Digital translation tools in the process of teaching of foreign languages

Alexander Kabanov¹, Natalie Nevraeva¹, Tamara Pyrkova¹, Nelly Savelyeva¹, Igor Oleynik², and Tatyana Gurskaya³

¹Ural Federal University, Department of Linguistics, 620002 Ekaterinburg, Russian Federation
²Ural State Agricultural University, Department of Foreign Languages, 620000 Ekaterinburg, Russian Federation
³Technical University of Ural Mining Metallurgical Company, 620000 Ekaterinburg, Russian Federation

Abstract. The scientific article describes the problems of using electronic automated translation tools in the educational process of a non-linguistic university. A description of the positive and negative factors of the use of electronic translators is given, which affect the quality of the assimilation of educational material about a foreign language. Some examples of translation implementation using electronic translators and additional services that they offer for the accurate transfer of information from one language to another are given. In addition, additional sources of information are proposed for the formation of students’ skills in the correct implementation of translation from a foreign language into Russian. Examples of visualization of the result are given for a visual representation of the translated facts and realities.

1 Introduction

Normal daily human activities are changing rapidly. New technologies are replacing each other with great speed. We can trace some of the appearance and obsolescence of equipment and technologies ourselves. Since their life is getting shorter and shorter. Methods of audio and video recording, methods of treating many diseases, pedagogical primas in education – all these changes are in the memory of one generation Progress and modernization affect all areas of our lives. Electronics and digital technologies are developing especially rapidly. The processes affecting these areas are so intense that it is even impossible for an ordinary person to trace the emergence of all emerging new products. The rapid transition of modern society to the information age of its development, the increase in the use of computer technology, the creation of a global Internet network-all this contributes to the unification of knowledge and intelligence of people from all over the world. In such a situation, the training of qualified specialists who can use a foreign language (FL) in their intercultural activities is an objective necessity. A specialist with knowledge of FL can serve the interests of states and peoples in the comprehensive expansion of cooperation and the exchange of professional, scientific, cultural and spiritual values[1]. The modernization of electronic devices can be seen even in everyday life, when we are forced to acquire modern technology, and get rid of one that does

* Corresponding author: nellik1983@email.ru

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not fit new formats and changing standards of our reality (digital TVs that have replaced analog; CD and DVD discs, not having time to appear which quickly became useless; landline telephones and fax machines have practically disappeared).

Interactive whiteboards and computer classes are already becoming irrelevant in the field of education. Of course, they are still being introduced into the educational process, but the trend is that more and more education is going into tablets and smartphones. It is already necessary to think that e-courses and training materials are suitable for these formats. So, interactive whiteboards are replaced by Internet whiteboards, files can already be edited by several users at the same time, which allows you to work remotely on one project, or a common task. And the educational institution itself should be able to connect to the Internet via Wi-Fi. Although, with the spread of affordable and cheap mobile Internet, Wi-Fi is also becoming irrelevant.

The use of electronic technology in our daily life has become commonplace. Digital technologies have supplanted many professions that in the recent past were common, necessary and in demand. So, for example, now there is no such thing as "telephone operator" or "typist", and in the foreseeable future, electronic means will replace security guards, salespeople, financial employees and many other people in the workplace. And there is no question whether this is good or bad. This process cannot be stopped, and humanity must adapt to these conditions and take them for granted.

The process of globalization also affects the sphere of communication. Even now, having a modern smartphone, you can easily talk to a foreigner without knowing a foreign language. We can also easily read signs, instructions, signs and much more without resorting to outside help.

Thus, one of the leading and rapidly developing areas of human activity automation is the development of electronic translators. According to analysts' forecasts, these electronic tools may supplant the corresponding profession. Automated translation systems are already being introduced into many spheres of life, such as autoinformators, intercoms, travel software.

2 Results and discussion

Electronic translators make it easier for people to communicate in foreign languages when there is no common language, erase borders and language barriers. We no longer feel helpless when we see the hieroglyphs of the eastern languages, or the Arabic script. It is enough just to point the smartphone camera, and on the screen, you can see phrases and sentences that are familiar to us. We can read from in the language that we understand. These services are very convenient when traveling to countries whose language is not familiar to us, where the knowledge of common languages among residents is at a low level. Electronic translators help us understand street signs, instructions, signs.

Electronic means have also come into the educational process. Distance learning technologies, e-lectures, audiovisual information and presentations are widely used in schools, technical schools and universities at various stages of education. Such innovations make the work of the teacher and the student exciting in some cases, helps to intensify and diversify the learning process. Although digital technologies are already becoming a common routine, to which interest may disappear, nevertheless, now this direction in educational activity is a new and rapidly modernized tool, for which sufficiently effective educational technologies have not been developed.

A person is modernizing the world around him. Nevertheless, the technology of perception of the world in humans remains unchanged. We, like ancient people, receive video information through the eyes, audio information through the ears, temperature and volume through touch. Nothing has changed in this process. To get any knowledge and skills, to perceive and process certain information, a person needs to go through certain stages exactly
as he did it earlier. So, for example, to have spatial thinking, you need to be able to draw with a pencil, to develop imagination, you need to be able to draw and write.

So, the use of electronic translators in the study of a foreign language becomes a certain factor that hinders the proper understanding of the essence of the necessary information in a foreign language. By resorting to the help of automated translation tools, students deprive themselves of important stages in the analysis of a sentence, which is necessary in the implementation of understanding information in a foreign language. Students lose the skills of using knowledge of grammar, awareness of the lexical meanings of words and intercultural relations of languages. Words lose their ambiguity, as students see only their limited, sometimes only meaning in the translator. Those there is a problem and a ready-made solution without intermediate chains of actions. Without grammatical and lexical analysis.

Thus, the improper use of electronic translators significantly slows down the overall process of mastering the knowledge that is necessary for mastering a foreign language at the proper level, reduces the quality of education. And, accordingly, the final goal becomes unattainable. Specialists who receive specialties do not speak a foreign language and are becoming increasingly dependent on electronic translators already at work. There are often cases when, due to a misunderstanding of the language of modern machines and equipment, they are not used to their full potential, or are not introduced into production at all.

The translation process is a creative business. The process of interpretation includes, in addition to creativity, high professionalism, ingenuity and quick reaction - all this is based on the knowledge that must be obtained in the learning process in a natural analytical way: perception-awareness - memorization.

The steps you need to go through to get the correct translation of information from one language to another are as follows:
- Understanding the context of the utterance or printed / written information. This is necessary for the correct selection of the translation of polysemantic words, when the same word in different fields of science, technology and everyday life can have different meanings and belong to different parts of speech. So, for example, the word drain can have almost the opposite meanings of draining and flowing and the word unit acquires different meanings depending on the field of science and technology in which it is used (unit of measurement, unit, apparatus, part, division, department, installation, power unit, detachment, piece, and many others.)
- Definition of grammatical links both within a sentence and between sentences in context. This stage includes such processes as understanding the tenses of the predicate verb, determining the parts of speech, establishing the meanings of prepositions and articles, recognizing grammatical forms that have the same look, but different meanings in translation (for example, -ing and -ed forms). An incorrect understanding of the grammar of a language can be misleading during translation, to the transmission of incorrect information. So, for example, the use of the gerund and the infinitive in some cases may have different meanings, the understanding of which is necessary for the correct translation – stop to smoke has the meaning to (stop to smoke), while stop smoking has the meaning to stop the process (quit smoking). In addition, grammatical forms do not always coincide in languages, which leads to certain difficulties in understanding information and, accordingly, to incorrect translation into another language. For example, in English, the indefinite form of the verb (infinitive) may well be the definition of a noun – a letter to send. In Russian, such a phenomenon is impossible, and this phrase must be translated into a full-fledged sentence – a letter that needs to be sent.
- Understanding the realities of one language and the corresponding realities of another language. This also includes some terminology that differs in different languages. As well as everyday concepts used by people in speech. For example, the Russian verb sit has several meanings, namely: to sit on a chair (Eng. Sit), to sit at home (to be at home, to rest and do
household chores - Eng. Be), to sit in prison (to be imprisoned for criminal offenses - Eng. -
be prisoned), sit on a tree (about a bird that, in principle, cannot sit - English be). If you take
the example of a plate, then it is on the table, but it is in the closet. Such features of languages
must be considered when translating, and at this stage it is possible to do this only with an
analytical mind, and not with a digital translator.
- Collecting all the above components into a context in another language - direct translation,
which needs to establish grammatical links already in the target language and reflect all
realities.

For high-quality translation and accurate transmission of information, an electronic
translator is an insufficient tool. Since it does not have intelligence. Moreover, the use of
machine (digital) translation cannot contribute to the development of the necessary language
acquisition skills. Students, using electronic means, often do not understand the realities,
which, in principle, "lie on the surface" of understanding the context. Don't compare the facts.
Moreover, when reading the translation that they made on popular sites, frankly ridiculous
mistakes can be made that are even impossible to imagine in ordinary speech. For example,

In the Middle of the last Ice Age, 27,000 years ago, the first North Americans crossed a
bridge of land which joint Siberia to Alaska.

The widely used Internet translator gives the following option:
В середине последнего ледникового периода, 27,000 лет назад, первые
североамериканцы пересекли сухопутный мост, соединяющий Сибирь с Аляской.

When you ask a student, what kind of bridge is this? and how could it have appeared
27,000 years ago? who could have built it? often there is a hitch, confusion. For the correct
understanding and translation of this sentence, knowledge of history and geography is also
necessary. It is necessary to realize that many thousands of years ago the continents were
connected to each other. And the narrow strip of land that connected them is called the
isthmus. Accordingly, you need to know the correct answer isthmus, or look for this
particular value in the dictionary, but you need to take into account the context itself. When
preparing for classes, students do not pay attention to this fact, relying on the capabilities of
an electronic translator.

Unfortunately, now it is no longer possible to exclude the use of electronic means of
translation from the learning process. If in classroom lessons teachers can somehow control
their use, then when doing homework and distance learning, this becomes impossible.

In a conversation with students on the use of automated translation tools, we concluded
that they, in principle, understand the essence of the problem, realize that the use of electronic
translators significantly slows down the process of learning a foreign language. But they
cannot refuse to use them, since the task posed about a foreign language must be solved "here
and now", and you can learn to speak a foreign language "sometime later, if the need arises." As
a result, the school and student years spent on learning the language do not lead to the
desired results, and the work on the subject becomes ineffective.

Students from different countries and regions study at Russian universities. The level of
development of information and communication technologies in different countries is
heterogeneous, and, accordingly, this factor affects the pre-university training and further
results of students. If we compare students from countries where the Internet is not developed,
there is no access to the use of electronic teaching aids (for example, African countries) and
students who widely use electronic gadgets, it shows that the former have a significantly
higher level of proficiency in a foreign language. They also learn another foreign language
much faster while studying at a Russian university. For example, students from the countries
of the African continent speak French, since it is their native language, and after arriving in
Russia and entering the university they master Russian and English in a fairly short period.
The situation is quite different for students from Asian countries, where the level of
technical equipment is very high, and their knowledge of foreign languages (not native to
them) languages are also at a fairly good level. Students from the People's Republic of China say that they also use electronic translators, as well as students of Russian universities. But they are forced to memorize the meaning of words and understand the language, since without knowledge of a foreign language it is impossible to enter a higher educational institution and continue their education. Every child in China is already aware of this fact at school and tries to learn a foreign language at the proper level. Moreover, it is very popular among Chinese people to get an education in other countries, respectively, their incentive to master another language is very high. And in Russia, for admission to a non-linguistic specialty at a university, knowledge of a foreign language is not required, the subsequent goal is to master the specialty, also does not imply foreign language skills. And to say that it is fashionable and prestigious is not reflected in ordinary everyday life, where home is family and work.

At the initial stage of learning a foreign language, electronic translators are very powerful assistants. Especially when there is a base for learning one foreign language. One one, for example, students who studied one language at school, but are forced to start learning another at the university, master it quickly enough, but later this process slows down. That is, an electronic translator can help in comparing one foreign language with another, especially if these languages are similar. For example, a student who previously studied German and now has to learn English with the help of an electronic translator can compare the structure of a sentence, the use of articles and prepositions, as well as quickly learn to read (electronic translators at the present stage quite well convey the pronunciation of words). And then, when it is already necessary to analyze the grammatical situation in a sentence, the translator already plays a negative role in mastering a foreign language.

Teaching translation in non-linguistic universities is associated with a huge number of difficulties, such as insufficient hours, lack of motivation among students, etc. Students have various kinds of falsehoods associated with the translation of special vocabulary. Practice shows that students are enthusiastic about the use of various information technologies in foreign language classes. One of the most popular forms of work when teaching translation is working with dictionary and reference materials. Using electronic dictionaries instead of paper ones greatly simplifies the work with the text[3].

One of the main factors that ensure the successful and effective professional activity of a modern specialist is his ability to navigate in the modern information environment, to receive, process and transmit information taken from authentic sources. Therefore, one of the goals of teaching AI in non-linguistic specialties is to develop the skills of translating scientific and technical literature, i.e., teaching translation of text in the specialty from a foreign language to the native one[2].

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Is it possible to integrate the use of electronic translation tools into the educational process to minimize negative factors and moreover, benefit from it? To develop learning technology to benefit from what cannot be banned.

First and foremost, we believe, it is necessary to use electronic translators by teachers themselves to assess the scale of the problem. See how these information services cope with the teacher's tasks, and how you can use the emerging problems for the benefit of teaching students in practical classes.

- The teacher has the necessary knowledge base and the translator can help expand it. In this case, there is just no harm. Moreover, the teacher will have an idea of how machine translation performs the tasks assigned to him and predicts possible mistakes of students, and on this basis integrate the necessary educational material into training exercises and tests.
- Problematic places in the translation, as well as numerous errors can be used in the preparation of tests and control works. For example, when choosing the right option for a while. Or in practical work when choosing the right option with an explanation, where you can describe the errors in detail. This practice is very useful when compiling electronic courses for distance learning.

- It is necessary for students to set tasks based on the work of an electronic translator, for example, to correct the shortcomings of the use of automated translation tools, to track the most problematic places in the proposed texts and correct inaccuracies by additional use of a dictionary and information from third-party information sources. So, for example, if in the sentence:

\[\text{Over the centuries the English Channel is a feature of notable scientific interest, especially in regard to tidal movements and its location.}\]

Often the student translates the geographic name “The English Channel” into Russian as “English Channel”, as he considers this translation obvious. In this case, you can simply ask him to open a geographic atlas in Russian, or any map on the Internet, a smartphone navigator, etc. and see what variant of the name of this object is used there. As a result, we get a translation of the sentence in the following form:

\[\text{На протяжении веков Ла-Манш представляет значительный научный интерес, особенно в отношении приливных движений.}\]

In this case, the visualization of the search for a translation makes it possible not only to find the correct version, but also to consolidate knowledge for a long time and add the skill of finding the necessary information in third-party sources.

In addition, if we set the task of finding information about why the French name of this water body is used in the Russian language, and not the English one, then we can expand our knowledge of history, which is directly related to the correct translation. Thus, the cultural and historical aspect will give a deep understanding of the essence of translation, as well as the principles of use in translation, which will be useful in the future.

Our observations show that the main problem of using electronic means of translation into foreign language classes at the university - this is something that students do not understand "how can it be differently?" A logical solution to the problem, according to the betrothed, if a translation needs to be done, then a translator is the best tool for this. Unfortunately, most modern young people studying in a non-linguistic university do not have the skill of working with a dictionary due to insufficient requirements for its use in school. There is a misunderstanding of the importance of a translation made without an electronic translator, all stages of finding the meaning of a word and its translation in context are not traced.

When asked why you use electronic translators, students usually answer as follows:

- And how to translate, if not with the help of a translator? The translator was specially created for this.

- Why bother with translating yourself, if a person came up with an electronic translator? We need to enjoy the fruits of progress.

- Translating with a dictionary is slow and time-consuming. I have a lot of other subjects, coursework and little time.

- I use a translator to understand the meaning, because I cannot understand it with the help of a dictionary, words do not add up to a sentence.

- Translate large texts rather boring and routine, with the help of machine translation I get instant results.

- I need a higher grade, but I lack knowledge of the subject. A translator can help me get a good or excellent answer.

It is clear from the answers that students of non-linguistic specialties pursue the goal of obtaining an assessment, and not mastering a foreign language. They need a quick result
without fixing their skills for a long period. If there are still certain problems in special disciplines, then learning a foreign language does not even go into the background, but is postponed indefinitely. And you need to get an assessment now.

There are many texts and exercises where the use of an electronic translator often confuses the student, although many of them sincerely do not understand that they are there and, accordingly, do not even try to find a way out of there. When you draw a student's attention to such cases, their first reaction is bewilderment. Simply, the information "did not go through understanding and awareness." Consider an example with a sentence:

*From the Appalachian Mountains in the east to the Rocky Mountains in the West, the center of the country is drained by the Mississippi and Missouri rivers and their branches.*

Modern students of non-linguistic specialties in almost 100% of cases do not think about translating this sentence. In addition to weak linguistic knowledge, the factor of the lack of a geographical understanding of realities plays an important role here. The difficulty is caused by the comparison of two objects / objects expressed by nouns (in this sentence there are two geographical objects - the river / and the center of the country) and the predicate verb.

Accordingly, the big problem in this sentence is the word *drain*, which is part of the predicate in the passive voice (Passive voice) is drained.

Most often students translate it as:
- dry up
- drain
- flow down
- wash.

Therefore, the students' translation sounds like this:
... the center of the country is dried up ...
... the center of the country is being drained ...
... the center of the country is flowing down...
... the center of the country is washed by ...

Our task is to switch the student's attention from an electronic translator to a dictionary, albeit an electronic one. It is important to develop the skill of formulating the translation according to the meaning of the word, as well as the use of a dictionary.

Electronic translator offers translation:

*… the center of the country is drained / the center of the country is drained by the Mississippi and Missouri rivers.*

As we can see, such a translation is unacceptable - the meaning in the sentences is distorted so much that it is completely lost, although the meaning of drain really does exist in the dictionary, and it misleads the student.

Today, leading electronic translators, in addition to implementation direct translation, offer several additional services, including the dictionary function. At this stage, it is just possible to switch the student's attention to working with him, while remaining directly in the translator. This is exactly the necessary process that we are seeking.

If we highlight one word *drain*, then the electronic translator in the dictionary function offers many options, such as deplete, dry up, drain, flow down, drain, leak, pump out, take away and many others. None of these meanings are accurate for translating a sentence. Here it is necessary to present the described situation, for example, using a geographic map and invite students to use it (Exam. 1), so to speak, visualize the translation process, give a visual representation of the information being translated.
Using the map, the student has a visual representation of the objects that are described in the sentence, now they can be compared, for example:

... the center of the country is drained ... - it means there are no rivers there, just a desert, let's look at the map, is this true?

... the center of the country is being drained ... - drainage is a man-made formation in the form of ditches and canals. Is there anything like that on the map?

... people flock to the center of the country ... - it means there is a lake in the center of the country, or a sea, or another body of water, if rivers flow there and remain there. Find this body of water on the map.

... the center of the country is washed by... - this means that the rivers are located somehow on the sides of the center of the country. Confirm or disprove this fact with a map.

The proposed options are not suitable for correct translation, but nevertheless, at this stage, students have already started thinking, reasoning, looking for a way out of the impasse. There is a reason for discussion. The problem posed clearly shows the inconsistency of the electronic translator and the uselessness of its use in this case.

Continuing to work on the translation of the word drain in the sentence, we invite students to find its synonym with the same dictionary entry, which looks like this (Exam. 2 ), given that the meaning of the word drain describes the action:

**Fig. 1.** Visualization of the translation of a sentence from English into Russian using a geographic map.
As you can see in Figure 2, in addition to the meanings of the word, there are synonyms in English for the word drain in the dictionary entry. At this stage, we invite students to choose the most appropriate value that would describe the actions of rivers in the sentence. It was the verb (action) that caused the difficulty in translation into Russian. In the third paragraph, there is the word flow, which means to flow, to flow, respectively, the rivers flow through the center of the country - the most acceptable option in this case, which does not distort the general meaning of the sentence, although it does not quite accurately convey the meaning of the word drain.

Continuing to search for the correct translation of the word drain, we suggest that the student use the Internet for a “free search”. Let's say you set a task to find several acceptable options, and, comparing with other words in the sentence, as well as with grammatical realities, choose the desired translation option. In particular, using such a search, you can find the following examples:

- A large portion of the province is drained by the Diyala River, a major tributary of the Tigris.
- Almost half of the Earth’s land surface is drained by transboundary basins.
- It is drained by the Yellow River.
Он дренируется через желтую реку.

If we compare our proposal with the examples found, it becomes clear that the most suitable of them is the second - the land surface, in our proposal the center of the country, transboundary basins - there is the concept of river basins.

Thus, by using an electronic translator, its additional services and third-party Internet sources, we can translate the sentence as follows:

From the Appalachian Mountains in the east to the Rocky Mountains in the west, the center of the country riddled with the Mississippi and Missouri rivers and their tributaries.

One more example where it is necessary to search for historical and cultural information when translating, which an electronic translator cannot provide at this stage:

Three Pro-Vice-Chancellors have specific, functional responsibility for Academic Matters, Academic Services and University Collections.

In this sentence, the translation of the phrase University Collections is particularly difficult. This factor is aggravated by the use of international words, respectively, the university collection, or the university collection are the most common translation options. Moreover, a popular electronic translator also gives such a translation option and the sentence looks like this:

Три проректора-проректора несут конкретную функциональную ответственность за академические вопросы, Академические услуги и Университетские коллекции.

The translator makes other mistakes in this sentence, but they are still somehow corrected by the students, they leave the phrase in question as it is, without even thinking about the meaning.

To understand the translation correctly, it is necessary to consider that the sentence is taken from the text about Oxford – one of the most famous universities in the UK. The terminology used in the educational activities of Oxford is specific, and students need to focus on this. The translation is done simply by carefully working with the dictionary.

If we look at the dictionary entry, we can find the following (Exam. 3):

Fig. 3. Example of a dictionary entry for the word collection in the dictionary.

Item 9 gives a translation option – exams at the end of the semester, and a clarification at Oxford.

With such an example, we show that electronic translators are imperfect, and you should not neglect the dictionary.
3 Conclusion

We use the principle, "if you can't ban, then you need to legalize and benefit." Accordingly, considering the negative factors of using automated translation tools, it is necessary to restructure the educational process so that their function contributes to the progress of the learning process. It is necessary:
- Offer material for translation that “blocks” the capabilities of an electronic translator. There is such an opportunity now.
- To invite students to go through all the stages from finding the meaning of a word to its translation in context.
- Visualize the translation process, if possible. Provide a visual dagger so that students can compare the facts given in the sentence with the facts on the image of a real object.
- Engage third-party sources of information to search for the correct translation, extract the necessary information from such examples.

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