INTERNET MEMES AS A WAY OF DEVELOPING FUTURE ENGINEERS’ MOTIVATION TO STUDY A FOREIGN LANGUAGE IN THEIR PROFESSIONAL ACTIVITY*

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Introduction

The article considers the issue of increasing the motivation of technical university students to study a foreign language using English-language Internet memes, which are considered to be significant material for teaching Generation Z students.

The purpose of the article is to theoretically substantiate and experimentally test the memes’ effectiveness in building motivation to study a foreign language. The research’s scientific novelty is identifying ways of organizing future engineers’ work with memes based on a variable methodological apparatus.

Materials and methods

The author analyses the literature on the study of the motivational processes among students of a non-linguistic university studying the English language and using creolized texts to organize their English language-learning process. The research material comprises memes taken from the Internet that correspond to the sections of their discipline program.

Results and discussion

A workflow for increasing students’ motivation to learn English based on their work with memes has been designed, including methodological and technological, content-motivational, and reflexive-evaluative modules. A methodological experiment has been carried out to test the proposed methods of increasing students’ motivation. An example of organizing the work with memes is given.

Conclusion

The results of the methodological experiment conducted at the Trekhgorny Technological Institute confirmed the effectiveness of the proposed methods of developing students’ motivation.

It was revealed that memes could become a powerful teaching material that helps to increase the motivation of future engineers to learn English.

Keywords: Internet memes, creolized text, motivation to learn English, students of a technical university.

Introduction

A modern engineer’s knowledge of the English language is an important indicator of their competitiveness in the global space. The demand for a specialist who is ready and able to carry out effective foreign language communication determines the importance of a Foreign Language in Professional Activity class. Despite these trends, a significant percentage of students do not see ways to implement foreign language communication knowledge and, therefore, are not interested in acquiring a foreign language at a higher level [1]. Problems regarding motivation stem from a limited number of hours in the class, students’ focus on studying only their major disciplines [2, p. 29], difficulties in transmitting thoughts in a foreign language, and differences in the lexical and grammatical features of Russian and English [3]. The indicated difficulties actualize the need...


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to search for new ways of teaching English to technical university students, aimed at developing their motivation and expanding their foreign language knowledge.

Analysis of the research on motivation issues allows us to define the process of motivation as a complex combination of external and internal factors that affect the student and form their motivational sphere in relation to learning English. Researchers [4, 5] distinguish between the external (ability to get good grades, find a job) and internal (interest in the material of the class) motives of students to study a foreign language. Students’ internal motives can be classified as: communicative (focus on communication), educational and cognitive (interest in the content of the material), cognitive (interest in the phenomena of language) [6], professional and cognitive, and achievement of a goal [5]. We agree with A.P. Avdeev that the motivational sphere of students to learn a language is made up of both professionally significant and professionally insignificant motives [7].

Analyzing the results of the survey conducted among 73 students of the Trekhgorny Technological Institute, a branch of the MEPhI university, revealed that external and internal motives demonstrate students’ need for their language development to solve various problems.

Taking into account the components of the student’s motivational sphere, presented in the works discussed above, and based on the results of the survey, we define two groups of motives: professionally oriented (the desire to study technical aspects related to a future profession, topics within professional activities, and improving language skills as a way to ensure their competitiveness); and communicatively significant (the need to understand original English-language information and the desire to communicate in English in the global world).

Identifying ways to develop students’ motivation to learn a language, researchers declare the effectiveness of extracurricular work [8], the implementation of communicative methods in the class [9], and the use of information resources [10]. Referring to scientific sources stating the high motivational potential of using Internet content (e.g., TED Talks videos, YouTube podcasts, foreign language memes), and taking into account the needs and characteristics of today’s students who are representatives of Generation Z (i.e. the need for virtual communication, an audio-visual way of perceiving information, clip thinking [11]), we will state the importance of organizing the work of future engineers with Internet memes as a promising way of developing their motivation to learn English. Being an essential element of communication in the global network environment, memes meet students’ needs by creating authentic foreign language communication situations. Arguing the need to refer to memes as an educational resource, it is worth highlighting their advantages, such as ensuring the visualization of the verbal components of communication [12], focusing the teaching process and communication rather than linguistic structure [13], enhancing the attention and interest of students, and the implementation of cultural orientations [14].

The purpose of the article is to theoretically substantiate and experimentally test memes’ effectiveness in building motivation to study a foreign language. The scientific novelty of the research consists of identifying ways of organizing future engineers’ work with memes on the basis of a variable methodological apparatus.

Materials and Methods

The study used the following methods:

1) theoretical:

— analysis of scientific and methodological literature devoted to the study of the motivation of technical university students studying a foreign language, which made it possible to highlight the components of the motivational sphere of future engineers in relation to learning English;
analysis of studies into ways of increasing the motivation of Generation Z students to learn English, which helped to identify memes as a relevant way of developing students’ interest in learning English and highlighted an algorithm to organize work with memes during the language-learning process;

– designing the students’ workflow in order to substantiate their motivational capabilities in the process of classroom and extracurricular work with memes;

2) empirical methods:

– a methodological experiment aimed at testing the proposed methods of motivation development;

– methods of statistical data processing obtained in the course of the methodological experiment.

The material for the research was selected from English-language memes and creolized texts, taking into account the Foreign Language in Professional Activity class syllabus and the needs of students in language development.

Results and discussion

Memes represent an element of culture that circulates in society by copying or imitation [15, p. 113]. Being a phenomenon of modern digital culture, memes visualize a large amount of information in a concise form, the features of which (brightness, fecundity, and aphorism) cause an emotional response and determine their wide distribution and good memorization [16, p. 195]. From the point of view of a foreign language teacher, a combination of verbal and non-verbal components that enrich the meaning of a meme is quite important. Memes containing verbal and iconic components are considered creolized texts [17]. Researchers [18] focus on the fact that it is creolized texts that are significant in language teaching for Generation Z students, since they help to activate their attention, develop creative potential, stimulate statements based on an existing idea, and, therefore, increase students’ emotional interest in English-language material.

The scientific and methodological literature notes researchers’ interest in the use of memes in the process of teaching a foreign language. It describes the possibilities of using the technology of working with creolized texts of Rage Comics [19], ‘doggo-memes’ [20], and thematic memes for studying technical terms [21]. Despite some difficulties in the use of memes in educational activities (the abundant presence of incorrect lexical units, insufficient background knowledge, lack of cultural specifics understanding), memes/creolized texts are a relevant way to update the content of the Foreign Language discipline, which requires careful selection of material and stage-by-stage organization of students’ activities.

Considering the technology of organizing students’ work with memes, we can see the absence of a single algorithm: the use of memes in teaching is determined by specific tasks (e.g. reinforcing vocabulary, determining the lexical and grammatical features, taking into account intercultural differences, enhancement of students’ attention). Z. Huang and L. Na note that the stage-by-stage work with memes in foreign language classes corresponds to the meme’s life cycle and includes the phases of its assimilation, retention, expression, and transmission [22, 23]. Considering memes as a way of developing students’ intercultural communicative competence, A.S. Budnik presents the stages of learning the aspects of memes, searching for bilingual memes and comparing them, and then developing their own memes using given templates [24]. Some researchers [25, 26] believe that the organization of teaching based on memes is consistent with the work on it at the pre-text, text, and post-text stages.

We agree with N.N. Nikolina that the use of memes in the teaching process is not limited to visual support but provides material for creating a set of activities [20]. Taking into account the
need for a comprehensive step-by-step work with memes as an authentic variable material with significant motivational potential, and relying on the considered aspects of using memes/creolized texts, we will present a model for organizing work with memes in Foreign Language in Professional Activity classes as a way to increase technical university students’ motivation for language learning. The components of the proposed model have methodological and technological, content-motivational, and reflexive-evaluative sections.

The methodological and technological section determines the stage-by-stage course of work with memes, which develops students’ foreign language knowledge, skills and abilities and presents methods for organizing this work. Based on the studies discussed above, let us single out the following algorithm for organizing the work of students with memes:

1) presentation-stimulating stage (acquaintance with memes corresponding to the subject of the lesson, stimulating students’ interest in active work, updating vocabulary based on the meme, work on the lexical and grammatical difficulties in understanding the text part of the meme, acquaintance with the linguocultural specifics, and the meme’s origin);

2) reproductive-training (control of understanding the linguistic and content components of the meme, comparing the Russian translation with the original text, and phonetic, lexical, and grammatical exercises based on the meme’s linguistic material);

3) productive and transformational (performing productive speech activities based on the communicative situation of the meme, activating group communication, exchanging opinions in oral and written form).

According to the presented stages, effective methods and techniques of working with memes to motivate students have been determined (Table 1). Let us point out that working with multimedia tools at different stages of work with memes motivates students.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Methods and techniques of work organization</th>
<th>Used instruments</th>
<th>Task variant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation-stimulating</td>
<td>– Work with visualization</td>
<td>Canva, PowerPoint Presentations, Surveymonky, Kahoot</td>
<td>– Look at the picture and describe it. – Write the words you associate with the picture.</td>
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<tr>
<td></td>
<td>– Brainstorming</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>– Forecasting, word associations</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>– Descriptive activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reproductive and training</td>
<td>– Phonetic exercises (receptive-imitative)</td>
<td>Google Forms, assignment tools, Moodle platform quizzes</td>
<td>– Define the verb tenses in the text of the meme. – Find and correct the mistake. – Put the words of the text in the correct order. – Find the meme demonstrating the same grammar phenomenon.</td>
</tr>
<tr>
<td></td>
<td>– Training grammar, lexical language activities (substitution, transformation)</td>
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</tr>
</tbody>
</table>

The content-motivational section reveals meaningful work directions with memes based on a careful selection of creolized texts that correspond to the Foreign Language in Professional
Activity class syllabus and students’ own interests. Sources of memes were: social networks (https://www.reddit.com/, https://vk.com), online meme libraries (https://memoteka.com, https://knowyourmeme.com/) and methodological articles. In this section we focused on the subject program for students majoring in Computer Science. Let us present a variant of supplementing the class material with memes (Table 2).

A variant of introducing memes into the content of the Foreign Language in Professional Activity class

<table>
<thead>
<tr>
<th>Class section</th>
<th>Directions of work with memes</th>
<th>Meme example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living in the Digital Age</td>
<td>Practicing questions in English (WH-questions, yes / no questions), vocabulary systematization on the topic “Computers: now and then”</td>
<td>Computer Comics (What are you doing, sweetie? I’m building a computer. – Can you hack Facebook?)</td>
</tr>
<tr>
<td>Using social networks</td>
<td>Description of the social networks’ functions, general vocabulary on the topic</td>
<td>Cards memes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Condescending Wonka (Oh, you don’t use social networks for business. Tell me how you plan to stay relevant).</td>
</tr>
<tr>
<td>Computer hardware</td>
<td>Vocabulary systematization by topic, description of a problem with hardware based on the communicative situation of the meme, search for a grammatical error in the meme and its correction</td>
<td>Grandma on the computer, Computer Comics, Rage Comics (PC gaming during summer while opening steam. PC gaming during winter 5 separate crisis games running while rendering 1080p videos)</td>
</tr>
<tr>
<td>Computer software</td>
<td>Consolidation of lexical and grammatical structures while working on the situation in the meme</td>
<td>Meme characters</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Harry Potter was the first one to understand the python language</td>
</tr>
<tr>
<td>Programming frameworks</td>
<td>Practice asking questions in English (yes/no questions, framework description)</td>
<td>Choosing an operating system – meme</td>
</tr>
</tbody>
</table>

The reflexive-evaluative section reveals a method for diagnosing the levels of formation of a student’s motivation to study English using memes. This section is based on the criterion-evaluating apparatus presented in Table 3.

Criteria and indicators of the students’ motivation formation

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professionally directed</td>
<td>– The student’s understanding of the importance of language proficiency for effective communication in professional activities.</td>
</tr>
<tr>
<td></td>
<td>– The student’s interest in the study of lexical and grammatical structures and foreign language terms within the framework of professionally oriented topics.</td>
</tr>
<tr>
<td></td>
<td>– Active participation of the student in the classroom and completion of extracurricular work related to a foreign language in professional activities.</td>
</tr>
<tr>
<td>Communicative and personal</td>
<td>– Interest in learning the language for the development of their own foreign language communicative competence.</td>
</tr>
<tr>
<td></td>
<td>– The desire to communicate in English during classroom and extracurricular work (the desire to understand English-language films, songs and memes, and to express their own point of view),</td>
</tr>
<tr>
<td></td>
<td>– Students’ active, independent and creative, project work with English-language material during classroom and extracurricular activities</td>
</tr>
</tbody>
</table>

In the course of their work, students’ levels of motivation to learn English (low, reproductive, and productive) and diagnostic methods (polls, observation, analysis of student activities, a test by T.N. Ilyina “Motivation for studying at a university”) were determined.
The effectiveness of working with memes on the basis of the proposed model was tested by a methodological experiment, in which 74 students of Trekhgorny Technological Institute participated, divided into control (CG) and experimental (EG) groups. No systematic work with English-language memes was carried out with the students of the CG, whereas systematic work based on memes was carried out with the EG.

Let’s give a detailed example of organizing such work with students based on the “Computer Types” topic. The students were offered a meme from the “Computer Comics” series (Figure 1). Memes of this type represent rich lexical and grammatical material for creating communicative situations associated with improper work on a computer and a person’s dependence on computer technology. The undoubted didactic advantage of computer comics is the rather voluminous textual part of the creolized text, which provides opportunities for the assimilation of lexical and grammatical structures and the subsequent communication.

![ KNOW YOUR COMPUTERS: QUANTUM COMPUTER A COMPUTER AVAILABLE ONLY IN SMALL DISCRETE QUANTITIES. CLASSICAL COMPUTER A COMPUTER RUN USING A FRENCH HORN, VIOLIN, AND CONTRABASSON. PERSONAL COMPUTER A COMPUTER THAT IS VERY SOCIAL. YOU'RE SUCH A GOOD LISTENER MAGNA MAC-703. IT'S EASY WHEN YOU'RE SO INTERESTING. SUPERCOMPUTER A COMPUTER THAT BELIEVES ITSELF TO BE OF A SUPERIOR RACE. HI, I'M A MAC.](smbc-comics.com)

**Fig. 1. An example of a meme**

At the presentation-stimulating stage, the development of students’ interest to work with memes (including the designated meme) and the removal of barriers to their successful understanding was realized through brainstorming techniques:

– problematic issues (*What types of computers can you see in the pictures? Which of them are used nowadays? What are the main peculiarities of these computers?*)

– visual brainstorming (*Look at the pictures and match the type of computer with its image. Explain your choice*).

During the presentation of the meme, lexical and grammatical substitution exercises were used to help remove the linguistic difficulties of understanding the meme. Here are some examples:

– **Match the sentence with the picture.**

– **Complete the text using the words** (available, French horn, a good listener, believes).

– **Put the words into the right order to make up sentences** (available/discrete/quantum computers/quantities/in/are/only/small).
Acquaintance with background information (features of memes of this type, their origin, socio-cultural factors) was realized during independent search or group work with the text prepared by the teacher.

At the reproductive-training stage, work was carried out related to the implementation of speech exercises aimed at considering the lexical and grammatical features of the meme text. The control of the students’ ability to understand the meme in terms of vocabulary and grammar was carried out during the implementation of the following language exercises by students:

– receptive (Have a look at the pictures. Remember what is written on them)

– gap-fill exercise (Using the words from the meme’s text complete the gaps in the following sentences, e.g. The company IBM presents cloud access to the most advanced quantum computers ...

– reproductive (Change the sentences according to the example: The computers available in the library have no Internet access – The computers that are available in the library have no Internet access)

– analytical (Look at the phrase “such a good listener” from the meme. Do you remember the difference between ‘so’ and ‘such’? Give another example).

Consolidation of grammatical material based on a meme can be carried out when organizing students’ independent work with Internet sources: searching for other memes that demonstrate a certain grammatical phenomenon and adding their own phrases to the meme based on the required grammatical structure.

Speaking about the potential of memes to enhance students’ vocabulary, it is worth noting that these creolized texts create vivid emotional images in their minds using a play on words (quantum computers – small discrete quantities), a metaphor (classical computer runs using a French horn, a violin and a contrabassoon), irony (supercomputers believe themselves to be a superior race – I am a Mac), which creates a solid foundation for students to memorize lexical units. While working on vocabulary, the following exercises are used as part of the meme:

– Match the word with its definition (a computer taking advantage of the quantum properties of qubits to perform certain types of calculation quickly in comparison to usual computers is ...)

– Divide the words into the groups (1. Personal computer – a. microprocessor, word processor, Internet browser, software, hardware).

Work at the productive and transformational stage has the greatest motivational potential since it allows the use of various methods of organizing student communication in English. Focusing on communication is the key task at this stage. As noted by Y. Han, the skills of encoding and decoding the information required to understand a meme involve not only the ability to interpret the text, but also to decipher the information hidden in the content of the meme [27]. Despite their limited textual component, memes are a capacious source of information that create opportunities for exchanging opinions and conveying new meanings. Taking into account the high motivational potential of memes for the development of the foreign language communicative competence of technical university students, we will designate the types of productive exercises used in work at the productive-transformational stage.

To develop foreign language oral skills using memes we suggest the following:

– speech question-answer exercises that require disclosure of the student’s own point of view (Think and give your answers to the questions. How is a classical commuter connected with musical instruments? What are the advantages of Mac computers? Why does the author of the meme call them supercomputers?)
– discussion exercises (Choose any part of the meme and comment on it)
– situational communication exercises (Transform the text of the meme into the dialogue between a customer who knows nothing about computers and a shop assistant who talks about the quantum, classical, personal and supercomputers sold there. Be creative, use your imagination).

The development of foreign language writing skills is facilitated by creative assignments:
– computer-assisted cognitive visualization (a) Following the meme’s presentation of computer types, create an advertisement poster for such a computer. Choose any computer type, give its main technical characteristics and advantages. b) Using one of the services (mr-mem.ru, 1001mem.ru/create-mem) create your own meme describing computer types)
– essay (“Are quantum computers really available only in small discrete quantities?”).

Students are also interested in search work in groups based on memes. Mini-projects are an option for organizing such student activities. For example, in reference to the part of the meme about quantum computers, students were given the option of completing the following creative task: “Are quantum computers really available only in small discrete quantities?” What do you know about quantum computers? Watch the video at TED Ed “The high-stakes race to make quantum computers work.” Present its main idea in 5–7 sentences, describing the principles of quantum computer work. What does the author of the meme mean by presenting the quantum computer as a technical aid available only in small discrete quantities? Create your own meme connected with quantum computers. Present your search results to the other students.

Evaluation of the proposed methods’ effectiveness was carried out in the course of diagnostic sections in accordance with the above-mentioned evaluation criteria. The results of the performed diagnostics are presented in Table 4. Along with classroom work, students were involved in project activities and independent work with memes.

### Table 4

The results of the diagnostics for students’ motivation formation levels

<table>
<thead>
<tr>
<th>Diagnostic section</th>
<th>Levels of students’ motivation formation</th>
<th>EG (%) 35 people</th>
<th>CG (%) 39 people</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-experimental</td>
<td>low</td>
<td>32.3</td>
<td>31.4</td>
</tr>
<tr>
<td></td>
<td>reproductive</td>
<td>46.5</td>
<td>48.3</td>
</tr>
<tr>
<td></td>
<td>productive</td>
<td>21.2</td>
<td>20.3</td>
</tr>
<tr>
<td>Experimental</td>
<td>low</td>
<td>27.0</td>
<td>23.6</td>
</tr>
<tr>
<td></td>
<td>reproductive</td>
<td>26.9</td>
<td>51.1</td>
</tr>
<tr>
<td></td>
<td>productive</td>
<td>46.1</td>
<td>25.3</td>
</tr>
<tr>
<td>Post-experimental</td>
<td>low</td>
<td>18.5</td>
<td>31.4</td>
</tr>
<tr>
<td></td>
<td>reproductive</td>
<td>28.3</td>
<td>42.5</td>
</tr>
<tr>
<td></td>
<td>productive</td>
<td>53.2</td>
<td>26.1</td>
</tr>
</tbody>
</table>

The data obtained as a result of the implementation of the proposed model allow us to declare the effectiveness of its functioning, since the number of students with a productive level of motivation has increased. Systematically organized variable work with memes based on the presented material contributes to the development of future engineers’ motivation, including professionally oriented and communicative-personal motives.

The successful functioning of the model was obtained due to the observance of a number of pedagogical conditions that create a communicative environment conducive to working with memes. These conditions are represented by a number of factors:
– logistical (systematic use of web instruments to visualize the students’ answers (Canva), control of knowledge assimilation (Google Forms, tests in Moodle), quick exchange of opinions (Kahoot, VKontakte)
– methodical and didactic (development of a set of exercises based on memes as the part of the class program)
– communicative and personal (taking into account the personal and cognitive interests of students when selecting material for the class).

**Conclusion**

Thus, when searching for new ways to modernize the English language teaching process for Generation Z students, Internet memes are relevant material with significant motivational potential. A large selection of memes of various topics, a combination of a vivid visual image with ironic content and the memes’ relevance provide ample opportunities for using these creolized texts to develop students’ knowledge, skills and abilities that make up their foreign language communicative competence.

In the course of the research, the components of a technical university student’s motivation regarding the process of learning a foreign language were determined, and a model for organizing their work with foreign-language memes was presented as a way to increase their motivation to learn English. Within the framework of the proposed model, an algorithm for students’ work with memes was determined, i.e. a methodological apparatus that ensures the effectiveness of this work. Possible meaningful directions of organizing the work of students with memes in accordance with the Foreign Language in Professional Activity program were revealed, providing a criterion-evaluative apparatus for determining developments in students’ motivation to learn English. The possibilities of implementing this model were presented using the example of work with a specific meme. The conducted methodological experiment shows positive results in the development of future engineers’ motivation to learn English.

Developing the motivation to learn a language is an important factor in organizing the educational process for technical university students, which conditions students’ deep understanding of linguistic phenomena and reveals their desire for independent work. Methods of organizing the process of learning English using memes have shown their effectiveness in the formation of professionally oriented and communicative-personal motives in relation to the language-learning process.

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