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## **COGNITIVE MODELLING OF EDUCATIONAL TERMINOLOGY: A FRAMEWORK APPROACH TO ITS SYSTEMATISATION AND REPRESENTATION**

The modern educational landscape is characterised by dynamic processes of reforming, the internationalisation of education, integration into the global academic community, and the active digitalisation of educational activities. Consequently, the role of clear, organised and standardised educational terminology is growing significantly. Firstly, the educational terminology system is constantly being enriched with new concepts related to innovative forms of learning, digital technologies, international educational standards and the competence-based approach; consequently, the issue of systematising and scientifically describing educational terms becomes increasingly relevant. Secondly, standardised educational terminology ensures effective professional communication, the accuracy of relevant scientific and the consistency of regulatory and legal documents in the field of education, which attests to both its theoretical and practical significance. Thirdly, the systematisation of educational terms and the development of electronic terminological resources can facilitate the compilation of specialised electronic dictionaries. It is important to note that such dictionaries help prospective students and their parents better navigate the modern educational landscape and make informed choices regarding educational fields or programmes.

One promising approach to the study of terminological systems is the cognitive approach, which allows terms to be viewed as elements of structured knowledge about a particular field of activity. Within cognitive linguistics, frame theory occupies an important place, viewing knowledge as a system of interrelated conceptual structures. This concept was proposed by M. Minsky, who defined it as a data structure for representing a stereotypical situation consisting of separate elements – slots. Each slot contains information about a specific aspect of the situation and can be filled with specific values.

The further development of frame theory in linguistics is associated with the work of the American linguist Charles J. Fillmore. Within the framework of his theory of frame semantics, a frame is viewed as a cognitive structure representing a typical situation or scenario of human experience, within which the meaning of a word is revealed through a system of interrelated concepts. According to the researcher, lexical meaning cannot be fully understood in isolation, without taking into account the conceptual knowledge structure to which it belongs. A word activates the corresponding frame, that is, a specific fragment of knowledge about a situation, including its participants, their roles, actions, circumstances and outcomes. Thus, the semantics of a linguistic unit is directly linked to conceptual models of human experience.

According to C. J. Fillmore's approach, a frame acts as a kind of schema for organising knowledge, within which individual words or terms are associated with specific roles and elements of a situation. For example, in the classic example of the

‘commercial transaction’ frame, the interrelated elements are the buyer, the seller, the goods and money, whilst the corresponding lexemes (buy, sell, pay, price) represent different aspects of a single conceptual situation. Thus, the meaning of each word is determined not only by its internal semantics, but also by its place within the structure of the corresponding frame. This approach makes it possible to view the lexicon as the system in which linguistic units interact within shared cognitive models.

In linguistics, a frame is regarded as a cognitive model that reflects the structure of knowledge about a specific fragment of reality and the system of relations between concepts. The application of the frame approach in terminological studies makes it possible to model the conceptual structures of domain-specific knowledge and determine the place of individual terms within a specific conceptual system. Thus, the frame model facilitates a deeper understanding of semantic relationships between terms and allows them to be represented as a hierarchically organised structure.

Educational terminology constitutes a complex, multi-level system of concepts covering various aspects of educational activity: the organisation of the educational process, pedagogical technologies, learning outcomes, educational resources, participants in the educational process, and so on. Traditional methods of classifying terms, based solely on thematic or structural features, do not always fully capture the interrelationships between concepts to be fully reflected. Therefore, the use of the frame approach is an effective means of systematising the educational terminology system.

The frame of educational activity can be viewed as a cognitive model reflecting the typical structure of the educational process. In a simplified, generalised form, such the model can be represented as a hierarchical structure comprising a base term, a system of subframes, and slots that fill these subframes with specific terms.



Figure 1. Frame «Organizational component of the educational process»

Within the proposed model, the key term is the concept of the *Organisational Component Of The Educational Process*, which encompasses the main components of the organisation of educational activities within a higher education institution. Within the structure of this frame, several interrelated sub-frames can be identified.

The first sub-frame is the *Structure Of The Higher Education Institution*, which represents the system of organisational units that ensure the functioning of the educational process. Its slots include terms such as the rectorate, academic council, faculties, departments, educational and research institutes, academic affairs office, scientific and methodological council, centre for quality assurance in education, library, admissions committee and student self-government.

The second subframe – *Educational Programme* – reflects the content-related component of the organisation of the educational process. Its slots include the following terms: educational programme profile, programme objectives and focus,

competences, learning outcomes, educational components, ECTS credit volume, forms of final assessment, matrix of alignment between competences and learning outcomes, and the educational programme coordinator.

The third subframe – *Curriculum* – represents the organisational and methodological implementation of the educational programme. This includes a list of academic disciplines, the number of hours, the allocation of ECTS credits, forms of final assessment, the semester-based course distribution, practical training, coursework and projects, as well as the assessment of students.

An analysis of the proposed frame model indicates that the educational terminology of the organisational component of the educational process has a clearly structured hierarchical nature. The basic concept unites several interrelated subframes, each of which reflects a separate aspect of the functioning of the education system. In particular, the subframe ‘structure of a higher education institution’ represents the institutional organisation of educational management, whilst the subframes ‘educational programme’ and ‘curriculum’ reflect the content-related and organisational-methodological implementation of the educational process. The slots that populate each subframe specify the relevant terms and form a system of interrelated concepts.

Thus, frame modelling allows not only for the systematisation of educational terms but also for the identification of their functional and conceptual links. The use of this approach facilitates a more comprehensive description of the educational terminology system and can be utilised in the creation of electronic terminological dictionaries and knowledge bases for the education sector.

Consequently, the frame approach is an effective tool for researching and systematising educational terminology. Its application allows the educational terminology system to be viewed as a complex cognitive structure reflecting the interrelated concepts of educational activity. Prospects for further research lie in the development of detailed frame models of educational terminology and the creation of electronic terminological resources based on them.

## REFERENCES

1. Азарова Л. С., Жмурко Д. О. Проблеми української науково-технічної термінології // Проблеми науково-технічної термінології : тези доп. III міжнар. наук. конф. Львів, 1994. С. 18–20.
2. Мінський М. Фрейми для представлення знань. Київ : Наукова думка, 2003.
3. Симоненко Л. Українська термінографія: стан і перспективи // Мовознавство. 2014. № 4. С. 28–35.
4. Симоненко Л. О. Українське термінознавство: від витоків до сьогодення // Наукова термінологія нового століття: теоретичні і прикладні виміри. Рівне, 2016. С. 17–23.
5. Симоненко Л. О. Історична тяглість розвитку української наукової термінології // Вісник Львівського університету. Серія філологічна. 2017. Вип. 64(1). С. 320–329.
6. Симоненко Л. О. Термін як предмет лексикографії // Мовознавство. 2017. № 1. С. 47–54.
7. Cabré M. T. Terminology: Theory, Methods and Applications. Amsterdam : John Benjamins, 1999.
8. Fillmore C. Frame Semantics and the Nature of Language // Annals of the New York Academy of Sciences. 1976.
9. Lakoff G. Women, Fire, and Dangerous Things: What Categories Reveal about the Mind. Chicago : University of Chicago Press, 1987.
10. Temmerman R. Towards New Ways of Terminology Description. Amsterdam : John Benjamins, 2000.
11. Wüster E. Introduction to the General Theory of Terminology. Vienna : Springer, 1991.