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DEFINITION AS A DEFINITIVE ASPECT SENSE OF THE STUDY PROBLEM

Abstract. In any field of human activity, especially in scientific and educational work, the use of not very accurate and ambiguous terms makes it difficult, and sometimes impossible to understand some of the provisions and the research problem in general. Terms, in general, are the language of science, form the semantic core of a special language of the industry and convey basic meaningful information. It should be emphasized that usually the first among the standards of any industry is a standard with a list of basic terms and concepts. It is made taking into account the requirements of fixed content, accuracy (clarity), brevity. This approach allows you to achieve the truth when discussing any hypothesis, idea, opinion, problem or question. The article shows how the contradictions related to the peculiarity of the English translation of the word “competence” and the ambiguous interpretation of this term in dictionaries, which causes confusion and makes it difficult to implement the competence method in educational activities in the post-Soviet space. Unambiguous key concepts are offered, which provided an opportunity to develop and implement in practice information technology to support decision-making on the results of professional training and activities of the specialist. The development is preceded by the creation of a model of the relevant subject area or object of analysis, such as a law enforcement specialist. The result is a thesaurus and alphabetical index used by an expert to limit the properties of the object being evaluated. To describe the subject area by the heuristic method and to present knowledge in the decision support system, the result is presented in the form of a frame. The definitive approach can be extended to the procedure of developing any scientific work – textbook, monographs, dissertations and more.

Keywords: term, definition, information technology, decision making, competence.

Formulation of the problem

The experience of the authors in higher education shows that the use of not very accurate and ambiguous terms and their definitions makes it difficult to understand some provisions in educational and scientific activities. Therefore, we will define definitions that relate to the definition itself as the main aspect of the meaning of the problem in any area of human activity, without going deep into the definition, or rather, in lexicographic and linguistic analysis of the problem.

Analysis of information sources. We will combine information from authoritative sources [1].

Definition (latin *definitio*) - a short definition, interpretation of the concept, an explanation (wording) that accurately establishes, reveals, clarifies the meaning, meaning of something. The concept - a logical general opinion, information about something.

Closely related to these definitions is the word “term” - the name of a certain concept of any branch of professional (industrial, service, creative, scientific, pedagogical, etc.) activity (work, occupation) - a word or word formation. It should be noted that the query “terms” (in the sense of “concept”) in the search engines Google, Bing, Meta and Yandex found 17.1, respectively; 1.3; 13.4 and 21.9 million links.

Terms are the semantic core of a special language of the industry, conveying basic content information. In general, terms are the language of science. Terms are the object of ordering and standardization, as well as lexicographic work in the creation of terminological dictionaries of different levels and purposes. The limits of the terms are set by legislative, regulatory, administrative, administrative and / or other documents. The first among the standards of any, in particular scientific, field of activity, is usually the standard of basic terms and concepts. When developing it, special requirements are taken into account [2, 3]:

- fixed meaning of the term - one sign corresponds to one concept;

- accuracy of the term (clarity, limited meaning) - the term must directly or indirectly reflect the features by which you can distinguish one concept from another;

- unambiguousness of the term - the absence of conceptual (ideographic) synonyms;

- systematicity of the term based on the classification of concepts;

- shortness of term.

Thus, the use of terms that meet the above requirements when discussing hypotheses, ideas, opinions, problems or issues, etc., allows us to achieve the truth.

The above allows us to determine **the purpose and objectives of the article** - to show the feasibility of a definitive approach in the study and discussion of any problem in any field of human activity.

Presenting main material

The results of the discussed approach will be shown by an example, which is set out in the production plan in the publication [4] and discussed in detail in the article [5]. In short, the essence of the question is to eliminate the contradiction due to the peculiarity of the translation from English of the word “competence” and definitions from dictionaries [1]; a striking example of the resulting confusion is the monograph [6]. As a result, the ambiguous interpretation of the term “competence” inhibits the implementation of the competence method (CM) [7] in the education system in the post-Soviet space. [5] unambiguous short definitions of key concepts are offered: “competency” (from Ukrainian “компетентність”, in the sense of expertise), “competence” (from Ukrainian “компетенція”, in the sense of professional capacity) and “qualification”. As the example shows, they are suitable for the development and implementation of information

technology decision support (ITDS) on the results of training and activities of a specialist in law enforcement [8].

The development of ITDS is preceded by the creation of a model of the relevant subject area or object of analysis (OA). The term "model" in the general sense - created to obtain and (or) store information specific object (in the form of an imaginary image, description of symbolic means or material system), which reflects the properties, characteristics and relationships of the original object arbitrary nature, essential for the task to be solved by some subject [9]. An object model can be informational, described by some verbal features. Such a model is usually developed by highly qualified experts using literary and electronic sources of information - encyclopedias, state standards, dictionaries, industry and departmental documents, basic scientific papers, textbooks, etc. - as well as personal experience.

For example, the model (professiogram) of a law enforcement specialist includes (according to the introduced definitions [5]) the competence of the suitability of the C_S , the training of the C_T , the education of the C_E and the competence of the professional activity of the C_{PA} :

$$M_S = C_S \cup C_T \cup C_E \cup C_{PA}. \quad (1)$$

The components of C_S , C_T , C_E are especially important in the initial selection to assess a person's suitability for a particular type of professional activity, and the component of C_{PA} can be used to monitor the quality of daily activities of the specialist and his compliance with the position. The composition of professionally significant C_S properties of a law enforcement specialist (determines the competence of the suitability of the C_{PA} is established by relevant legislative, regulatory and administrative documents.

Competence of C_T education presupposes the presence of a list of general (only positive) personality traits (inherited and acquired) - accuracy, demanding, ingenuity, etc., as well as strong-willed character traits (discipline, initiative, etc.). Literary and electronic sources explain the definitions of properties and traits, their synonyms and antonyms. Negatives are excluded from the vector of signs (antonymic in lexical and antagonistic - in the broadest sense of the word, such as (type in Ukrainian "чесність-брехливість", "скромність-нескромність", "ввічливість-грубість", etc.). This procedure performs the function of substitution. This means that when evaluating each of the personality traits, the expert-selected evaluation partially (close to the middle of the scale) or completely (within the scale) excludes the opposite quality, as in the Dempster-Schaeffer and Saati scales. Competence of C_E education may include in the set of characteristics the average scores in the disciplines of previous level training, professional training, test results, etc.

Competences of professional activity of C_{PA} are set in the form of the list of powers (rights and duties) of the specialist (or the official). These components are reduced to a thesaurus [10] - a description of many states of a model of the environment, a dictionary of names of concepts and their classification links, designed for a single

unified and formalized presentation of information in an automated system; description of an ordered set in a verbal record, in fact - an information model of any subject area. For our case, it is a means of presenting knowledge to describe the subject area by the heuristic method in the form of a frame. The frame defines the class of the object and includes the frame name (concept), the slot name (the term itself), the slot value (term definition). An alphabetical index of concepts, terms and definitions is used as a linguistic means of data manipulation [11].

The level of competency's and competencies is assessed by experts - managers, colleagues, employees or colleagues, subordinates, etc. - by assigning points on a four-point scale. The results obtained - personograms - for each of the objects of analysis are averaged by experts, calculate the generalized characteristic (or coefficient of conformity, or modified concordance coefficient). Finally, a ranking list of OA is compiled, which is submitted to the person who decides on the person's suitability for a certain type of professional activity, determining the qualification level of the specialist and suitability for the position. These operations are performed by the decision support system (DSS) as a means of implementing information technology [11]. The main functions of DSS: creation of a single knowledge base and database; organization and maintenance of knowledge base at the request of the user - administration, modification, editing; delimitation of access to the components of the database in accordance with the powers of a particular user; organization and maintenance of the database at the request of the user - administration, modification, accumulation of data; customizing the user interface to specific requirements; data processing and formation of reporting documentation with various semantic features as of the current time and for a certain period.

One of the three key concepts of the competence method, along with competence and competence, is the concept of "qualification" - an official reflection of the degree of technical or professional skills of the worker, recognized at the international, national or industry level [6]. This means that for a specialist of a certain level of qualification there must be a model that determines the level of his competency - education (and training) - on the one hand, and on the other - a subjective characteristic that reflects the quality of his professional activity. For example, for an athlete or a locksmith it is a category, for a scientist or a teacher of a certain level it is a corresponding education, scientific degree and/ or academic title, ie a qualification level that meets certain requirements. We emphasize that this compliance can be established on formal grounds, by expert evaluation, instrumental measurements, etc., the results of which can be processed using DSS.

Note that the above-mentioned frame description generally serves to present knowledge in DSS, and the definition of the term (slot value) - for the expert, in order to clearly limit the specific property (feature) of the object being evaluated.

Conclusions and prospects for further research

The example considered in the article shows that the definition as a defining aspect of the meaning of the

studied problem allows to solve the problem of the implementation of CM in the educational process. The competency method can also be used to solve choice problems in any field of human activity and to develop information technology to support decision-making. In this case, the sectoral focus of DSS will be determined by the content of its knowledge base, in particular, thesaurus and alphabetical index. Experience shows that the definition approach can be extended to the procedure of developing any scientific work – textbook, teaching and teaching materials, monographs, dissertations, research reports and more. The presence in the work of a thesaurus and an alphabetical index as a model of the subject area provides ease of use and clarity of the meaning of the problem under discussion. Further research should be

aimed at solving problems of developing methods for assessing the following competency's:

- cognitive competency – knowledge of methodological, didactic and methodological, subject-professional, organizational and technological techniques and the ability to apply them in the practice of daily professional activities in a particular field;
- information and communication competency – knowledge, skills and abilities in the field of information and telecommunication technologies of a certain level of professional activity;
- competency of self-improvement – certain knowledge, skills and abilities in the field of learning technology (psychophysiology of mental work, organization of self-study, rational reading, etc.).

REFERENCES

1. Ozhehov S. Y. Slovar' russkogo yazyka [Dictionary of the Russian language]. – M., Rus. yaz., 797 s., 1987. (in Russian).
2. Ryabova E. A. Teoretycheskiye aspekty yzucheniya terminov [Theoretical aspects of the study of terms]. *Vestnyk Mosk. hosud. obl-ho un-ta*, № 2, s. 86-91, 2009. (in Russian).
3. Leychyk V. M. Terminovedeniye: predmet, metody, struktura [Terminology: subject, methods, structure]. – M., LKY., 254 s., 2007. (in Russian).
4. Kozlov V. Ye., Kobzyev V. H., Kozlov Yu. V., Moshchenko I. O. Kompetentnisnyy metod otsinyuvannya profesiynoy diyal'nosti spetsialista. Definitivnyy aspekt [Competence method for assessing the professional activities of specialists. Definitional aspect]. *Zb. tez dopovidey Mizhnar. nauk. internet-konf. "Informatsiyne suspil'stvo: tekhnologichni, ekonomichni ta tekhnichni aspekty stanovlemy"* 08 lypnya 2020 r. (vyпуск 50) – Ternopil', 2020. – S. 8-9. (in Ukrainian).
5. Kozlov V. Ye., Kozlov Yu. V., Moshchenko I. O., Novykova O. O. Otsinyuvannya profesiynoy diyal'nosti spetsialista na osnovi kompetentnisnoho pidkhodu [Evaluation of the professional activity of a specialist on the basis of the competence approach]. *Zb. nauk. prats' Nats. akad. NH Ukrainy*, 2020. – Vyp. 1(35). – S. 94-101. (in Ukrainian).
6. Kompetentnostnyy podkhod v obrazovatel'nom protsesse. Monografyya [Competence approach in the educational process. Monograph]. A. E. Fedorov, S. E. Metelev, A. A. Solov'ev, E. V. Shlyakova – Omsk: Yzd-vo OOO Omskblankyzzdat, 2012. – 210 s. PDF. Available at: <http://window.edu.ru/files/kompetentnost>. (in Russian).
7. Holovan' M. S. Kompetentsiya i kompetentnist': dosvid teorii, teoriya dosvidu [Competence and competence: the experience of theory, the theory of experience]. *Vyshcha osvita Ukrainy*, № 3, 2008. – S. 23-30. (in Ukrainian).
8. Kozlov V., Novykova O. Metod pobudovy ranzhyruvanykh spyskiv kandydativ na zamishchennya posad u spetspidrozdilakh syl okhorony pravoporyadku [Method of constructing ranked lists of candidates for replacement positions in special units of law enforcement forces]. *Zb. nauk. prats' Nats. akad. NH Ukrainy*, vyp. 2(24), 2014. – S. 80-82. (in Ukrainian).
9. Neumyn Ya. H. Modely v nauke y tekhnike. Ystoryya, teoriya, praktyka [Models in science and technology. History, theory, practice]. – Lenynhrad: Nauka, 1984. – 190 s. (in Russian).
10. Avtomatyzovani systemy. Terminy ta vyznachennya [Automated systems. Terms and definitions]. DSTU 2226-93. – Vved. 1994-07-01. – Kyiv: Derzhstandart Ukrainy, 1994. – IV. 92 s. (in Ukrainian).
11. Kozlov V., Kozlov Y., Moshchenko I., Novykova O., Olenchenko V. Implementation information technology of competency assessment method of professional activity of the educational system employee. *Advanced Information Systems*. 2021. Vol. 5, No. 3, P. 142-150.

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Визначення як визначальний аспект сенс проблеми дослідження

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Анотація. У будь-якій сфері людської діяльності, особливо в науковій і навчальній роботі, вживання не дуже точних і багатозначних термінів ускладнює, а іноді й унеможливує розуміння окремих положень і проблеми дослідження в цілому. Терміни, загалом, є мовою науки, утворюють семантичне ядро спеціальної мови галузі та передають основну змістовну інформацію. Слід підкреслити, що зазвичай першим серед стандартів будь-якої галузі є стандарт із переліком основних термінів і понять. Складається з урахуванням вимог фіксованості змісту, точності (ясності), стислості. Такий підхід дозволяє досягти істини при обговоренні будь-якої гіпотези, ідеї, думки, проблеми чи питання. У статті показано, як протиріччя, пов'язані з особливістю англійського перекладу слова «competence» та неоднозначним тлумаченням цього терміна в словниках, що викликає плутанину та ускладнює впровадження компетентнісного методу в освітню діяльність на пострадянському просторі. простір. Запропоновано однозначні ключові поняття, які дали можливість розробити та впровадити в практику інформаційні технології підтримки прийняття рішень за результатами професійної підготовки та діяльності фахівця. Розробці передують створення моделі відповідної предметної галузі чи об'єкта аналізу, наприклад спеціаліста правоохоронних органів. Результатом є тезаурус і алфавітний покажчик, які використовуються експертом для обмеження властивостей об'єкта, що оцінюється. Для опису предметної області евристичним методом і представлення знань у системі підтримки прийняття рішень результат подається у вигляді фрейму. Дефінітивний підхід можна поширити на процедуру розробки будь-якої наукової праці – підручника, монографії, дисертації тощо.

Ключові слова: термін, визначення, інформаційні технології, прийняття рішень, компетентність.