. Flare Boom
10. Welding
11. The final stage of Drilling
12. Integrated Gas treatment

Each two students were given one plot for partner work and were given the following tasks:

1. Find one or more images related to the topic of the video and ask questions about them.
2. Translate video text into English. Compile a glossary for the text. Compose text comprehension exercises.
3. Find text on the main topic in Internet sources, adapt it to the module, compile a glossary for it and comprehension exercises.
4. Make a list of keywords for the module.

At the same time, participants were required to indicate the sources of the resources used so that they could be found for more thorough work.

The task was given as an independent work for the semester. Students sent the results of the work done to us, teachers, for feedback. After checking, changes were made and by the end of the semester, the entire manual was compiled.

Module 1 DRILLING OPERATIONS

1. Look at the pictures. What do you know about these processes?

2. Match the word combinations with the photos.

1) drilling mud storage
2) drilling mud
3) making drilling mud
4) drill bit
5) drilling mud density measurement
6) oil well
7) gas well

VIDEO

5. **Watch the videos paying attention to the special vocabulary. Write out any 10 collocations and translate them into English.**

5. Translate into English.

Буровоой раствор

Здесь мы видим буровой станок. Ведется вертикальное бурение газовой скважины. В процессе бурения очень важную роль играет буровой раствор. Буровой раствор (Drilling fluid). Это сложная многокомпонентная жидкость, которая применяется для промывки скважин в процессе бурения. Вообще в практике бурения применяют буровые растворы на водной основе. В качестве сырья используются: каустическая сода, кальцинированная сода, полимерные, глинистые растворы, техническая вода.

Here we see a drill rig. Vertical drilling of a gas well is underway. Drilling fluid plays a very important role in a drilling process. Drilling fluid. It is a complex multicomponent fluid which is used to flush wells during drilling. Generally, water-based drilling fluids are used in drilling practice. As raw material are used: caustic soda, soda ash, polymeric, clay solutions, technical water.

Готовят буровой раствор непосредственно перед бурением и в его процессе. Большинство буровых растворов при буровых операциях циркулируют по следующему циклу значит: буровой раствор замешивается и хранится в специальных емкостях. Затем буровой насос перекачивает буровой раствор из этих емкостей через специальные бурильные трубы, колонны в их скважины. Буровой раствор по трубах доходит до забоя скважины, где буровое долото разбивает саму породу. Затем этот раствор начинает возвращаться на поверхность.

Сито состоит из металлических решеток, которые используются для отделения раствора от шлама. Далее раствор протекает через решетку и возвращается обратно в емкость, в отстойник. А шлам отделенный, он удаляется.

При циркуляции в скважине буровой раствор компенсирует давление пласта, создает фильтрационную корку на стенках скважины, укрепляет неустойчивые отложения, предупреждат обвалы, охлаждает, смазывает долото, обеспечивает антикоррозионное действие на буровой инструмент и обеспечивает качественно вскрытие продуктивных пластов.

7. Using dictionaries find out the translation of the next words:

плотность
прибор
аэрометр
буровой раствор
учитывать
существенно
погрешность
промывка
измерять

8. In groups make up a dialogue on the topic of the video.

READING. WRITING. VOCABULARY

3. Read the text. Find unknown words and define their meaning in the context.

Well Drilling

The term drilling indicates the whole complex of operations necessary to construct wells of circular section applying excavation techniques.

To drill a well it is necessary to carry out simultaneously the following actions (drilling process):

- to overcome the resistance of the rock, crushing it into small particles measuring just a few mm;
- to remove the rock particles, while still acting on fresh material;
- to maintain the stability of the walls of the hole;
- to prevent the fluids contained in the drilled formations from entering the well.

This can be achieved by using rotary drilling rigs which the ones are operating today in the field of hydrocarbons exploration and production. The drilling rigs are complexes of mobile equipment which can be moved (onshore and offshore) from one drill site to another, drilling a series of wells.

In rotary drilling the rock is bored using a cutting tool called the bit, which is rotated and simultaneously forced against the rock at the bottom of the hole by a drill string consisting of hollow steel pipes of circular section screwed together.

The cuttings produced by the bit are transported up to the surface by a drilling fluid, usually a liquid (mud or water), or else a gas or foam, circulated in the pipes down to the bit and thence to the surface. The rotation is transmitted to the bit from the surface by a device called the rotary table or, in the modern rigs, by a top drive motor with the rotary table as backup; additional rotation can be added by downhole motors located directly above the bit. After having drilled a certain length of hole, in order to guarantee its stability it has to be cased with steel pipes, called casings, joined together by threaded sleeves. The space between the casing and the hole is then filled with cement slurry to ensure a hydraulic and mechanical seal. The final depth of the well is accomplished by drilling holes of decreasing diameter, successively protected by casings, likewise of decreasing diameter, producing a structure made up of concentric tubular elements.

1. Match the verbs with definitions

Construct	a. formally assure (typically in writing) that certain conditions will be fulfilled, especially that a product will be repaired or replaced if not of a specified quality
2 overcome	b. keep (something) from happening.
3 remove	c. move continuously or freely through a closed system or area
4 prevent	d. provide with necessities for life or existence
5 maintain	e. build or make (something, typically a building, road, or machine)
6 circulated	f. keep safe from harm or injury.
7 guarantee	g. take (something) away or off from the position occupied
8 protect	h. succeed in dealing with (a problem or difficulty)

1 **Make up eight questions to the text.**

2 **Read the statements and define if they are true or false**

1. Drilling indicates exploration techniques.
2. The drilling rigs are complexes of mobile equipment which can be reemployed.
3. A drill string consists of hollow steel pipes.

4. The rotation is transmitted to the bit from the surface by a drilling fluid.
5. Casings are steel pipes, joined together by threaded sleeves in order to guarantee the hole stability.

SPEAKING

4. Read the text again and answer the questions.

1. What does the term "drilling" mean?
2. Tell about the drilling process. What actions are there?
3. What is used for rotary drilling?
4. How is the rotary drilling process conducted?
5. How long do you think it takes to drill to get to the fluid?

KEYWORDS

Nouns

drill string
downhole
rotation
casing
density
error

Verbs

prevent
maintain
bore
circulate
take into account

In the end of the research, we took the feedback from students of the experimental group.

1. The independent research helped in better understanding the content of the module
2. The necessity to make exercises helped in terminology acquisition and develop grammar skills
3. The deadlines made me to organize myself.
4. The necessity to share the work with the partner developed my negotiating skills

Discussion

While working on the training manual, a number of the following problems were identified.

1. Lack of analysis of the needs of industry leaders.
2. The impossibility of constructing grammatical material included in the general outline of the module.

According to the first remark, the spontaneous history of the origin of the method should be noted. The video material was collected and selected during the summer holidays, and work on the creation of the teaching aid started at the beginning of the academic year and was regulated by one semester. There were three parties involved in the video selection process - ESP teachers, students and teachers of special disciplines. In further work, a thorough analysis of the needs of

representatives of the industry for which the engineering student is being prepared should be carried out.

Regarding the second remark, it should be noted that the course is intended for students with an English level from A2 to B2, that is, all students have basic grammar skills. The focus of the study was to develop the skills of independent work of students in the search for information, its processing and structuring. Having formulated the goals and objectives of the course on the basis of the cooperation of all interested parties, the teacher should think about what approach to teaching language for special purposes he will choose. There are two main approaches: The English through Approach and The English for Approach. The English through approach means teaching a traditional program of grammar, vocabulary and four speech activities in the context of the learner's professional area. The English for approach focuses on teaching the job-oriented skills and language that learners need to function successfully in the workplace. Given the limited time frame that is usually set for completing a particular course, and the specificity of the field in which the company operates, the choice usually falls on the “The English for approach”.

Conclusion

The method of cooperation between ESP teachers and students in the development of a teaching aid is concrete and specific, where the teacher is not only the main carrier of information, but also the main source of knowledge. He interacts with students, relying on their professional knowledge and little experience, materials are jointly selected to create a real authentic integration of special professional disciplines. Our article also analyzed the effectiveness of independent work in teaching English for special purposes to technical students. The necessity of matching the goals and content of the learning process to the needs of trainees, focused on the development of the student's personality and his competitiveness with the aim of his further prestigious employment, was proved. The motivation of job characteristics and prospects for high quality of knowledge at corporate courses in the professional field in English with the aim of further career growth is determined.

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