

Review research paper

## POSSIBILITIES OF IMPROVING READING OF SUBJECT-SPECIFIC TEXTS

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**Abstract.** *In their future professional career the non-philological universities' graduates will undoubtedly encounter the necessity of reading technical texts in a foreign language. Utilising the basic knowledge in linguistics, they should be able to orient easily in the text and context, use prediction, comprehend the texts without the word-by-word translation, as well as be aware of making use of various progressive reading techniques, if necessary and if useful. The author carried out a quantitative and qualitative research at three Slovak non-philological universities with the sample of 300 respondents. The research proved our anticipations that the situation regarding the university students' reading skills level is quite serious and that the improvement in this field is possible in a short time period.*

**Key words:** *reading skills, subject-specific texts, reading techniques, linguistics knowledge*

### 1. INTRODUCTION

Nowadays, nobody would doubt the fact that reading skill is an essential skill which should not be understood only in its limited range, i.e. that a person reads the texts comprised of words, sentences and paragraphs. A member of the current knowledge society in this millennium is aware of acquiring new information or knowledge via reading, thus numerous countries pay attention to the reading literacy of their pupils and students not only in their native language but in foreign languages, too.

Reading may seem to be the simplest language skill, and therefore it is frequently massively underestimated. If we consider reading to be an interaction of a reader and a text, then in the foreign language several other factors play the role: e.g. mother tongue competence acquired (linguistic knowledge – morphology, lexicology, syntax or stylistics), which are supportive in understanding the foreign language structures and specific knowledge background. The differences between the mother tongue and foreign language are significant as well (e.g. in the case of very different language families). The author does not want to advocate English as the No. 1 foreign language, nevertheless, and some might not like it, English has become *lingua franca* of the scientific research and academia. Therefore, mastering it and mastering the specific language skill required is the prerequisite of a successful scientific or academic career.

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A technical university graduate will frequently encounter technical texts written in a foreign language in their professional career. Utilising the basics of linguistics, they should easily orient in the text and context, they should know how to utilise prediction and master the word-by-word translating of irrelevant parts to appropriate estimation of the unknown words. Besides, they should be capable of making use of various progressive reading techniques.

The author carried out a quantitative and qualitative research at three Slovak non-philological universities with the sample of 300 respondents. The research proved our anticipations that the situation regarding the university students is serious. The students read little, they are frequently superficially interested in the content of the reading material, and, in addition, they have no or very low linguistic knowledge which could be used for better reading comprehension. The research also proved that the improvement in a short time period – two months – is possible. After the training in formal and content text structuring, training in an appropriate estimation of unknown word meaning and training in reading techniques, the reading skills of the respondents improved significantly.

## 2. THEORETICAL BACKGROUND

Taking the opinions of many linguists into consideration, reading cannot be precisely defined. According to Grabe (1991), reading is a selective process between the reader and the text, where the reader applies their general knowledge as well as knowledge of the language itself. For Goodman (1982), it is a psycholinguistic game, for Smith (1978) it is the use of visual information (text) and non-visual information including language comprehension, familiarity to the topic, reading skill, and general knowledge. Alderson (2005) considers its precise definition impossible since the text the reader reads inevitably relates to the fact how they read it – to mention just a few linguistic opinions. The author is the most in line with Alderson and Urquhart's (1989) description: reading is a complex interdisciplinary cognitive ability involving language, psychological, sociological, information and communication aspects. Considering the approach to reading, the linguistics distinguishes two basic divisions of models of reading. The first one mentions psycholinguistic, schematic, language-oriented, and cognitive; the second division mentions bottom-up theory, top-down theory and an interactive school. The last one which says that both theories are used in the reading process is supported by the majority of linguists nowadays and corresponds with author's practical experience as well. We know, that it is necessary to make a distinction between the process of reading and the result of that process, the product (Alderson, 2005), as there is the interaction between a reader and the text which is likely to be dynamic, variable, and different for the same reader on the same text at a different time or with a different purpose of reading. The process of reading is influenced by three factors: readers, text and their interaction. Reading in foreign language shares some similarities with reading in one's native tongue, nevertheless, reading of a scientific text or subject-specific text could be different. We can process the scientific text more effectively with the use of the reader's knowledge of the models of reading, the reader's linguistic knowledge, lexical predictions, progressive reading strategies, and an appropriate text selection.

It is necessary to mention the factors influencing reading: the reader, text, and the interaction of the reader and the text. Regarding reading in foreign language, we have also considered: *knowledge level* and orientation at the time of beginning reading in foreign language, *acquired mother tongue level* – reflecting the transfer of reading skills,

knowledge of structures in native language, acquired foreign language level as it influences the choice of the texts for reading and purpose of reading, difference between mother tongue and foreign language, cultural background, reading strategy used in mother tongue, reading strategy used for reading in foreign language, cultural precocity and attitude to the reading process, knowledge of various formats and registers, and the background knowledge of the topic.

When speaking about reading, it is not possible to omit the term of context, or extra-textual components as they play an important role in processing specific information. Comprehension of a specific text information in detail and as a whole can be done only by a reader knowing not only language, but also possessing general encyclopaedic knowledge background and the specific domain knowledge. Going deeper into the topic, we should mention co-text and pretext. The explanation found in Oxford Reference reads that co-text means the words surrounding a particular word or passage within a text that provide context and help to determine meaning. The term co-text is mentioned also by Widdowson (2004) who highlighted distinctions between the internal *co-textual relations* which can be semantically outlined within a text, and the *external contextual relations* that have to be accounted for in apprehending their pragmatic meaning. The term *pretext* according to Widdowson (2004, 75) generally refers to an ulterior motive: "...our understanding of a text, its realization as discourse, depends on the degree to which we can ratify the linguistic and contextual knowledge that its author presumes we share". As Jordan (1997) mentions, reading – as cited from self-assessment or questionnaires-based surveys – is for students the skill causing the least difficulty. This information might be misleading as it is exactly the reading skill in which the students are not aware of their imperfections. This was also the main reason why the author carried out the following research to find whether this underestimated skill can be improved.

You may agree or not, but it was mainly *English for Science and Technology* (EST) which was the site for creating the foundations of English for Specific Purposes in reading instruction and research. To make it short, when reading a subject specific text we should consider its syntactic structure, paragraphs, utilisation of aforementioned reading models, lexical knowledge, reading techniques and strategies, an appropriate text selection, and potential troubles and mistakes in reading.

### 3. METHODS

Prior to the research itself, the author asked several research questions and defined three hypotheses. For the purposes of the contribution, the author mentions only two of the research questions and one hypothesis.

For the answers to research questions the author used the direct research method – a questionnaire and the replies are evaluated in graphs. The questions were as follows: Research question No. 1: *Do the students of the faculties involved in the research consider their reading skill as a sufficiently developed skill?* Research question No. 2: *Do the students of the faculties involved in the research identify any difficulties or bad habits in their own reading skills?* The hypothesis stated was as follows:

Hypothesis 1 (H1): It is assumed that the readers who have the knowledge of formal and content text structures can perform better in the reading process than the ones who lack that

knowledge. The author aimed at proving that the aforementioned knowledge in text structure can ease as well as shorten the reading process and improve the students' reading skills.

The author was convinced that the reading skills development was a bit underestimated and neglected in favour of other, mostly speaking skills. In her opinion, a short training built on reading techniques and strategies, estimation of unfamiliar words via known derivations, prefixes, and suffixes, and on the basic knowledge of text formal and content structure could significantly improve and accelerate the reading process of university students.

In the research the author used: *direct research methods* (a questionnaire for students, an interview for the English practitioners, tests for students and observations of reading skills progress in the process of aforementioned training for reading skills development), and *indirect research methods* (classification and analysis of obtained materials, generalisation of obtained data on the basis of own pedagogical experience). The results were processed by the means of a quantitative method, in the form of tables and graphs as well via statistical analysis.

The *main research subjects' sample* consisted of the students of two faculties in Trnava: 1) Slovak University of Technology, Faculty of Materials Science and Technology (STU MTF – 102 students), 2) Trnava University, Faculty of Law (TU PF – 103 students). For better results processing and comparison, the author randomly excluded two students of STU MTF and three students from TU PF, so that the number of 100 students was equal and easily comparable. The research sample was chosen with regards to the majors, the author assumed that STU MTF students would be technically oriented and oriented more on science, whereas TU PF students would be focused more on humanities, so the differences in some areas were anticipated.

The *comparative subjects' sample* was represented by the students of two faculties from Trenčín: Trenčín University of Alexander Dubček in Trenčín, Faculty of Social and Economic Relations (50 students) and Trenčín University of Alexander Dubček in Trenčín, Faculty of Mechatronics (50 students). The other subjects of the research sample were represented by the English teachers of all faculties in question. In addition, the author studied, analysed and compared the pedagogical documents (curricula and syllabi for the particular semester, as well as teaching objectives of individual lessons), prepared tests which were applied before and after the implementation of training and activities for reading skills development, questions for interviewing the English teachers at related faculties, and a questionnaire for students.

#### 4. RESULTS

The research procedure was divided into three stages: in Stage 1 (the preparation stage) all the materials for direct research methods (questionnaires, tests, and questions for interviews) were gathered, and the pedagogical documents obtained from the faculties analysed. A set of exercises and activities for reading skills training were prepared, too. In Stage 1, the students were tested to find about their level of reading skills.

In Stage 2 the author together with the English practitioners applied the aforementioned methods and activities for the reading skills development, via appropriate specific texts selected so that they correspond with the study programme in question. The author herself carried out the training at two Trnava faculties and monitored the process of reading skills development in Trenčín faculties. The English practitioners involved in the research utilised

mostly the following methods for reading skills development: reading comprehension, reading and follow-up questions, and reading and translation. Reading of the input text usually took from five to ten minutes, and the follow-up activities ten to fifteen minutes. The rest of the lesson was allotted to the training of another skills – speaking or writing. This means that there were very few lessons which were only about the reading skills development, and as reading would be a key skill for many students in their future professional career, the author also adjusted the proposal for reading skills training appropriately. The implementation of the methods for reading skills development was carried out through two months of the summer semester. The author was in constant personal mail or phone contact with her Trenčín fellow teachers so that the process could be monitored and possible drawbacks eliminated. The following sources together with author's long year pedagogical experience were used: F. Grellet, J. Bamford, R. R. Day, B. M. Smith, E. Spargo, B. Hamilton Pryce, B. M. Smith, and own materials.

In the last Stage 3 the author utilised prepared tests to show the anticipated progress in the reading skills development as well as a questionnaire for the students to get their feedback about their own reading skills, the training, and their progress during and after the implementation of the training for reading skills development. The tests results were evaluated, analysed and compared with the test from Stage 1. Similarly, the information obtained from students' questionnaires and interviews with the English teachers at the faculties involved in the research were evaluated. Regarding the results and generalising own pedagogical experience, the author prepared the benefits applicable not only at STU MTF, but at other faculties (and possibly at secondary educational institutions) as well.

It is not possible to mention all the most interesting results, so the author will mention just several of them, particularly those related to the aforementioned research questions and hypothesis. Firstly, the author asked about their relationship to reading which was answered positively by almost all respondents, although, the students of the Faculty of Law were the ones, who had the strongest relationship to reading, which was quite understandable as their study profile required a lot of reading. Regarding the students' opinion which language skill they considered the most important, the research results were quite similar. The students did not distinguish – or they did not know – which language skill would be essential for their future career, and they assigned that all skills are important. According to them, the speaking skill was the second in relevance. The most interesting result for the author herself, was the fact that the students considered the reading skill as the least important which corresponded with the author's anticipation that the reading skill was underestimated.

The next questionnaire item aimed at being aware of having some imperfections in own reading skill. The students' replies were mostly in the field of answers *slightly disagree* and *disagree* – they thought their reading skills are sufficiently developed and did not need further development or improvement (as shown in Fig. 1).

This students' persuasion had dramatically changed after writing Test 1, when they realised they were wrong. As seen in Fig. 2, the students' opinion on whether they were aware of having imperfections in their reading skills had changed to fields *Agree* and *Slightly agree*. This means that the students were ready to accept the fact that a training focused on their reading skills development is more than necessary.

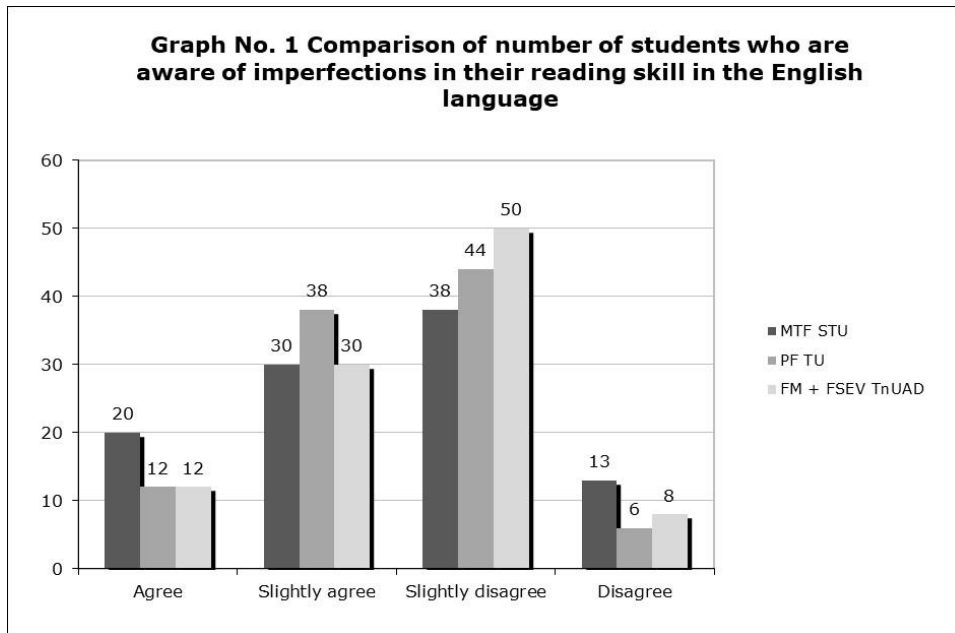


Fig. 1 Comparison of students' awareness of imperfections in their reading skills in English

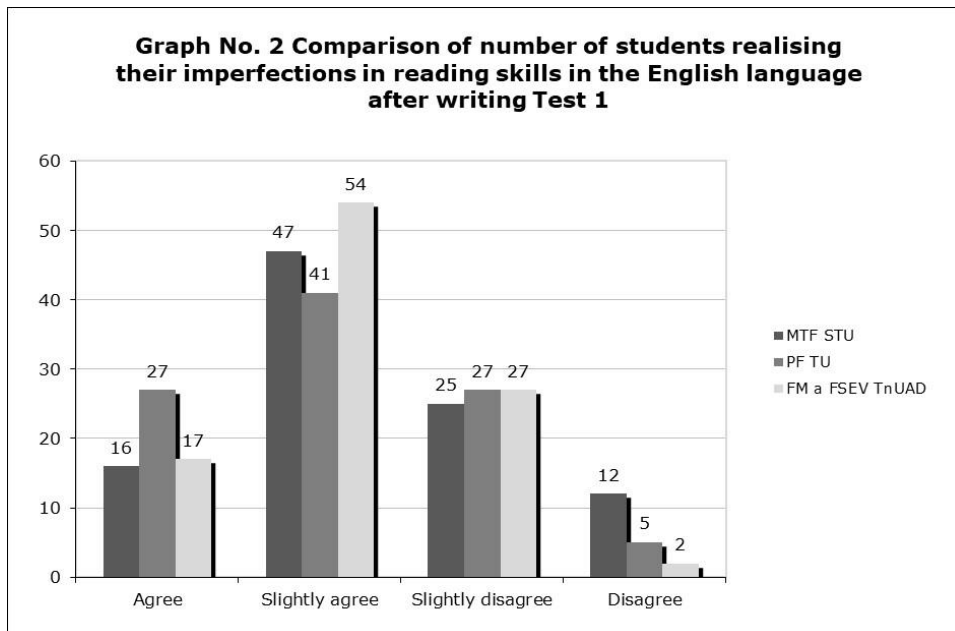


Fig. 2 Comparison of students realising imperfections in reading skills after writing Test 1

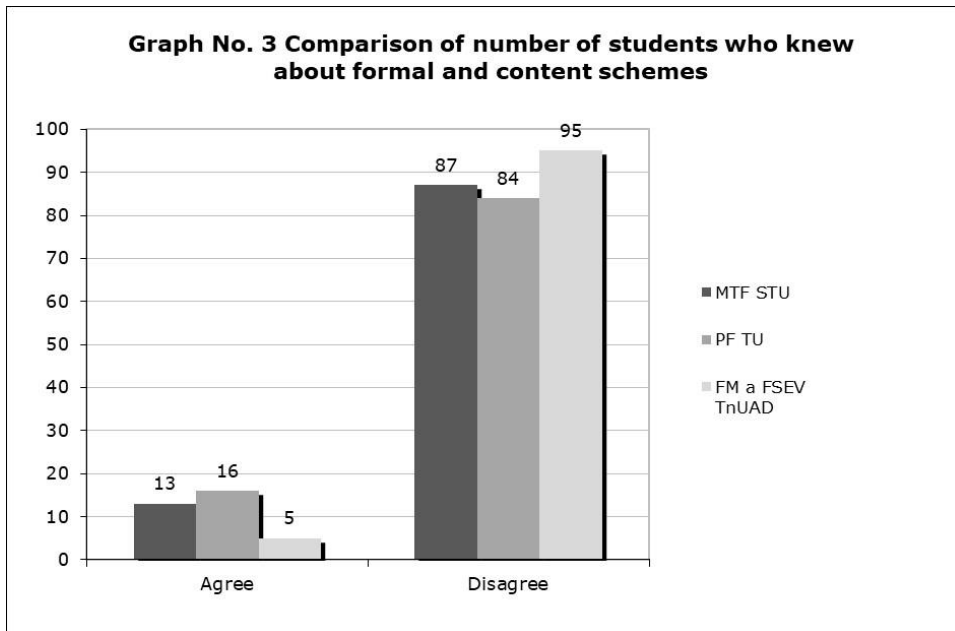


Fig. 3 Comparison - students having knowledge of formal and content text construction

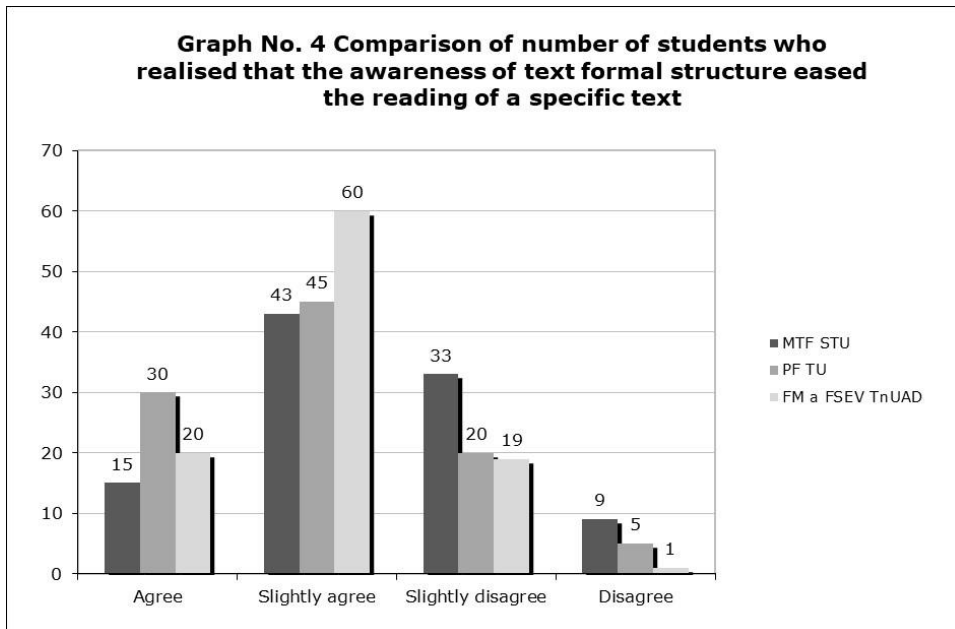


Fig. 4 Comparison of number of students appreciating knowledge in formal text structure

The further questionnaire question focused on having knowledge of formal and content text structures in various genres. Here the students replied they knew nothing or a very little. As shown in Fig. 3, in the field *Disagree* we can see that 87 STU MTF students, 84 students of the Faculty of Law and 95 students from Trenčín faculties replied they had no knowledge of how the text is structured in terms of its format and content, i.e. they had almost no knowledge in how the text is built, and hence, they were more receptive to obtain more knowledge in the field.

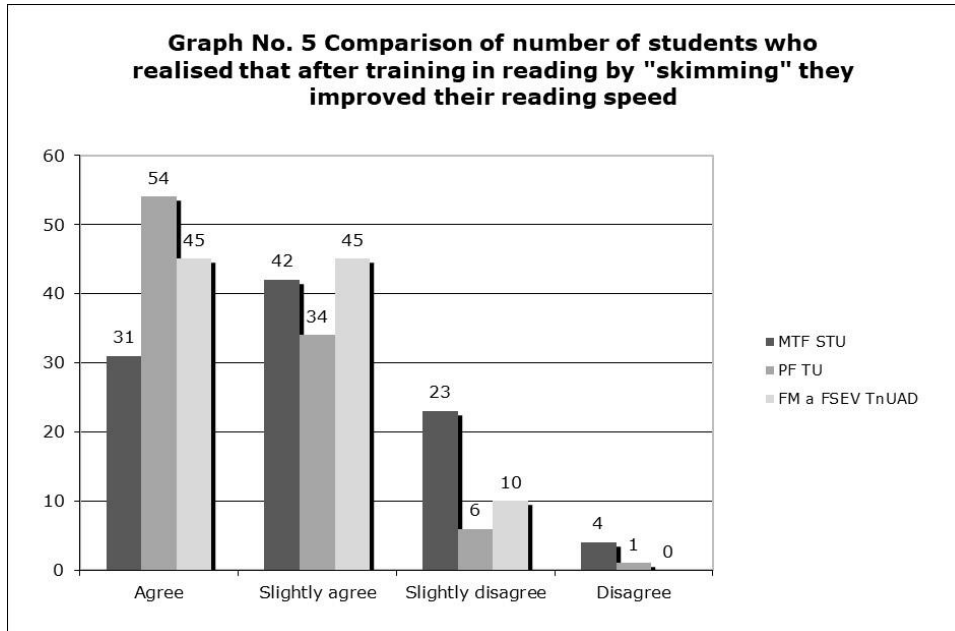


Fig. 5 Comparison of number of students who realised improvement of their reading speed after training by 'skimming' reading technique

After the training, as the students passed through Test 2, they realised that having knowledge in formal and content text structure could significantly ease reading of almost any specific text. The graph in Fig. 4 illustrates that the majority of respondents' replies were in the field of *agree* and *slightly agree*, i.e. they realised that the knowledge of the formal text structure – particularly knowledge of the genre varieties – really allowed them to read more effectively (58% - STU MTF, 78% - TU PF, and 80% TnUAD FM/FSEV).

The last graph points out the following situation: after the training, which included exercising of reading techniques, the students had changed their answers, they realised that the skimming reading technique could ease the reading of texts significantly.

Finally, after the training and passing the Test 2, the students were asked whether they became interested in their reading skills development and the results were (61% STU MTF students, 70% TU PF students, and 67% TnUAD FM/FSEV students replied positively), that many of them began to be more interested in reading as a skill. This also proves the author's opinion that a short training could change the students' attitude to the skill, not to underestimate it, but subsist on its constant development.



#### 4.1. The research questions

Regarding the aforementioned research questions, the answers to the research questions No. 1 and No. 2 are clear – the students thought their reading skills are sufficiently developed, and were not aware of having any imperfections in their reading skill. This means that the author came out from a reasonable anticipation that this language skill is underestimated and the continuous development of their own reading skills is more or less neglected.

#### 4.2. Verification of hypotheses

The author considered Hypothesis 1 as the most important and at the same time the most difficult to train and then prove. According to statistical analysis in which chi-square was used to identify the change, it was proved that the knowledge of formal and content structure of the specific text has a statistically significant influence on text comprehension and speed of reading, i.e. Hypothesis 1 was confirmed.

### 7. CONCLUSION

Nowadays, the English language has increased its power as a tool in professional communication, therefore, it is necessary to focus the attention on the students' specific needs of particular skills development. The students of technical and other non-language universities should have the possibility to develop those skills in particular – either listening, speaking, writing, or speaking – that they will need and preferably use in their future career. The technical universities graduates are expected to use reading skills very often in their jobs as they have to be in continuous contact with latest technology development and here, an enormous portion of specific literature (research results, conference proceedings, and specific journals) is available only in foreign language – in our case English. Nevertheless, in the author's opinion, all university graduates will sooner or later need to work with a text in foreign language and be competent readers, i.e. be able to realise how the text is built, understand special terms without the help of a dictionary, or use various reading techniques (e.g. scanning, skimming and surveying) for faster information acquisition.

As found by the research, the reality at the sampled faculties was different, students-readers did not know many reading techniques, they read slowly, some of them even partially aloud, focused on word-for-word comprehension, relied on dictionaries, and did not know what the formal and content text structures were. This meant that the reading process took longer, the information acquisition was limited, and the comprehension of the complex texts improbable. The research has also proved that the improvement of students' reading skills is possible in a short time if their reading skills are appropriately trained and developed.

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