# Challenges in Professional Translation: Implications for Linguistic Education and the Modern Digital Economy

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## Introduction

In the Strategy for the Information Society Development, approved in Russia in May 2017, the concept of the digital economy is defined as business activities where the key production factor is digital data; the processing of large volumes and the use of analysis results of these data, compared with traditional forms of business, makes it possible to significantly increase the efficiency of various types of production, technologies, equipment, storage, sale, delivery of goods and services (Bershadskaya et al., 2014).

In the Program "Digital Economy of the Russian Federation"(Vinokurov, 2021), developed for the period until 2024, one of the five basic areas of development is identified as *personnel* with technical background and digital literacy, and *education* (Zagloel et al., 2021).

Digital literacy is recognized by the European Union as one of the eight key competencies necessary for full life and successful professional activities (Hockly, 2021). The ability to work with digital technologies is becoming a constant and prerequisite for most specialties. The uniqueness of digital technologies is that citizens can acquire the competence in many other areas more effectively.

Based on main characteristics of the innovative economy, digital technologies contribute to the translation of updated knowledge and increased amount of information. That is, the modern practice of using digital technologies generates the

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demand for the skills necessary for processing, analyzing, interpreting large amounts of data, including working with artificial intelligence. At the same time, the quality of digital education is determined not only by forming in-depth digital skills, which involve working with big data, but also by forming the culture of perceiving modern digital content, readiness for changes because of the economy digitalization. In addition, the very renewal of digital technologies requires the transfer to continuous education and constant training of specialists in many fields and industries (Kolbachev & Pahomova, 2019).

The needs of the digital economy significantly affect the contemporary linguist image and force to review the meaningful content of the labor functions performed by a specialist who speaks a foreign language, to adapt to new professional challenges (Netolicky, 2019). That is why the professional standard "Specialist in the Field of Translation", approved in 2021, directs the vector of translation training towards the synthesis of translation theory and practice with computer technologies and organizational and managerial skills. The influence of digitalization on the translator profession is seen from the fact that in all generalized labor functions of the professional standard there is knowledge and skills to use computer technologies for translation. As a result of modern technological processes, the language from the specialty is becoming the language for the specialty. In the Atlas of New Professions, the profession of "Digital Linguist" is listed, aimed at solving the problems of information processing and creating sense using computer technologies, as well as the search for technical interaction between the person and the computer (Bago et al., 2017). Often, a contemporary translator acts as an editor, whose tasks include either choosing a translation option that is correlated with the original sense, or editing the text translated in accordance with the communicative purpose of the original text. Here is the end of the new professions' list for a linguist-translator, who does not speak in favor of developing this type of professional activities.

In this regard, the question arises: what are the priorities in modern linguistic education: obtaining a high level of language training or mastering the competencies that allow working in the digital environment?

## Material and Methods

The authors use the following methods which allow them to consider the contemporary issues and to formulate the research conclusion:

Solid sampling method—a method of context analysis based on the material of Susan Collins's novel "The Hunger Games" and the translation of its 100 sentences into Russian, conducted by the *Yandex. Translator* machine translation system.

Students' questionnaire method. There were 101 undergraduate students at St. Petersburg University of Management Technologies and Economics.

Method of statistical analysis based on the results of the studying the subject "Practical Course of Translation". The period of mastering the subject: three terms (from the fifth term of the third year to the seventh term of the fourth year).

## Results

Digital technologies have always been the most popular in linguistic education, since they provide a large amount of information and a variety of opportunities to work with audio and video materials that significantly identify the process of teaching foreign language(s) and increase the motivation of students and their willingness to master foreign language(s) for professional activities (Gavrilenko, 2020; Tolmach, 2021).

Foreign language education is usually based on the creation of an artificial foreign language environment. The use of audiovisual means in the process of linguistic education allows to "blur" the boundaries of an artificial language environment and make different communicative situations, during foreign language or translation lessons, closer to the real ones.

Digital technologies are designed to affect the sound and visual modality of the person. Psychologists have paid much attention to the psychological features of training and the role of audiovisuals in foreign language classes (Ovsyanko & Kyrychenko, 2021). Audiovisuals turn to the sensory-perceptual organization of people, which is the central channel of their information perception. At the same time, there is a simultaneous reliance on the work of several receptors, which leads to the activation of mental processes: memory, attention and, as a result, the effectiveness of students' perception of information is significantly increased.

As practice shows, digital technologies not only contribute to the qualitative transformation of linguistic education, but they also made it possible to translate the process of mastering foreign language(s) into a remote format (Nugumanova et al., 2020).

In case of distance linguistic education, it is advisable to assert the need for electronic pedagogical support, which is considered as an optimally organized interactive electronic educational environment (Vaganova et al., 2020).

The electronic educational environment involves feedback from teachers, allows to identify and analyze the pedagogical needs of students in the learning process, to take measures to overcome difficulties, namely, the adequate and advisable use of electronic resources, thereby increasing the level of motivation and providing the students with self-control opportunities. The electronic educational environment properly organized increases the potential professional success of future specialists in the conditions of the economy digitalization.

According to the analysis of the students' performance, the result of mastering professional translation competencies was not significantly influenced using distant educational technologies. The level of absolute achievement in the subject "Practical Course of Translation" in mixed-format training is 99%, during the training in the traditional format −97%. Thus, it can be assumed that the training format has an insignificant impact on the quality of translation training.

The other challenge is how ready the students, when graduating, will be to demonstrate their digital skills to solve professional problems. In this regard, the curricula for translation specialty are to necessarily include the subjects which teach

machine and computer-aided translation. The other prerequisite for training linguist-translators is the skill of critical analysis and adjustment of the quality of machine and computer-aided translation. According to the results of the survey, future linguists-translators actively use software products to solve translation, communication or search problems. Among the 101 students, 64 preferred *Yandex.Translator* to other online services, which is 64%. The other 36% preferred either *Google* (28%) or *PROMT* (4%) or *DeepL* (4%).

The analysis of language material translated from English into Russian with *Yandex.Translator* demonstrated the presence of different errors: lexicosemantic, grammatical (morphological and syntactic), spelling, punctuation ones. There were stylistic errors which manifest in violation of the traditional use of language units in speech. At the same time, some errors can be simultaneously ranked as errors of different levels, e.g., lexicosemantic, grammatical, and stylistic ones.

For example, the sentence "*I'm guessing the second*" was translated as "*Я угадываю секунду*"**.** "*Second*" is not only a noun "секунда". The word is preceded by a definite article "*the*", which indicates an ordinal numeral ("второй"), but *Yandex.Translator* failed to identify the value of the ordinal numeral.

There are also some discrepancies when translating proper names, which indicates a low degree of their adaptation when translating with the service.

Here is another example where the online translator was not able to find the necessary equivalent to express the value of "draw lots": the sentence "*It's time for the drawing. Effie Trinket says as she always does, "Ladies first!" and crosses to the glass ball with the girls' names*" was translated as "*Пришло время для рисования. Эффи Тринкет, как всегда, говорит: "Дамы вперед!"—и подходит к стеклянному шару с именами девочек"*.

The word "*drawing*" here is not *painting (рисование)* according to the machine translator.

Grammatical errors which include morphological and syntactic errors also occurred in the translation performed by the popular online translator. These are errors in the structure of the language unit, non-compliance with the norms of word formation, the norms of syntactic connection between the words in the phrase and sentence. In the material studied there are a lot of grammatical errors associated with the misrepresentation of the verb mood, aspect and tense, the transmission of elliptical syntactic structures which are typical of the English language.

The machine translation system analyzed also makes spelling and punctuation errors.

Due to the errors at lexical, spelling, and punctuation levels in computer-aided translation there are errors distorting the meaning: "*And the protocol has become rusty*" (*Протокол стал ржавым*). Or: "*The Career pack sets off at a run just as dawn begins to break, and birdsong fills the air*" (Карьерная стая пускается в бег, как только начинает светать, и птичье пение наполняет воздух).

The occurrence of such errors is explained by literal translation performed by the service. The service translates all language units without performing translation transformations, without considering the differences between the languages' systems.

The result of the analysis of translation performed by *Yandex.Translator* is as follows: among 100 sentences there are 18 translated without distorting the meaning, even though the sentences were taken out of the context, in 82 sentences there are different errors. Therefore, post-editing of machine translation is necessary, since the translation service does not consider the complexity of translating a number of structures, polysemy, borrowing, linguistic-cultural and collocation errors, which entails semantic distortions, as well as the need to perform translation transformations to eliminate the semantic "conflict" while translating. The most convincing imperfection of machine translation is manifested in translating fiction, which requires a deep analysis of the original text.

## Discussion

In forming the whole complex of knowledge, abilities and skills acquired in obtaining the linguistic education, several areas of implementation of the interdisciplinary approach can be distinguished:

1. Formation of the humane and tolerant personality capable of intercultural dialog and polylog. Students are prepared to become participants in multicultural dialog, able to know someone else's culture, critically perceive their own and integrate "their own" and "someone else's" in the process of professional communication. Multicultural formation and personal development occur within the framework of the development of such disciplines as intercultural communication, linguistic studies, and linguo-cultural studies.
2. Formation of the system of encyclopedic knowledge of language, the principles of its functioning, about communication of language and thinking in general and formation of the system of knowledge of the language(s) learned, and development of speech skills and discourse strategic skills during studying practical disciplines of foreign language(s) and translation.
3. Connection of linguistics and computer technologies. Modern requirements for the linguist-translator include the possession of software used in solving professional translation tasks. Due to the integration of theoretical linguistic and computer disciplines in this block, it is implemented at the final stage of the development of linguistic educational programs of higher education. Undoubtedly, the interdisciplinary approach allows the transfer of research methods from one scientific discipline to another, organizing binary (double) interdisciplinary disciplines on this principle, examples of which are machine and automated translation, corpus linguistics, and the study of parallel texts. The mastery of computer competencies also occurs in a mixed training mode when remote educational technologies are implemented.

The digitalization of education, because of the economy digitalization, is a set of processes aimed at creating the electronic educational environment in the university and including students and teachers in using the content of this environment (Godin

& Terekhova, 2021). The processes of digitalization of education involve the training of such specialists who are fluent in mobile and Internet technologies and are ready for continuous training (i.e., advanced training) using electronic means, as a result of which they are guaranteed to be in demand in the modern labor market.

Requirements imposed by digitalization on participants in the educational process are:

- Computer competence of teachers and students.
- Readiness of teachers and students to transform their activities in terms of the educational process digitalization.
- Advanced skills in self-organization and self-training of students.

In relation to the teacher, computer technologies require additional competencies, the main of which are:

- Owning e-learning software: conducting classes and creating e-learning materials.
- Organizational competence.

Characteristics of educational process in digitalization terms are:

- Personalization, i.e., implementation of a personal-oriented approach in training.
- High rate of provision of educational material.
- One-time provision of information to many people.
- Level of information perception and mastery of substantive aspects.

Thus, on the one hand, the application of computer technologies makes education continuous, accessible, and personal-oriented (Kameneva, 2021).

On the other hand, the use of digital technologies, being introduced into all spheres of life, including the educational process, does not guarantee the effectiveness of education for contemporary students belonging to the digital generation. Dissonance is manifested in the fact that students, being "digital natives" (Springer Fachmedien Wiesbaden, 2018), experience difficulties with the use of digital technologies, precisely in the process of their own education.

The possible reasons for this "conflict" can be considered as the non-formation of the educational process participants' skills in using digital resources, the lack of "live" contact with teachers and fellow students, a large amount of educational material offered for independent study. Therefore, in the educational process digitalization, there are new challenges for both teachers and students, and the need to constantly increase their own computer competence for a qualitative existence in the modern educational space.

## Conclusion

In the contemporary period of the pandemic and the actual communication constraints, digital technologies remove the space-time restrictions imposed on the process of teaching foreign language(s) and translating with the traditional format of education. They make it possible to involve native speakers or members of the professional community in the teaching process, which is ultimately designed to increase the level of proficiency in the foreign language and the quality of professional training of linguistics graduates.

Digitalization is to become an integral part of linguistic education and to help acquire and improve the abilities and skills of critical and responsible using digital technologies in real professional activities and the contemporary information society.

Training translators for their professional activity, in addition to the formation, development and realization of their digital skills, represents formation of integral characteristics of the specialist training quality, which are related to the presence of a whole and meaningful complex of knowledge and skills in certain cross-disciplinary issues, which is due to the need to cover several different subjects and implies the presence of a certain level of reference skills which may not be digital ones. In other words, the subjects, using an interdisciplinary approach in linguistic education, retain their independence, enriched by new research principles and are designed to bring the specialist of foreign language(s) to the qualitative level which is to meet modern professional requirements.

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