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ТЕХНИЧЕСКИЙ АНГЛИЙСКИЙ ЯЗЫК В ПРОЦЕССЕ ПРОФЕССИОНАЛЬНОЙ ПОДГОТОВКИ БУДУЩИХ СПЕЦИАЛИСТОВ

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Аннотация. В представленной статье обсуждается важность изучения технического английского языка специалистами производственной сферы. В век невероятно быстро развивающегося научно-технического прогресса профессия инженера стала востребована и популярна, как никогда. Это связано в первую очередь с естественной необходимостью совершенствования техники, как базиса для развития науки. А без подготовленных специалистов с хорошим образованием развитие научно-технического прогресса попросту невозможно. Современное производство насыщено высокоточным оборудованием. Это оборудование использует цифровое программное обеспечение, которое может быть разработано специалистами из другой страны. Более того, производители оборудования используют универсальное программное обеспечение, для его внедрения на различных предприятиях мира. Поэтому, для работы и обслуживания таких станков необходимы знания технического английского языка, который в ходе истории стал языком международного общения. Обязательной частью этих процессов является и знание иностранных языков, а в случае с современным производством, особенно важен и актуален именно технический английский язык. Этот факт отлично мотивирует будущих специалистов к изучению английского языка в период подготовки в профессиональных учебных учреждениях и улучшению уровня владения техническим английским языком в период профессионального карьерного роста. В статье представлены примеры терминов, которые используются инженерами на производстве.

Ключевые слова: технический английский язык, числовое программное управление, автомат продольного точения, онлайн-обучение, электронное дистанционное обучение

TECHNICAL ENGLISH IN THE TRAINING PROCESS OF THE WOULD-BE SPECIALISTS

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Abstract. This article is devoted to the importance of learning English by specialists in the manufacturing sector. In the age of incredibly rapidly developing scientific and technological progress, the engineer's profession has become in demand and popular as ever. This is primarily due to the natural necessity of improving technology as a basis for the development of science. Without prepared specialists with good education, the development of scientific and technological progress is simply impossible. Modern production is saturated with high-precision equipment. This equipment uses digital software that may be developed by experts from another country. Moreover, equipment manufacturers use universal software to introduce it at various enterprises in the world. Therefore, knowledge of engineering English is needed for the work and maintenance of such machines, which in the course of history has become the language of international communication. A mandatory part of these processes is also knowledge of foreign languages, and in the case of modern production, it is especially important and relevant to the engineering English language. This fact perfectly motivates future specialists to learn. English during training in professional educational institutions and improving the level of ownership of engineering English during professional career growth. The article presents examples of terms that are used by production engineers.

Keywords: engineering English language, numerical control, longitudinal strife, online learning, digital distant teaching.

INTRODUCTION

The scope of production activities of the modern enterprise is closely related to the development of production process technologies that make the final product cheaper, but at the same time high quality. Today, it is less and less in enterprises, manual labor is involved, the accuracy of which is much lower, and the cost is higher. Automation of technical processes is introduced into various spheres of human activity every day. It is already impossible to present modern production without high-precision machines, machines and robots.

In the age of incredibly rapidly developing scientific and technological progress, the engineer's profession has become in demand and popular as ever. This is primarily due to the natural necessity of improving technology as a basis for the development of science. Without prepared specialists with good education, the development of scientific and technological progress is simply impossible.

The requirements for the foreign language competence of a university graduate are laid in the competence structure of FSES and are influenced by three major factors: firstly, existing traditions of university language training in our country; secondly, the pan-European requirements of the Unified Space of Higher Education, determined by the conditions for the entry of Russia in the Bologna process; third, Russian Professional Standards Requirements.[2]

METHODOLOGY

To understand the essence of the established foreign language professional communicative competence of an engineer, the teacher must understand the nature of the work carried out by the engineer, take into account the axiological aspects of engineering activities; to be able to select the appropriate content, educational technologies and types of training activities that integrate a foreign language and specialty. To do this, the lecturer requires fundamental training in the field of theoretical and methodological foundations of an interdisciplinary approach in the foreign language education and the practice of subject-integrated foreign language learning, as well as readiness for continuous professional development.[1]

In the face of the rapid development of high-tech production, the main task of technical universities is to improve the quality of training engineers and the constant adaptation of

programs and the content of learning to change the conditions and requirements of the employer.[3]

The trends of the modern labor market dictate the rules, without observing which it is unlikely to be able to build a decent career. These include:

1. The presence of good special technical education.
2. Experience with high-precision equipment based on digital software management.
3. Personal achievements in the professional sphere of modern production.
4. Professional growth.

A mandatory part of these processes is also knowledge of foreign languages, and in the case of modern production, it is especially important and relevant to the engineering English language. This fact perfectly motivates future specialists to learn English during training in professional educational institutions and improving the level of ownership of engineering English during professional career growth.

RESULTS

The competence approach, which is based on the new paradigm of the organization and assessment of the result of education, has disclosed ample opportunities for lectures of higher educational institutions to use new approaches to the development of the content of educational activities and pedagogical technologies for its implementation.[4]

Based on this, everything is sharper than the problem in the need for highly qualified personnel with engineering education and knowledge of English terminology today and the growing need of these skills in the future. It is not difficult to predict that the development of engineering in production will be associated with computer technologies and automation in a set with directly mechanics, electronics and chemical processes, as well as with the introduction of intellectual software based on common and understandable language, which today is English.

In the era of a high-speed Internet connection between people around the world are carried out for moments. Therefore, the question of the way to interact and communicate people from different points of the world has become particularly acute. Obviously, communication should be held on one general and understandable language. This language today is English.

Technical English describes the general nucleus of the

language used in several technical professions: engineers, technicians, operators, technologists and scientists. Technical English courses provide language learning required in various professions, by providing you with the ability to study and the possibilities of practical application of a key vocabulary and grammar. In addition, it's good when a person develops his oral communication, discussing technical topics. This greatly facilitates and speeds up learning.[5]

Based on historical and social prerequisites, we know that it was the Great Britain that became the center of the industrial revolution, at the end of the XVIII and early XIX centuries. The industrial revolution, in turn, directly affected not only the life and culture of the British society, and the whole world as a whole. And given the fact that the United Kingdom is the center of English, the English language has received an additional promotion incentive worldwide and introducing it to all spheres of society.

The next stage of the spread of English in the technical sphere of society was the period of sharp technical development in the United States of America at the end of the XIX and during the XXth centuries. This is the period of the emergence of many companies that are common to all over the world. At the same time being English language, for example: Ford Motor Company, Harley Davidson, Caterpillar.

Also, in today's popularity in the Technosphere, English is used by developing IT (information technology) - spheres, as any code, to any program is based in English. And IT-Sphere, in turn, today is one of the most significant and, perhaps, the most fast-growing part of the Technosphere.

Good examples of English-speaking companies in the field of information technology are those, world famous, corporations, like Apple, Microsoft, IBM and many others.

The English language in the professional sphere is a significant stage of the preparation of a modern engineer, that is, in the conditions of modern production, in the algorithms of building teams of the production process, naturally, English is also actively used, rather, even its derivative is the so-called engineering English, that is, technical English.

The history of the introduction of traditional English into global use in the field of science and technology is directly related to the emergence and development of this sphere in the main English-speaking state - Great Britain. From history it is known that due to permanent rivalry, first of all, with France, the UK had to develop an accelerated pace to have an advantage.

In parallel with the development of the state, the language itself changed, modern English takes its beginning from the XVI century, an excellent example of the English speaker of that period is William Shakespeare-recognized English writer and playwright.

DISCUSSION

It should be noted that at the time the global language of engineers was considered German, due to the manufactured network developed at that time in Prussia.

The fundamental change occurred from 1780 to 1830-40, at that moment an industrial revolution occurred in England, which sharply changed the entire English-speaking world. It was after this moment that the engineering English language was truly popular, many of the greatest scientists worked, invented and described their achievements at this moment in English, excellent examples serve Samuel Brown, in 1824 he created an internal combustion engine operating on hydrogen-air mixture or a famous English physicist Michael Faraday, who in 1831 invented the first electric generator.

The XX century continued the tradition of the development and introduction of engineering English throughout. By the beginning of the twentieth century, for leading engineers of the world were not a novelty such terms as ICE (INTERNAL COMBUCTION Engine, or just Engine) or Energy Efficiency. It was in the XX century that the English became the language of the number one as the world in general and in the sphere of science and technology. In the second half of it, the sphere of information technologies was born, that is, IT, where English is the basis for all program-

ming languages. And the fact of the importance of this industry in the conditions of modern production is indisputable.

Today, modern production cannot be impossible without equipment with numeric software. Such equipment has a huge potential and is many times higher than similar equipment, not equipped with this system in terms of performance and efficiency.

Studying the features of specific technological processes and the overall structure of the organization of labor in the enterprise, we came to the conclusions that the introduction of engineering English is really a necessity on the production of engineering English. Any modern equipment, without which the production efficiency is impossible to fully implies NCS, and it, in turn, is created on the basis of English, as a language that has become the basis of software. It also affects such a significant example as a professional slang of engineers. Now any competent specialist without any problems will figure out in a variety of English terms, such as, for example:

Tolerance that in the literal translation means *tolerance*, but in engineering English *tolerance* is an error (that is, deviation from the original data).

Fatigue, usually this word is translated as *fatigue*, but in engineering English *Fatigue* means *material fatigue* (that is, a decrease in the functional resource of the material).

Durability, translated into Russian, means *durability* or *vitality*. Translated from Engineering English this term will be treated as *wear resistance*

A Screw Anchor, in the literal translation means *screw anchor*. This does not absolutely reflect the essence of the term, as on the engineering slang it means *a dowel*, and, as you know, *a dowel* is a fastening product that does not have thread or screw grooves.

However, in the situation of the complete absence of knowledge of engineering English among workers, it leads to the fact that the operator of the vertical milling machine, which has been upgraded by installing on the already previously released equipment of the NCS system, continued to produce all technological operations with the help of analog limbs, mechanical devices to change the position Cutters in space. This is explained by the fact that the operator does not own the English language, which is used in the software of the vertical milling machine and, thus, does not understand the CNC team.

This factor significantly reduces production efficiency as often such personnel works with expensive, complex equipment requiring knowledge of at least the basic level of the English language, and this equipment uses only a small part of its potential. This problem is possible to solve, for example, by teaching the course of engineering English, in training personnel staff of the enterprise to improve the qualifications (specialist discharge).

CONCLUSION

So, making a conclusion on the basis of the above facts and examples, we come to the conclusions that in modern production there is an urgent need for specialists with knowledge of English by engineers and specialists, as well as the ubiquitous application in the contemporary industry, because:

First, operation, setting up and repair and in general, the maintenance of modern digital equipment without knowledge of engineering English is simply impossible.

Secondly, all design and design documentation is developed with a support, mainly to engineering English, as the equipment is used in many countries, and the translation into several languages leads to its rise in price, which is unacceptable in modern market conditions.

Thirdly, it is impossible today, or it is quite difficult to develop technologies without the involvement of specialists from different countries, therefore there is a need for a general switching language. Thus, English is a binding between the language of developers of equipment, and specialists working with it that can be in different countries.

In general, ignorance of engineering English leads to the

fact that part of the potential of the equipment is not used, and “manual labor” leads to the rise in the cost of the final product.

Engineering English, as well as the English itself, in the development of English-speaking states and the language itself, has become the main language of human communication in today’s realities both among ordinary people and professionals in the production sector.

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