Розділ 3. Прикладні соціокомунікаційні технології
(Part 3. Applied Communication Technologies)

https://doi.org/10.31516/2410-5333.069.11[1]
УДК 02:004.9:378.147

O. Tur
Doctor of Sciences in Social Communications, Professor, Professor of the Department of Humanities, Kremenchuk Mykhailo Ostrohradskyi National University, Kremenchuk, Ukraine
oktur@ukr.net
https://orcid.org/0000-0002-8094-687X

V. Shabunina
Candidate of Philological Sciences, Associate Professor, Associate Professor of the Department of Humanities, Kremenchuk Mykhailo Ostrohradskyi National University, Kremenchuk, Ukraine
shabuninaviktoria@gmail.com
https://orcid.org/0000-0001-7957-3378

V. Sarancha
Candidate of Historical Sciences, Associate Professor, Associate Professor of the Department of Humanities, Kremenchuk Mykhailo Ostrohradskyi National University, Kremenchuk, Ukraine
visar73@ukr.net
https://orcid.org/0000-0001-9435-0615

IMPROVING SCIENTIFIC TEXT COMPREHENSION SKILLS OF THE STUDENTS OF THE SPECIALITY B13 "LIBRARY, INFORMATION, AND ARCHIVAL AFFAIRS" WITHIN A DIGITAL INFORMATION ENVIRONMENT

The modern information society is characterized by a rapid growth in the volume of scientific knowledge, intensive transformation of the formats of its presentation and the spread of digital communication technologies. These processes fundamentally change the approaches to the processing of scientific information, requiring from specialists in library, information and archival affairs a sufficiently high level of information culture, the ability to critically, analytically and interpretively process scientific texts. In these conditions, the skills of analyzing and interpreting scientific texts become not only an element of academic training, but also a key component of the professional competence of future specialists in the information sphere. It is important for students of the B13 specialty not only to understand the logic and structure of scientific discourse, but also to be able to work with digital repositories, electronic scientific journals, databases, scientometric analysis systems, and also to interpret information in an interdisciplinary context. This requires developed skills in critical reading, semantic analysis, identifying main and secondary meanings, comparing data and checking their reliability.

The article describes the main conditions and means of improving the skills and abilities of understanding an educational text in future specialists in library, information and archival work, taking into account their cognitive characteristics. The content of the concept of "understanding the text" is specified. Subjective and objective factors that influence the process of understanding an educational text by students are characterized. The level of formation of cognitive operations of understanding the text in students of the specialty B13 "Library, information and archival affairs" of Mykhailo Ostrohradskyi KrNU is determined. A set of practical tasks has been developed aimed at improving the verbal and conceptual thinking of applicants, the ability to understand the educational text taking into account their cognitive and stylistic features, students' mastery of self-control skills in information assimilation, etc.

The purpose of the study is to determine, substantiate and characterize effective conditions and means of improving the skills of analyzing and interpreting scientific texts in applicants for the specialty B13 "Library, information and archival affairs" in the conditions of the digital information environment.

The methodology. In work we've applied both general scientific and special methods, such as: theoretical analysis and synthesis, comparison, generalization, classification, pedagogical observation, descriptive method, method of expert assessments, as well as statistical methods.

The scientific novelty lies in clarifying the content and criteria for understanding educational and scientific texts, identifying factors that influence this process, as well as in developing a set of exercises to improve the skills of interpreting texts among students of specialty B13 in the digital information environment.

The practical significance of the study lies in the possibility of using its results during the professional training of students of specialty B13 "Library, information and archival affairs" in order to effectively develop the skills of analyzing and interpreting scientific and educational texts in the digital information environment.

Prospects for further research are seen in an in-depth study of the problem of forming skills in analyzing and interpreting scientific texts in applicants for the specialty B13 "Library, information and archival affairs" taking into account dynamic changes in the digital information environment, as well as further analysis of the impact of various types of digital scientific resources, in particular electronic journals, open access repositories, bibliometric and scientometric platforms, on the level of critical understanding of scientific texts.

Keywords: *educational text, perception skills, cognitive and stylistic features, B13 "Library, information and archival affairs", course "Ukrainian language (for professional purposes)".*

О. М. Тур
доктор наук із соціальних комунікацій, професор, Кременчуцький національний університет імені Михайла Остроградського, м. Кременчук, Україна

В. В. Шабуніна
кандидат філологічних наук, доцент, Кременчуцький національний університет імені Михайла Остроградського, м. Кременчук, Україна

В. І. Саранча
кандидат історичних наук, доцент, Кременчуцький національний університет імені Михайла Остроградського, м. Кременчук, Україна

УДОСКОНАЛЕННЯ НАВИЧОК СПРИЙНЯТТЯ НАУКОВИХ ТЕКСТІВ У ЗДОБУВАЧІВ ОСВІТИ СПЕЦІАЛЬНОСТІ В13 «БІБЛІОТЕЧНА, ІНФОРМАЦІЙНА ТА АРХІВНА СПРАВА» В УМОВАХ ЦИФРОВОГО ІНФОРМАЦІЙНОГО СЕРЕДОВИЩА

У статті розглядаються ключові умови підвищення здатності студентів спеціальності В13 «Бібліотечна, інформаційна та архівна справа» ефективно розуміти навчальні тексти, з особливою увагою до їхніх когнітивних характеристик. У дослідженні визначено поняття розуміння тексту та основні критерії, що використовуються для оцінки опанування студентами навчальних матеріалів. Окреслено фундаментальні характеристики тексту як лінгвістичної та інформаційної одиниці, а також визначено головні особливості й функції навчальних текстів. У розвідці також аналізуються як суб'єктивні, так і об'єктивні фактори, що впливають на процеси розуміння тексту студентами. Крім того, оцінюється рівень розвитку когнітивних операцій, пов'язаних з опануванням тексту, у студентів програми В13 «Бібліотечна, інформаційна та архівна справа» Кременчуцького національного університету імені Михайла Остроградського. На основі отриманих результатів пропонується структурований комплекс вправ, спрямований на розвиток вербального та концептуального мислення студентів, поліпшення їхньої здатності розуміти навчальні тексти відповідно до індивідуальних когнітивних і стилістичних відмінностей, а також розвиток навичок саморегуляції засвоєння інформації.

Ключові слова: *навчальний текст, навички розуміння, когнітивні та стилістичні особливості, В13 «Бібліотечна, інформаційна та архівна справа», українська мова за професійним спрямуванням.*

Relevance of the study. The contemporary phase of information society development is marked by a substantial increase in the amount of scientific knowledge, the rapid evolution of its modes of presentation, and the widespread adoption of digital communication technologies. These transformations significantly reshape traditional approaches to the management and analysis of scientific information and impose new requirements on specialists in library, information, and archival fields, including a high level of information culture and advanced skills in critical, analytical, and interpretative engagement with scientific texts of diverse formats. In this context, modern higher education is expected to focus on the preparation of highly qualified professionals capable of creative thinking and effective application of acquired knowledge in professional practice. Such specialists should demonstrate readiness for continuous self-improvement and lifelong learning, engage in innovative activities,

exhibit academic mobility, and possess well-developed intellectual, linguistic, and communicative competencies (Shabunina et al., 2020; Tur et al., 2021).

The ability to analyse and interpret scientific texts has evolved from a purely academic skill into a fundamental component of the professional competence of future specialists in the library, information, and archival fields. Enhancing students' academic performance requires the development of a modern cognitive framework that supports a high level of perception and comprehension of written discourse. The professional effectiveness of contemporary specialists largely depends on their capacity to process textual information and assimilate new knowledge. Given that professional training has become a lifelong process, there is an increasing demand for continuous knowledge renewal and expansion. In this context, the comprehension of written texts constitutes a core element of the educational process, as they facilitate the transformation of acquired information into personally meaningful knowledge.

Statement of the problem. Scientific texts in the digital environment are acquiring new characteristics: multimodality, hypertextuality, interactivity, and variability of access levels. This complicates traditional models of reading and analysis, while opening up broad opportunities for deeper and faster content processing. For students majoring in B13, it is important not only to understand the logic and structure of scientific discourse, but also to be able to work with digital repositories, electronic scientific journals, databases, scientometric analysis systems, and interpret information in an interdisciplinary context. This requires well-developed skills in critical reading, semantic analysis, identifying primary and secondary meanings, comparing data and verifying its reliability.

Reading with comprehension is an important skill for full access to the knowledge society (Hepner et al., 2024). Reading comprehension enables the integration of knowledge, facilitating training processes and helping individuals successfully manage academic and personal situations. In higher education, this skill must equip students with the autonomy to self-direct their academic and professional learning, while also fostering critical thinking for community service.

Recent research review. Reading comprehension plays a central role in the success of higher education. It should be noted that the problems of perception and understanding of written texts by individuals was studied by I. Gudinova, R. Kyrychenko, A. Kovalenko, O. Kruhliak, A. Leontiev, T. Lukashenko, H. Mykytiuk, N. Chepeleva, E. Krivda, L. Hongli, F. Smith, W. Jeffrey, and many others. The correct understanding of a scientific and educational text is influenced not only by its structure, semantics, and language means, but also by the cognitive sphere of the individual. Thus, S. Bondar, Y. Chornenkyi, R. Gardner, P. Honey, A. Mumford, L. Romanovska, S. Symonenko, G. Witkin, and others studied the cognitive sphere of personality in general and the individual originality of cognitive style. The influence of the semantic structure of the text on its understanding is investigated by N. Chepeleva and L. Yakovenko (2011). The insufficient level of students' understanding of a scientific text was pointed out by the researchers (Handayani et al., 2018; Ntereke & Ramoroka, 2017). The idea of the need to improve students' understanding of scientific and

educational texts was also shared by A. Chebotareva (2014) and I. Hudinova (2019). Scholars saw one of the reasons for misunderstanding the content of the educational text in the disordered terminology (Tur et al., 2023). The scientists discussed the problem of teaching modern students some effective methods of comprehension of texts and processing of information contained in them (Hudinova, 2019; Kärbla et al., 2021). K. S. McCarthy and D. S. McNamara (2021) consider prior knowledge to be one of the strongest contributors to text comprehension. Teaching strategies used to improve students' comprehension of scientific texts were studied in the works of M. Ayu (2021), E. N. Al Aziz and G. Yusanti (2020). The criteria and levels of students' comprehension of the educational text were determined by V. Moliako, I. Bila and N. Vahanova (2015), K. de-la-Pena and M. J. Luque-Rojas (2021). Scientists pointed out the close relationship between reading comprehension and academic achievement (Cromley et al., 2010) and emphasised the need to monitor how well students understand the learning information, convincing that this is crucial for their learning behaviour and academic success (Van de Pol et al., 2019).

The aim of the article is to identify, justify and characterize effective conditions and means for improving the skills of analysis, interpretation and comprehension of scientific texts in students majoring in B13 "Library, Information and Archival Affairs" in the digital information environment.

Presentation of the main research findings. In a modern higher education institution, there are various types of student learning activities. Each of them requires students to be able to work with a text and understand its content, i.e. to acquire new knowledge that would reflect the essence of things, combine what they know with what they have just read and transform previous disparate information into a system of knowledge. K. de-la-Pena and M. J. Luque-Rojas (2021) think, that "regardless of the educational context, in any university discipline, preparing essays or developing arguments are formative tasks that require a deep level of reading comprehension (inferences and transformation of information) that allows the elaboration of a situation model, and not having this level can lead to limited formative learning". So, the effectiveness of learning activities is closely related to the ability to operate the basic cognitive operations of text comprehension.

Text comprehension is the process of generating and assimilating meanings, the main characteristics of which are the identification and reconstruction of the concept of the original message and synthesis, the generation of a new meaning. It is a complex analytical and synthetic process that is primarily aimed at building the semantic structure of the original message, which is carried out through a number of cognitive comprehension operations (Chepelieva & Yakovenko, 2011; Chepelieva, 2015; Chepelieva et al., 2023). Comprehension is considered to be an analytical and synthetic activity that results in the internal speech of the subject generating thoughts equivalent to the content of the text being perceived (Chebotarova, 2014). In our opinion, comprehension of an educational text is an adequate reflection (in accordance with the intention of the text author) of the text message in the mind of an individual.

A meaningful text further develops and structures the recipient's cognitive and social practices. Effective comprehension of an educational text is possible provided that students are fluent in information, organise and plan their reading, have developed basic cognitive operations and techniques of dialogical interaction with the text, and are able to critically evaluate what they have read and use it in their future activities (Hudinova, 2019). The formation of cognitive operations of text comprehension, such as structuring and restructuring information, will undoubtedly lead to an increase in the culture of mental work of the future specialists in library and information science.

An educational text has cognitive value, is a source of educational information that determines the content of the discipline; it updates students' general and professional knowledge in a particular subject area; it has a special form of presentation of educational content. Thus, an educational text is a coherent, connected, systematically organised educational resource created for educational purposes, intended for mastering the content of a discipline, and serving as a means of shaping students' consciousness, new knowledge and skills (Chebotarova, 2014). The task of a scientific and educational text is to prove certain hypotheses and to argue them; to present scientific problems in an accurate systematic way; to explain and formulate regularities and laws. In order to ensure understanding of a text, thoughts are presented in such a sequence that one statement follows from the previous one and prepares for understanding the next. Therefore, understanding is a consistent change in the structure of the situation reproduced in the mind and the movement of the conceivable centre of this situation from one element to another.

Subjective and objective factors influence the process of comprehension of an educational text. Objective factors include the features of the text itself (informative content of the text; complexity of sentences or text structure; abstractness of the presentation of facts; text composition and semantic structure; logical and semantic structure; form of presentation of educational information). Subjective features include individual psychological characteristics (age; level of proficiency in the language of the text; prior knowledge; individual / cognitive experience; motivation for understanding the educational text; feelings and emotions when understanding the educational text; ability to intellectual reflection; arbitrariness of mental actions; development of reading skills; cognitive / stylistic characteristics of the subject) (Chebotarova, 2014). The cognitive style is a stable individual characteristic of the ways a person interacts with the information field.

In order to determine the level of students' comprehension of educational and scientific texts an experimental study was conducted. 45 students of the speciality B13 "Library, Information, and Archival Affairs" took part in it. The students were asked to make a summary of the academic text "Scientific Style and Its Means in Professional Communication", since text summarisation involves the use of all comprehension operations and is a compressed and restructured presentation of the content of a work.

When analysing students' summaries of an educational text, we took into account the extent to which students are aware of its content, whether they structure

information correctly, whether they accurately collapse and expand meaning, compare and group educational information, whether they perform semantic division, as well as compression and semantic narrowing of information.

As a result of the experimental study, we have identified students with high, intermediate, low and extremely low levels of development of cognitive operations of text comprehension. 5 students (11,11 %) *with a high level* of comprehension of the educational text fully reflected the semantic organisation of the author's text, accurately revealed and summarised the content of certain provisions of the text, made independent conclusions, demonstrated the ability to paraphrase the educational text, cited the views of other authors on the problem, expressed a critical attitude to information and argued their point of view, gave examples from their own experience, explained the application of the material presented in practical every day and professional activities, demonstrated their interest in the educational text. *An intermediate level* of comprehension of the text was demonstrated by 14 students (31,11 %). They incompletely reflected the external structure of the text but retained its main points, expressed critical opinions about certain elements of the text but argued superficially, gave their own examples but by analogy with the teacher's examples, made independent conclusions but with some inaccuracies, and demonstrated difficulties in evaluating the educational text. 20 students (44,44 %) with *a low level* of text comprehension were unable to arrange textual content blocks in a logical and semantic sequence; made mistakes when paraphrasing the text, incorrectly revealed the meaning of certain statements in the text, made inaccurate conclusions, had difficulty arguing their views, and found it difficult to give examples and evaluate the content of the text. 6 students (13,33 %) with *an extremely low level* of comprehension misinterpreted the main points of the text, were unable to paraphrase the text, incorrectly summarised the information, were unable to express their attitude to the content of the text and provide their own examples.

Based on the results (Fig.1), it can be concluded that students have insufficient mastery of the basic cognitive operations of text comprehension and methods of dialogical interaction with the text. This necessitates the development of such skills.

Within the course "Ukrainian Language for Professional Purposes", students enrolled in the B13 "Library, Information, and Archival Affairs" programme at Kremenchuk Mykhailo Ostrohradskyi National University engage in the analysis of professional scientific and educational texts, which contributes to the development of their language and communicative competence as well as the enhancement of cognitive operations involved in text comprehension. The instructional activities include retelling textual content, formulating questions based on the text, creating outlines, paraphrasing, identifying key ideas and evaluative judgments, reducing texts through compression techniques, determining the main idea, completing texts with missing lexical units, predicting subsequent content, and producing theses, annotations, and summaries. In addition, students are systematically guided to reflect on cognitive processes influencing text comprehension, encouraged to develop their cognitive and stylistic characteristics, improve communication skills, and cultivate motivation for self-directed learning and continuous professional development.

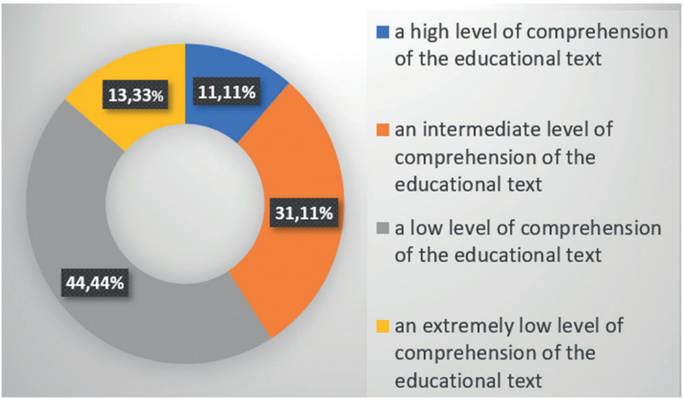

Fig. 1. The level of development of cognitive operations of text comprehension among students of the speciality B13 "Library, Information, and Archival Affairs" of Kremenchuk Mykhailo Ostrohradskyi National University.

To enhance students' ability to comprehend academic texts, it is appropriate to incorporate exercises aimed at developing verbal and conceptual thinking, which constitutes an essential intellectual component of cognitive activity and serves as a foundation for the formation of cognitive-stylistic strategies and the acquisition of universal, effective modes of action. One such example is the exercise *"Restoring Order"*, designed to foster the ability to establish logical relationships between lexical units within proverbs. The task is to restore the order of words in proverbs, such as: *Better, never, late, then; Beauty, eye, beholder, of, the, is, in the; All, glitters, that, gold, is, not; Out, mind, sight, of, out, of; The, hell, road, paved, to, good, is, with, intentions; God, those, helps, who, themselves, help; He, best, laughs, last, who, laughs.*

Effective text comprehension is facilitated through systematic practice in establishing analogical relationships between key concepts. The effect of analogies on the comprehension of scientific texts was studied by J. Wiley, A. J. Jaeger, A. R. Taylor, and T. D. Griffin (2018). We think that analogy allows us to understand the meaning of a text more deeply and to see hidden relationships. Analogy often serves as a basis for making assumptions and hypotheses. For activating this mental operation, in our classes we offer students to create their own analogies using the given word pairs: *gravity – planets, programmer – code, architect – building, philosopher – wisdom* or compare words such as *aeroplane – bird, sun – lamp, encyclopaedia – brain, snake – gymnast*, etc. and find the similarities and differences.

Conclusion. Thus, comprehension of scientific texts constitutes a fundamental factor of academic success in higher education. An essential condition for effective instruction at the tertiary level is the assessment of students' depth of understanding of educational texts. Such diagnostic procedures should be implemented at the initial stages of study, as they enable a more informed organisation and self-regulation of

students' learning activities. Since cognitive style reflects individual intellectual characteristics, the educational process should be structured in a way that allows these dominant features to be realised in learning. Assessing the level of academic text comprehension provides a basis for further pedagogical interventions aimed at enhancing and developing students' analytical and interpretative skills.

Unfortunately, numerous studies indicate that students often demonstrate insufficient levels of scientific text comprehension. In our view, the most effective approaches to enhancing this competence involve actively engaging students' cognitive processes, increasing the volume of academic texts read within a given timeframe, and promoting reflective practices such as evaluating one's own achievements and exercising self-monitoring during text comprehension. Additionally, performing tasks directly related to the content of the text, such as interpreting key concepts, retelling material, formulating dialogic questions, creating text outlines, identifying essential connections, compressing and summarising content, highlighting main ideas, inserting missing lexical elements, predicting subsequent information, and preparing theses, annotations, and summaries, contributes to the development of analytical, interpretative, and critical thinking skills essential for academic success.

Prospects for further research lie in an in-depth study of the problem of developing skills in analysing and interpreting scientific texts among students majoring in B13 "Library, Information and Archival Affairs" taking into account the dynamic changes in the digital information environment, as well as further analysis of the impact of various types of digital scientific resources, in particular electronic journals, open access repositories, bibliometric and scientometric platforms, on the level of understanding and critical comprehension of scientific texts.

Список посилань

Гудінова, І. Л. (2019). Креативний конспект як результат глибокого та повного розуміння навчального тексту. *Актуальні проблеми психології, 12*(25), 76–83.

Моляко, В. О., Біла, І. М., & Ваганова, Н. А. (2015). *Організація творчого сприймання на різних вікових рівнях* [методичні рекомендації]. Педагогічна думка.

Чеботарьова, А. І. (2014). *Когнітивно-стильові особливості розуміння студентами навчального тексту* [Дисертація кандидата]. Південноукраїнський національний педагогічний університет імені К. Д. Ушинського.

Чепелєва, Н. В. (2015). *Текст і читач*. Видавництво ЖДУ ім. І. Франка.

Чепелєва, Н. В., & Яковенко, Л. В. (2011). Вплив смислової структури тексту на його розуміння читачем. *Актуальні проблеми психології, 2*(7), 79–89

Чепелєва, Н., Смульсон, М., Рудницька, С., & Ширяєва, Л. (2023). Психолого-педагогічні проблеми розуміння студентами текстів в умовах цифровізації навчання. *Міждисциплінарні дослідження складних систем,* (22), 127–141. https://doi.org/10.31392/iscs.2023.22.127

Ayu, M. (2021). Applying text feature walks strategy in higher education to improve students' reading comprehension. *Journal of English Teaching, 7*(3), 354–365. https://doi.org/10.33541/jet.v7i3.3077

Aziz Al, E. N., & Yusanti G. (2020). Increasing students' reading comprehension skill by using written text book. *English Education: Journal of English Teaching and Research, 5*(2), 179–186. https://doi.org/10.29407/jetar.v5i2.14500

Cromley, J. G., Snyder-Hogan, L. E., & Luciw-Dubas, U. A. (2010). Reading comprehension of scientific text: A domain-specific test of the direct and inferential mediation model of reading comprehension. *Journal of Educational Psychology, 102*(3), 687–700. https://doi.org/10.1037/a0019452

De-la-Pena, K., & Luque-Rojas, M. J. (2021). Levels of reading comprehension in higher education: Systematic review and meta-analysis. *Frontiers in Psychology, 12,* 1–11. https://doi.org/10.3389/fpsyg.2021.712901

Handayani, W., Setiawan, W., Sinaga, P., & Suhandi, A. (2018). Students' reading comprehension skills of science and physics texts. *Jurnal Inovasi Pendidikan IPA, 4(2),* 203–211. https://doi.org/10.21831/jipi.v4i2.21633

Hepner, S. L., Oudman, S., Carlson, T. E., van de Pol, J., & van Gog, T. (2024). Improving (meta)comprehension: Feedback and self-assessment. *Learning and Instruction*, *92,* 101922, 1–12. https://doi.org/10.1016/j.learninstruc.2024.101922

Kärbla, T., Uibu, K., & Männamaa, M. (2021). Teaching strategies to improve students' vocabulary and text comprehension. *European Journal of Psychology of Education, 36,* 553–572. https://doi.org/10.1007/s10212-020-00489-y

McCarthy, K. S., & McNamara, D. S. (2021). The multidimensional knowledge in text comprehension framework. *Educational Psychologist, 56*(3), 196–214. https://doi.org/10.1080/00461520.2021.1872379

Ntereke, B., & Ramoroka, B. (2017). Reading competency of first-year undergraduate students at University of Botswana: A case study. *Reading & Writing, 8*(1) a123, 1–11. https://doi.org/10.4102/rw.v8i1.123

Shabunina, V., Tur, O., & Sarancha, V. (2020). Foreign language communicative competence as a factor of improving the quality of electrical engineering students professional training. In *2020 IEEE Problems of Automated Electrodrive. Theory and Practice (PAEP)* (pp. 1–5). Kremenchuk Mykhailo Ostrohradskyi National University. https://doi.org/10.1109/PAEP49887.2020.9240853

Tur, O., Doroshenko, S., Sivyakova, G., Butyrina, M., Sprinsyan, V., & Shabunina V. (2023). Modern Ukrainian electrotechnical terminology: Normative aspect of term formation and term usage. In *2023 IEEE 5th International Conference on Modern Electrical and Energy System (MEES)*, *September 27–30.* (pp. 1–6). Kremenchuk Mykhailo Ostrohradskyi National University. https://doi.org/10.1109/MEES61502.2023.10402390

Tur, O., Shabunina, V., Butyrina, M., Tur, A., Krot, V., & Mytashop D. (2021). Psychological and educational conditions for developing intellectual competence of electrical engineering students. In *2021 IEEE International Conference on Modern Electrical and Energy Systems (MEES)* (pp. 1–5). https://doi.org/10.1109/MEES52427.2021.9598774

Van de Pol, J., de Bruin, A.B.H., van Loon, M. H., & van Gog, T. (2019). Students' and teachers' monitoring and regulation of students' text comprehension: Effects of comprehension cue availability. *Contemporary Educational Psychology, 56,* 236–249. https://doi.org/10.1016/j.cedpsych.2019.02.001

Wiley, J., Jaeger, A. J., Taylor, A. R., & Griffin, T. D. (2018). When analogies harm: The effects of analogies on meta-comprehension. *Learning and Instruction, 55,* 113–123. https://doi.org/10.1016/j.learninstruc.2017.10.001

References

Hudinova, I. L. (2019). Creative notes as a result of deep and complete understanding of educational texts. Current issues in psychology: *Aktualni problemy psykholohi, 12*(25), 76–83. [In Ukrainian].

Moliako, V. O., Bila, I. M., & Vahanova, N. A. (2015). *Organization of creative perception at different age levels* [methodological recommendations]. Pedahohichna dumka. [In Ukrainian].

Chebotarova, A. I. (2014). *Cognitive and stylistic features of students' understanding of educational texts* [Candidate's dissertation]. South Ukrainian National Pedagogical University named after K. D. Ushynsky. [In Ukrainian].

Chepelieva, N. V. (2015). *Text and reader*. I. Franko Zhytomyr State University Publishing House. [In Ukrainian].

Chepelieva, N. V., & Yakovenko, L. V. (2011). The influence of the semantic structure of a text on its comprehension by the reader. *Aktualni problemy psykholohii, 2*(7), 79–89. [In Ukrainian].

Chepelieva, N., Smulson, M., Rudnytska, S., & Shyriaieva, L. (2023). Psychological and pedagogical problems of students' understanding of texts in the context of digitalization of education. *Mizhdystsyplinarni doslidzhennia skladnykh system,* (22), 127–141. https://doi.org/10.31392/iscs.2023.22.127. [In Ukrainian].

Ayu, M. (2021). Applying text feature walks strategy in higher education to improve students' reading comprehension. *Journal of English Teaching, 7*(3), 354–365. https://doi.org/10.33541/jet.v7i3.3077. [In English].

Aziz Al, E. N., & Yusanti G. (2020). Increasing students' reading comprehension skill by using written text book. *English Education: Journal of English Teaching and Research, 5*(2), 179–186. https://doi.org/10.29407/jetar.v5i2.14500. [In English].

Cromley, J. G., Snyder-Hogan, L. E., & Luciw-Dubas, U. A. (2010). Reading comprehension of scientific text: A domain-specific test of the direct and inferential mediation model of reading comprehension. *Journal of Educational Psychology, 102*(3), 687–700. https://doi.org/10.1037/a0019452. [In English].

De-la-Pena, K., & Luque-Rojas, M. J. (2021). Levels of reading comprehension in higher education: Systematic review and meta-analysis. *Frontiers in Psychology, 12,* 1–11. https://doi.org/10.3389/fpsyg.2021.712901. [In English].

Handayani, W., Setiawan, W., Sinaga, P., & Suhandi, A. (2018). Students' reading comprehension skills of science and physics texts. *Jurnal Inovasi Pendidikan IPA, 4*(2), 203–211. https://doi.org/10.21831/jipi.v4i2.21633. [In English].

Hepner, S. L., Oudman, S., Carlson, T. E., van de Pol, J., & van Gog, T. (2024). Improving (meta)comprehension: Feedback and self-assessment. *Learning and Instruction*, *92,* 101922, 1–12. https://doi.org/10.1016/j.learninstruc.2024.101922. [In English].

Kärbla, T., Uibu, K., & Männamaa, M. (2021). Teaching strategies to improve students' vocabulary and text comprehension. *European Journal of Psychology of Education, 36,* 553–572. https://doi.org/10.1007/s10212-020-00489-y. [In English].

McCarthy, K. S., & McNamara, D. S. (2021). The multidimensional knowledge in text comprehension framework. *Educational Psychologist, 56*(3), 196–214. https://doi.org/10.1080/00461520.2021.1872379. [In English].

Ntereke, B., & Ramoroka, B. (2017). Reading competency of first-year undergraduate students at University of Botswana: A case study. *Reading & Writing, 8*(1) a123, 1–11. https://doi.org/10.4102/rw.v8i1.123. [In English].

Shabunina, V., Tur, O., & Sarancha, V. (2020). Foreign language communicative competence as a factor of improving the quality of electrical engineering students professional training. In *2020 IEEE Problems of Automated Electrodrive. Theory and Practice (PAEP)* (pp. 1–5). Kremenchuk Mykhailo Ostrohradskyi National University. https://doi.org/10.1109/PAEP49887.2020.9240853. [In English].

Tur, O., Doroshenko, S., Sivyakova, G., Butyrina, M., Sprinsyan, V., & Shabunina V. (2023). Modern Ukrainian electrotechnical terminology: Normative aspect of term formation and term usage. In *2023 IEEE 5th International Conference on Modern Electrical and Energy System (MEES)*, *September 27–30.* (pp. 1–6). Kremenchuk Mykhailo Ostrohradskyi National University. https://doi.org /10.1109/MEES61502.2023.10402390. [In English].

Tur, O., Shabunina, V., Butyrina, M., Tur, A., Krot, V., & Mytashop D. (2021). Psychological and educational conditions for developing intellectual competence of electrical engineering students. In *2021 IEEE International Conference on Modern Electrical and Energy Systems (MEES)* (pp. 1–5). https://doi.org /10.1109/MEES52427.2021.9598774. [In English].

Van de Pol, J., de Bruin, A.B.H., van Loon, M. H., & van Gog, T. (2019). Students' and teachers' monitoring and regulation of students' text comprehension: Effects of comprehension cue availability. *Contemporary Educational Psychology, 56,* 236–249. https://doi.org/10.1016/j.cedpsych.2019.02.001 . [In English].

Wiley, J., Jaeger, A. J., Taylor, A. R., & Griffin, T. D. (2018). When analogies harm: The effects of analogies on meta-comprehension. *Learning and Instruction, 55,* 113–123. https://doi.org/10.1016/j.learninstruc.2017.10.001. [In English].

Отримано: 25.12.2025
Прийнято до друку: 19.01.2026