

International Conference; Meaning in Translation: Illusion of Precision, MTIP2016, 11-13 May 2016, Riga, Latvia

## Technical translation for PhD programs within an English course in Russian technical universities

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### Abstract

This paper discusses the necessity to include translation practices into a compulsory language course intended for PhD students, which entailed thorough reviewing and overhauling programs and syllabi currently in use in tertiary technical education in Russia. The methods applied involve (1) student and teacher survey to identify the needs of program graduates and (2) a correlation analysis to examine the content of FL courses within technical PhD programs. The paper also proposes reallocation of contact hours, which should provide ameliorative interference to allow universities to get closer to the objectives set.

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Peer-review under responsibility of the organizing committee of MTIP2016

*Keywords:* Technical translation for PhD students; foreign language proficiency; higher education; modernization of educational programs.

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### 1. Introduction

As English became the universal language in the 21<sup>st</sup> century, most scientific research is being written in English. Scientific knowledge needs to be distributed as quickly as possible with regard to increasing a researcher's rate of citation and his/her recognition in the global scientific community. However, writing a good paper requires not pure writing skills but translation skills as well, even as from a foreign to a native language and vice versa. Long observations showed that translated texts are very vulnerable for inaccuracies and deviations in data and terminology that raises the problem of translation quality.

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Attempts to find the solution to this problem led to the assumption of the necessity to include, along with traditional language activities, translation practices into a compulsory language course intended for PhD students. Besides, a shift to a three-tier system of higher education (bachelor-master-doctor) brings about the necessity to develop new approaches to language training, as well as updating the content of language courses, irrespective of the level of students' language proficiency at the university. For this undertaking thorough reviewing and overhauling programs and syllabi, which are currently in use, is indispensable.

A few years ago the Russian Federation adopted a series of core policy documents, including doctrines and projects determining goals, principles and deadlines of activities geared to improve the quality of higher education (HE) in the country. Unfortunately, they do not much address the problem of language training or language proficiency, which seems to be particularly important considering the dominating role of international integration ("Road map", 2015; "The concept of a state policy", 2002; "The basic directions", 2010).

This paper examines the current situation seeking to analyze available educational programs for first-year PhD students with respect to program's compatibility with professional needs of the target group, i.e. future researchers. The methods applied involve (1) student and teacher survey to identify the needs of program graduates and (2) a correlation analysis to examine the content of FL courses within technical PhD programs. The paper also proposes reallocation of contact hours and inclusion of translation skills in a list of desired learning outcomes for FL courses, which will provide ameliorative interference to allow universities to get closer to the objectives set.

## 2. General structure of language training at universities

By way of introduction we would go as far as to provide some background information on the origin of the topic under consideration. This would allow us to have a better understanding of the place taken by Foreign Languages within the entire language training hierarchy at the university and the goals to be achieved (only technical universities will be considered during the analysis).

Thus, learning foreign languages at the university is an integral component in the training of wide-profile specialists, who are expected to achieve such level of language proficiency that would enable them to continue their education at any university worldwide. This is one of the requirements specified by the State Educational Standard ("Bazovaya rabochaya programma", 2016; Ter-Minasova (Ed.), 2009). Most Russian universities assume the level not lower than B2 that is fully set out in the Common European Framework of Reference for Languages as an achievement benchmark ("Common European Framework", 2002).

Then, in order to achieve these objectives, HE in Russia is mainly based on a linear model, and that starts by delivering some basic linguistic competences to develop communicative skills required to participate in professional communication. Overall, we need to note that despite being almost similar, final specific requirements for students' outcomes within every educational program are determined by every university independently. Besides, the university decides on approaches and strategies to achieve it. Therefore, all this results in a great variety of language courses, which, as a whole, can be considered a positive impetus to improving the overall university language proficiency.

The system of language training is shown in Fig. 1.

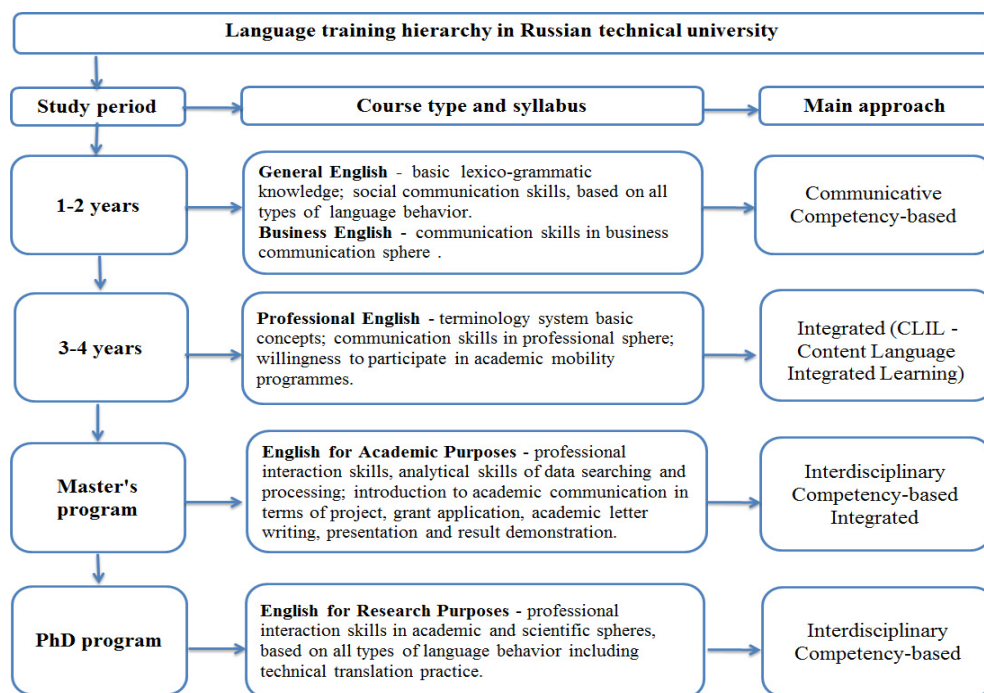


Fig. 1. Language training hierarchy in Russian technical universities.

The hierarchy is seen rather coherent and well-tailored, and appears to contribute well to achieving the objectives established. At the same time, we have to admit that graduate students still lack the ability to fully integrate into the global academic and industrial environment, which cannot but slow down the pace of economic and social development in the country.

This is caused by many reasons ranging from historical background to psychological rationale. However, the mismatch between school and university education is highlighted as the main reason. The “entrant requirements” specified by the university programs are referred to A2-B1 level, which ensures effective communication in everyday situations in various contexts (“Common European Framework”, 2002). Nevertheless, the level of language proficiency demonstrated by the entrants basically remains lower than required. Since the “entrant requirements” are not met, the whole system fails and universities have to eliminate the negative effects by taking on-the-spot measures like expanding the students’ exposure to language use, developing more flexible approaches and creating quasi immersive environment through English mediated events and communication beyond the classroom.

### 3. Language training within PhD programs

The basic guidance document specifying the list of requirements for PhD examination in a foreign language course was approved by the Higher Attestation Commission of the Russian Ministry of Education and Science (Khaleeva (Ed.), 2004). The completion requirements can be stated as follows: “Students must acquire language proficiency related to the corresponding spelling, pronunciation, vocabulary, grammar and knowledge in stylistics, as determined by the program, and use them adequately in different types of communication, both orally and in a written form.”

Hence, post-graduates studying English are expected to improve the language proficiency in different types of communication that facilitate the development of students’ abilities to:

- have no difficulty reading original texts related to specific areas of knowledge;
- draft a summary or translation of information derived from various foreign sources;
- communicate on the subjects within the professional area (Khaleeva (Ed.), 2004).

The document also provides the specification of language proficiency reflected in basic language skills particularly writing, reading, listening, and speaking. The students’ progress is further assessed through the PhD examination which consists of *two parts*.

The *first part* implies translating a scientific article related to the professional area of about 15,000 symbols in length into a source language. Candidates for PhD studies are eligible for the second part of the examination provided they have successfully completed the first part.

The *second part* consists of oral tasks, namely, reading for details, which implies reading an original scientific article containing 2,500-3,000 symbols related to the professional area, and speaking covering communication or discussion issues pertaining “doing a research”.

Now let us dwell upon such dimensions as translation and interpreting which, admittedly, both play a significant role in post-graduate studies according to PhD requirements profiled by the program. If successful in fulfilling the required task, candidates can be accepted for further assessment procedures. According to the program, translation competences include the following: “Translation and interpreting from the foreign into the students’ native tongue can serve as a means of language acquisition, a tool fostering the development of reading skills and the most effective way to evaluate the capacity and accuracy of the information to be digested. Key translation competences are normally based on the awareness of scientific functional style and translation studies comprising the concept of translation and some key translation techniques like translation equivalence, transformations, compensation, translation shifts, polysemy, false friends of a translator, etc.” (Khaleeva (Ed.), 2004).

Besides, student and teacher survey aimed to obtain justified data on various foreign language skills required for PhD students indicate that the stakeholders recognize the significance of technical translation and reading skills as shown in Fig. 2. The interactive survey was responded by 298 stakeholders from different Russian regions, including PhD students – 83% and university professors involved into teaching in the current year – 17%.

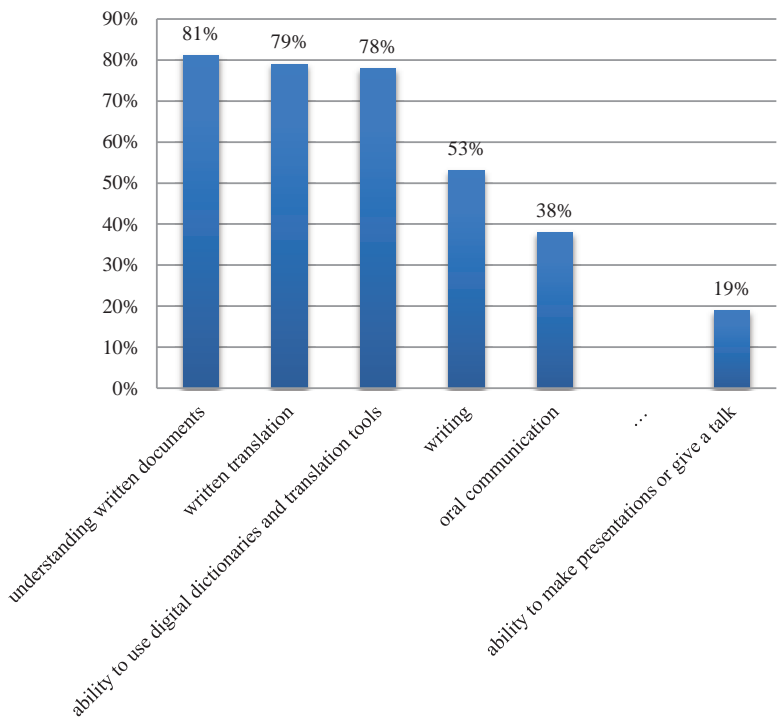


Fig. 2. FL skills required for PhD students.

#### 4. Translation practices and their value for language proficiency of PhD students

What seems clear, with all the above-mentioned observations and indicators, is a certain discrepancy from the point of didactic principles, challenging the credibility and, most importantly, feasibility and consistency of the learning contents proposed. The truth is that translation practices, as they are, and, hence, the outcomes reflecting translation skills of students have not been so far included into language training programs (“Bazovaya rabochaya programma”, 2016; Ter-Minasova (Ed.), 2009).

This might be owing to the fact that many linguists do not classify *translation* as one of the language skills referring to it as to a “specific bilingual skill” or “secondary communication skill” (Schäffner & Adab, 2000). Anyway, these are the language skills that are indeed rather complex as they imply processing and encoding the information received and transferred. As compared to receptive skills, which fall within listening and reading, as well as expressive skills, which encompass speaking and writing, translation activity is both receptive and expressive. It is based on the set of mental processes varying from semantic knowledge and critical analysis to creative thinking and decision-making (Coban, 2015).

Thus, there is no doubt that it is necessary to assist researchers in developing and enhancing their translation skills, for those to seek for help from professional translators in most cases is not applicable, mainly due to high price and time constraints. The need for translation skills and, therefore, practices can be easily confirmed by the increasing number of job-related situations where PhD students have to apply the knowledge of a language and have to position themselves as full-fledged communicators. This can include writing scientific articles, gathering information necessary to carry out a research, participating in various scientific events and activities both national and international, etc. These considerations emphasize the need to develop translation skills both from the foreign into the native tongue and vice versa.

##### 4.1. Translation challenges while solving communication tasks

When it comes to academic journals, particularly those published in countries where the primary language is not English, almost all of them open the access to papers typically written in compliance with grammar rules and style of scientific writing in English but, at the same time, dismissing basic translation strategies. We shall support this by providing some examples which show fairly good grammar skills, on the one hand, and poor translation competences, on the other hand.

**Example 1:** The article is devoted to *the study* of students’ *digestion quality* influenced *by different forms of educational material* in class (text, schemes or *comics*) by means of multimedia presentation. The participants were students of *Science, Humanities and physical-mathematical specialties*. Significant differences were revealed in digestion of *educational information* between *students of different specialties* depending on presentation forms.

As seen in the example, the annotation, on the whole, contains neither grammar nor vocabulary mistakes, with a very few exceptions, as opposed to its readability and layout. Thus, some words, rather randomly, are capitalized, while others are not; the sentences are too long and difficult to understand without reading them several times; some lexical items are not context-sensitive. More successful translation might be seen as the following.

**Example 2:** The article investigates the influence of multimedia presentation of learning materials (texts, diagrams or cartoons) on the quality of their digestion by students of natural sciences, humanities, physics and mathematics. The study proves a strong correlation between the presentation form and uptake of educational information in different study areas.

Based on a language teacher’s experience, we can draw a conclusion that the most common mistakes made by a Russian speaker using English are as follows:

- Constructions typical of the source language, rather than the target language, e.g. *Has no any attitude to* ..... which corresponds to the English *regardless*;
- Vocabulary errors resulted from improper word choice, e.g. *To carry out experience* – to carry out scientific procedures, tests (*experience* is used in its direct, literal meaning) → in this case it is correct to use *experiments*

not *experience*; **any changes of any size** – any changes of any numerical amount, quantity → *values, variables* would be more relevant than *size*; **important opening** – important scientific fact that no one knew about before → such English equivalents as *discoveries, results* will sound more natural;

- Impersonal sentences – **the speed of ..... Name a current** → it is required to use the passive voice as well as a different verb, e.g. *The speed of ..... Is called a current*;
- Translation of terms made up of several words, e.g. **Test on the growth of knowledge** – knowledge development is under the assessment → *progress test*;
- Incorrect word order – **experiments, which have shown, were necessary** → *experiments were needed to show, we needed the experiments which showed...*;
- Translation of phraseological units, e.g. **Decision of the problem** → *problem solution* (Tomin, 2015).

As with difficulties arisen in translation from the target into the source language, they are less frequent, particularly given that a person responsible for translation is, at the same time, a subject-matter specialist. Though, there is a great deal of examples which suggest the need for translation competences. The style of many scientific and technical documents, for example, tends to be rather concise and clear. Besides, it is particularly distinguished for using a great number of elliptical constructions, or simply, ellipses. Their wrong interpretation often entails mistakes in translated texts. Faced in a text with such phrases as “remote crane” or “liquid rocket”, a translator is to immediately recognize types of ellipses, namely “remote-operated crane” and “liquid-fuelled rocket” (James, 2013).

These examples reflect the peculiarities encountered in translating texts from one language into another, and are considered just a tiny part of a huge scientific area, called translation. Therefore, it is rather challenging, even for language universities, to master translation techniques and strategies to the full extent. In fact, inadequate command of technical translation could be one of the biggest obstacles impeding the effective professional communication (Mammino, 2010). Those who lack the ability to translate technical texts, mainly considered in the article, are unlikely to be able to solve professional tasks effectively.

## 5. Course content

There is an open-ended question, then, as to what exactly to include into the course or a single module devoted to technical translation, proceeding from the number of hours allocated to the English language within a PhD program, and each university takes the final decision on the individual basis. It all depends on students’ initial level of language and their real needs to learn it. There is no doubt, whatsoever, that a specialized translation course along with relevant translation practices are no longer a luxury, but the necessity arisen from technical students’ priorities. What is more, subject to current language tasks, translation should no longer be regarded a mere second-class tool for grammar and vocabulary acquisition (Belcher, 2006) but as the main component amounted to PhD language proficiency. This idea can be depicted by Fig. 3.

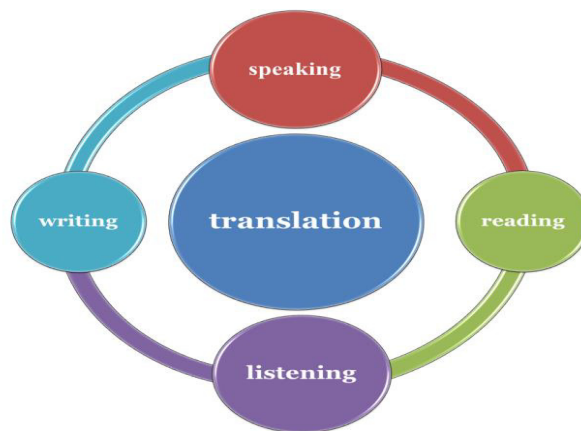


Fig. 3. PhD language training model.



It would be a good idea to allocate the overall number of contact hours in the course according to the indicated language activities with particular attention to translation as a major language skill: translation – 30 hours, reading – 20, writing – 20, speaking – 20 and listening comprehension – 10.

It is also important to include computer-assisted translation module into specialized translation courses. It is supposed to deal with various modern tools employed to support and facilitate the translation process in order to assist human translators. It will also touch upon a wide range of online dictionaries, text corpora and interactive machine translation software. Our own experience has shown that a modern student most frequently uses just two of the vast array of resources available today, in particular ABBYY Lingvo and the Google translator. This might happen due to the lack of any other high quality translation demand that is equal to the real need for efficient communication (Koehn, 2009).

## 6. Conclusion

In view of the aforesaid and based on our prominent teaching practices gained at the technical university, it is worthwhile to emphasize the necessity to integrate translation practices in the first years of study, which would provide students with more learning material and profound knowledge in the final years at the university. Moreover, people in charge of educational programs need to assist their staff in acquiring additional competences from other knowledge domains to create all prerequisites for higher quality and more effective outcomes.

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