OSCAR PUBLISHING SERVICES

Research Article

FEATURES OF TERMINOLOGY CONVERSATING THE CONCEPTS OF ARTIFICIAL INTELLIGENCE IN THE ENGLISH LANGUAGE

Djalilova Zarnigor Obidovna

PhD., interim associate professor at the Clinical Sciences Department, Asia International University, Bukhara, Uzbekistan

ABSTRACT

This article is devoted to the features of the English terminology of artificial intelligence, a science that has been rapidly developing in recent decades both in Uzbekistan and in other countries. The scientific achievements of artificial intelligence are directly related to all areas of human activity, starting with computer games and computer viruses and downloading by complex machines in industrial enterprises and medicine. This is precisely what explains the relevance of studying artificial intelligence terminology, as well as the need to identify its features and patterns, especially for such an industrially developed region as the Bukhara region.

KEYWORDS

Artificial intelligence, terminology, one-word terms, terminological combinations, synonymy.

INTRODUCTION

The scientific direction "artificial intelligence" originated in the general complex of cybernetic research. Artificial intelligence is a branch of computer science dedicated to modeling human intellectual activity. Scientists involved in developments in this area set themselves the serious task of constructing a theory of intelligence based on information processing. Artificial intelligence, which originated more than 700 years ago in medieval Spain, became an independent scientific field in the mid-twentieth century. Having gone through a complex, winding path of repeated tossing between excessive optimism and unfounded skepticism, today artificial intelligence has received brilliant practical applications that open up

prospects, without which the further development of civilization is unthinkable. The first attempt recorded in history to create a machine that simulates the human mind is associated with the name of the Spanish knight, poet, philosopher, theologian, alchemist, and inventor Raymond Lull.

In the 40s of the 20th century, with the advent of electronic computers, artificial intelligence gained a rebirth. The term artificial intelligence itself - "artificial intelligence" to name a new science, separated from cybernetic research, was proposed in 1956 at a seminar with the same name at Stanford University in the USA. The authorship of the term is attributed to John McCarthy, who is considered one of the pioneers of artificial intelligence in the twentieth century.

Today, artificial intelligence is a vast area of research and development of intelligent systems designed to work in difficult to formalize areas of human activity. Artificial intelligence methods have made it possible to create effective computer programs in a wide variety of areas of human activity that were previously considered inaccessible to formalization and algorithmization, such as medicine, biology, zoology, sociology, cultural studies, political science, economics, business, and criminology.

L. N. Yasnitsky identifies the following directions in research conducted on artificial intelligence:

- neural networks - everything related to neural networks, genetic algorithms, semantic networks;

- methods of knowledge representation - development of the best methods of knowledge representation for use in specific areas of artificial intelligence, as well as for universal ones for the possibility of processing by various algorithms;

- understanding the text;

- understanding speech;

— speech recognition — various speech recognition algorithms. At the moment, these systems are reduced to converting speech utterances into text;

— pattern recognition — recognition of scanned text, "recognition" of a person's face, etc.;

— code generation — various algorithms that improve themselves. Attempts to implement such systems have failed, but this is an interesting direction;

- computer viruses;

- computational linguistics - one of the most popular topics in artificial intelligence research - the field of machine translation, as well as the development of a natural language interface between man and machine;

- games;

— intelligent robots;

— intelligent mathematical modeling.

As for the terminology of artificial intelligence and intelligent systems, it began to take shape in the 60s of the twentieth century. The authors of the first dictionary on artificial intelligence, M. G. Gaze-Rappoport and D. A. Pospelov, consider it possible to distinguish several periods in the process of its appearance, development and formation in the English language.

The first stage is distinguished by the presence of many synonymous terms that are used by different schools and different specialists. At this stage, terms appear and some of them quickly disappear. By the mid-70s, terminology in the field of artificial intelligence began to be systematized and unified. Terms appeared that were recognized by the vast majority of specialists. All these terms, with rare exceptions, are in English, since it was in the USA that intensive research in this area was carried out. M. G. Gaze-Rappoport and D. A. Pospelov believe that the terminology of artificial intelligence took hold in the first half of the 80s. From this period, dictionaries and encyclopedic reference books on artificial intelligence began to be published.

The difficulty of creating a dictionary on artificial intelligence is due to the interdisciplinary nature of research in this area. Since artificial intelligence uses methods traditionally developed in logic, psychology, linguistics, cybernetics, discrete mathematics and

programming, many terms from these sciences are found among the terms of artificial intelligence.

The study of artificial intelligence terminology is based on the analysis of a sample compiled using the method of continuous review of the texts of scientific monographs and publications on the topic under study in English. It is worth noting that the terminology of artificial intelligence is in English, since it was in the USA that the name was given to the scientific direction that separated from cybernetic research, and the vast majority of developments at the stage of the birth and development of science were carried out in this country. The material for the study was a sample compiled by completely reviewing the fundamental monograph by Russell S., Norvig P. "Artificial Intelligence. Modern approach" and numbering 2065 terminological units. Such a volume of studied material makes it possible to identify the features, patterns and problems of the terminology under consideration, as well as to suggest possible ways for its further development.

The study of the terminology of a particular science involves the study of terminological units from the point of view of various parameters, such as the origin, formation, form, content and functional features of the terms.

Following S.V. Grinev-Grinevich, from the point of view of form, i.e. morphological structure of a lexical unit,

terms can be divided into single-word terms and terminological combinations. S.V. Grinev-Grinevich proposes to designate single-word terms as word terms, and terminological combinations as phrase terms [4, p. 59]. In the studied sample of 2065 terminological units, 364 term-words can be identified. Single-word terms include the following types of special lexical units: root (the stem coincides with the root), affixal (the stem contains a root and affixes) and complex (the stem contains several root morphemes).

The root terms in the artificial intelligence terminology include 102 lexical units, for example, atom. - atom, belief - belief, circuit - diagram, event - event, fact - fact. Affix terms are represented more widely, their number is 213 units.

The most productive suffix for the formation of terminological units expressed by nouns is the suffix -tion / ion (abstraction. - abstraction, action - action, conjunction - conjunction, expansion - deployment), with the help of this suffix 91 terminological units are formed. The second most frequently used suffix to form terms was ing, which carries the meaning of process. Thus, 23 terms were formed. From the suffix -er/ -or, used to form nouns denoting an actor or person performing a certain action, 17 special lexical units are formed. An example is the following terms: actor, compiler, deflector, planner, quantifier.

As for the most productive prefixes, which are more often than others used to form terminological units, it should be noted that this method of forming new terms is not, according to our data, productive. The prefix sub-, which carries the meaning "under-", is involved in the formation of only 7 terms, being the most productive. Let us give as an example the following terms formed using the prefix sub-: subevent - subevent, subgoal - subgoal, subproblem - subtask, subset - subset, substitution - substitution, subsumption - generalization, subtree - subtree.

Thus, it can be assumed that the suffixal method of forming new terms is the main method in creating affixal terms-words.

Complex terms, which include several root morphemes, are represented in the studied sample of English artificial intelligence terms by 49 units. Examples of complex terms include belief-function, backjumping, frame-example.

Terminological combinations make up the majority of the studied sample of artificial intelligence terms, namely 1701 units. Moreover, the overwhelming majority is represented by two-component terminological combinations, their number is 1185 units; three-component terminological combinations are less common, accounting for 378 units out of the total volume of terminological combinations. Multicomponent terminological combinations

consisting of four or more elements are not typical for artificial intelligence terminology and are represented by 138 units.

Speaking about the features of artificial intelligence terminology, it is worth emphasizing that most terminological units are two-component combinations formed according to the adjective + noun model. L. B. Tkacheva, studying 11 different terminologies of the English language, came to the conclusion that "the most characteristic thing for the English language is the formation of terms from the resources of the language itself according to the "adjective + noun" model."

The validity of this assumption is also proven by the terminology of artificial intelligence: optimal solution - optimal solution, virtual memory - virtual memory, casual rule - causal rule. But it should be noted that the terminology of artificial intelligence is characterized by terminological combinations noun + noun, in which the first component acts as a definition: wave algorithm. - wave algorithm, utility function - utility function, toy problem. - a simplified task, time sharing - time sharing. The definition in terminological combinations of this type is often proper names, denoting the names of scientists and inventors working in this field, Turing machine - Turing machine, Skolem function - Skolem function, Osgood, scale - Osgood scale.

If we talk about the presence of terminological combinations consisting of two or more components, this allows us to identify nuclear terms, i.e. those terms that form one or another terminological combination. For artificial intelligence terminology, it seems possible to identify the most productive nuclear terms, those terms that are used more often than others to form a terminological combination. Such terms include relation (21), inference (output) (22), model (27), state (30), logic (35), function (40), system. — system (44), algorithm. — algorithm. (50).

In addition to productive nuclear terms in the terminology of artificial intelligence, one can identify the most common definitions that form terminological combinations with different nuclear terms. These include abstract, agent, artificial, associative, built-in, closed. - closed, data - data, extension-sional - extensional, formal - formal, frame - frame, general - general, goal - goal, intelligent - intellectual, knowledge - knowledge, learning - training, logical - logical, problem. - problem.

Artificial intelligence terminology reflects the interdisciplinary nature of science itself. This terminology is characterized by interference of terms from different fields of knowledge, which is explained by the integral nature of science itself. Terms that are transferred to the terminology of artificial intelligence from other sciences retain their original lexical meaning, since the task of artificial intelligence is to

create machines capable of acting like humans. Thus, by borrowing the concept, scientists do not attach additional meaning to it, confirming the validity of the assumption that machines can act like people and, accordingly, can "think." However, we should not forget that during terminological borrowing, terms undergo specialization in the sublanguage, changing their place in the system and connections with other concepts.

Analysis of the terminological units of the sample showed that many terms come from related fields, and in the vast majority of cases, the term allows you to understand which area of artificial intelligence it belongs to: neural networks - neural net, neural net model of memory based on neural networks): computer linguistics - linguistic model (linguistic model, formal grammar), text generation (text generation): computer games and viruses - game (game), game theory (game theory), game program (game program). There are terminological units belonging to the class of so-called general scientific terms: algorithm, analogy, axiom, concept, logic the terminology of artificial intelligence is also characterized by a rethinking of commonly used vocabulary.: action (action), event (event), knowledge (knowledge). Thus, it is clearly shown that the terminology of artificial intelligence is complex in its composition.

The problem with Russian artificial intelligence terminology is that it is synonymous and allows for two terms for one English equivalent. For example, concept - concept, concept - concept; fuzzy logic - fuzzy logic, fuzzy logic - fuzzy logic; perception - perception, perception - perception. The absence of synonymy is one of the important requirements for the terminology of any science, therefore, it is an important task for specialists in the field of artificial intelligence and terminologists to develop a unified terminology to avoid misunderstandings in the process of interaction between scientists. Considering that artificial intelligence is increasingly penetrating all industries and service sectors, this problem requires an immediate solution. For the Omsk region, developments in the field of artificial intelligence are of great importance, since the achievements of this science are widely used in such important enterprises of our city as the Research Institute of Instrument Engineering, the Titan Group of Companies and the SK plant, which began the construction of a polypropylene production plant, in the manufacturing process which uses high-tech equipment. Modern medicine, and especially diagnostics, also cannot do without the development of artificial intelligence.

REFERENCES

1. Obidovna, D. Z. (2022). GENDER DIFFERENTIATION OF MASCULINE AND FEMININE VERBALIZATION.

European International Journal of Multidisciplinary Research and Management Studies, 2(05), 59-65.

2. Djalilova, Z. O. (2021). Studies on gender linguistics in the field of Uzbek language. Academic research in educational sciences, 2(3), 391-397.

3. Obidovna, D. Z., & Denis, S. (2021). Formulas of speech etiquette in a gender-engineered communication strategy. Central asian journal of theoretical & applied sciences, 2(6), 5-11.

4. Obidovna, D. Z. (2021). Comparative Analysis Of Uzbek Men's And Women's Speech Through The Prism Of Gender Linguistics. Central Asian journal of literature, philosophy and culture, 2(2), 22-26.

5. Obidovna, D. Z. (2022). Speech Behavior and its Gender Specificity on the Basis of the Main English Language Variants. Middle European Scientific Bulletin, 22, 199-205.

6. Obidovna, D. Z. (2021). Gender issues in foreign theoretical linguistics: concerning the history of the issue. Gender issues, 7(6).

7. JALILOVA, Z. O. (2021, March). ON THE FORMATION OF THE LANGUAGE OF SCIENTIFIC LITERATURE IN THE HISTORY OF THE ENGLISH LANGUAGE. In E-Conference Globe (pp. 18-22).

8. Jalilova, Z. O. (2020). Concerning the issue of terms, having a place with various morphological classes (in view of the example of the terminologial arrangement of social action). Новый день в медицине, (4), 501-503.

9. Djalilova, Z. O., Juraev, S. S., & Kosimov, S. M. (2021). LATIN AS A PROFESSIONAL LANGUAGE OF MEDICAL WORKERS. Международный научно-практический электронный журнал «МОЯ ПРОФЕССИОНАЛЬНАЯ КАРЬЕРА». Выпуск № 23 (том 1)(апрель, 2021). Дата выхода в свет: 30.04. 2021., 79.

10. Джалилова, З. О., Хасанов, К. А., & Султонов, А. А. (2021). Роль научного управления в процессе обучения высококвалифицированных врачей в новом Узбекистане. Молодой ученый, (26), 377-379.

11. Obidovna, D. Z. (2022). GENDER SPEECH BEHAVIOR IN THE CONTEXT OF THE SOCIO-LINGUISTIC FACTOR. Web of Scientist: International Scientific Research Journal, 3(6), 190-198.

12. Dzhalilova, Z. O., Hajdarova, N. S., & Tashpulatova, N. A. (2021). Latin in the Contemporary World. Молодой ученый, (24), 400-402.

13. Djalilova, Z. (2022). POLITENESS IN WOMEN'S DISCOURSE IN ENGLISH AND UZBEK LANGUAGES. Academic research in modern science, 1(11), 29-34.

14. Джалилова, З. (2022). РЕАЛИЗАЦИЯ МАКСИМ ВЕЖЛИВОСТИ В АНГЛИЙСКОМ И УЗБЕКСКОМ ДИАЛОГАХ. Zamonaviy dunyoda innovatsion tadqiqotlar: Nazariya va amaliyot, 1(21), 22-33.

15. Obidovna, D. Z. (2022). A Speech Etiquette Formula for the Gender Communication Strategy. American Journal of Social and Humanitarian Research, 3(10), 44-50.

16. Djalilova, Z. (2022). DISCURSIVE ELEMENTS AND THE CATEGORY OF POLITENESS. Academic research in modern science, 1(12), 8-14.

17. Джалилова, З. О. (2022). НУТҚ ҲАРАКАТЛАРИДА ХУШМУОМАЛАЛИКНИНГ ГЕНДЕР ХУСУСИЯТЛАРИ. МЕЖДУНАРОДНЫЙ ЖУРНАЛ ИСКУССТВО СЛОВА, 5(5).

18. Obidovna, D. Z. (2022). DISTINCTIVE FEATURES OF MALE AND FEMALE ORAL SPEECH IN MODERN ENGLISH. International Journal Of Literature And Languages, 2(10), 14-21.

19. Obidovna, D. Z. (2022). THE MAIN CONCEPTS OF POLITENESS IN MODERN LINGUOPRAGMATICS: THE POLITENESS PRINCIPLE BY J. LEECH. International Journal of Pedagogics, 2(11), 15-20.

20. Djalilova, Z. (2022). GENDER DIFFERENTIATION OF DISCOURSE ELEMENTS AS INDICATORS OF POSITIVE AND NEGATIVE EVALUATIONS. International Bulletin of Applied Science and Technology, 2(12), 55-63.

21. Djalilova, Z. (2022). GENDER-DETERMINED DIFFERENCES IN THE SPEECH OF LITERARY CHARACTERS. Eurasian Journal of Academic Research, 2(12), 210-215.

22. Djalilova, Z. (2022). GENDER ELEMENT OF SPEECH BEHAVIOR FROM THE POSITION OF TEXT ORGANIZATION MECHANISMS. Eurasian Journal of Academic Research, 2(13), 274-281.

23. Джалилова, З. (2022). ПРАГМАТИЧЕСКИЙ ВЗГЛЯД НА МЕЖЛИЧНОСТНОЕ ОБЩЕНИЕ. Zamonaviy dunyoda ilm-fan va texnologiya, 1(7), 331-336.

24. Djalilova, Z. (2022). GENDER XUSHMUOMALALIKKA ASOSLANGAN IBORALARNING SHAKLLANISHI. Zamonaviy dunyoda innovatsion tadqiqotlar: Nazariya va amaliyot, 1(28), 303-308.

25. DZHALILOVA, Z. O., & SHARIPOV, A. G. ALPHABET OF LATIN LANGUAGE. МОЛОДОЙ УЧЕНЫЙ Учредители: ООО" Издательство Молодой ученый", (52), 338-339.

26. DZHALILOVA, Z. O., & UBAJDULLOEV, A. U. U. COMPARISON DEGREES OF ADJECTIVES IN LATIN LANGUAGE. МОЛОДОЙ УЧЕНЫЙ Учредители: ООО" Издательство Молодой ученый", (52), 336-338.

27. DZHALILOVA, Z. O., & JAKUBOV, U. S. NUMBERS IN LATIN LANGUAGE. МОЛОДОЙ УЧЕНЫЙ Учредители: ООО" Издательство Молодой ученый", (52), 339-341.

28. Djalilova, Z. O. (2023). A DISCOURSIVE TURN IN THE THEORY OF LINGUISTIC POLITENESS: TO THE FORMATION OF THE THEORY OF LINGUISTIC IMPOLITENESS. International Journal Of Literature And Languages, 3(02), 15-23.

29. Djalilova, Z. (2023). PEDAGOGICAL EDUCATIONAL TECHNOLOGY: ESSENCE, CHARACTERISTICS AND EFFICIENCY. Академические исследования в современной науке, 2(23), 29-38.

30. Djalilova, Z. (2023). THE SIGNIFICANCE AND POSITION OF TEACHING METHODS IN PROFESSIONAL TRAINING. Solution of social problems in management and economy, 2(10), 31-42.

31. Djalilova, Z. (2023). THE USE OF LATIN TERMINOLOGY IN MEDICAL CASE. Академические исследования в современной науке, 2(14), 9-15.

32. Джалилова, 3. (2023). The notion of illocution in the theory of speech acts by John Austin. Современные тенденции при обучении иностранному языку в XXI веке, 1(1).

33. Obidovna, D. Z. (2023). ADAPTING TEACHING METHODS TO MODERN EDUCATIONAL TRENDS: PEDAGOGICAL ASPECT. International Journal of Pedagogics, 3(10), 72-77.

34. Djalilova, Z. (2023). LANGUAGE LEARNING STRATEGIES AND THEIR IMPLICATION FOR TEACHING ENGLISH. Центральноазиатский журнал образования и инноваций, 2(11), 18-22.

35. Obidovna, D. Z., & Sulaimonovich, D. S. (2023). Influence of the Mode of Work and Recreation of the Student's Health. INTERNATIONAL JOURNAL OF HEALTH SYSTEMS AND MEDICAL SCIENCES, 2(3), 3-5.

36. Obidovna, D. Z., & Sulaymonovich, D. S. (2023). Forming a Healthy Lifestyle for Students on the Example of the Volleyball Section in Universities.

EUROPEAN JOURNAL OF INNOVATION IN NONFORMAL EDUCATION, 3(3), 22-25.

37. Obidovna, D. Z., & Sulaymonovich, D. S. (2022). Physical activity and its impact on human health and longevity. Достижения науки и образования, (2 (82)), 120-126.

38. Obidovna, D. Z., & Sulaymonovich, D. S. (2022). THE CONCEPT OF" HEALTHY LIFESTYLE" IN PSYCHOLOGICAL RESEARCH. ResearchJet Journal of Analysis and Inventions, 3(06), 53-64.

39. Djalilova, Z. (2023). ADVANCING PEDAGOGICAL APPROACHES: LEVERAGING ARTIFICIAL INTELLIGENCE TECHNOLOGIES TO ENHANCE THE INTEGRATION OF ENGLISH AND LATIN LANGUAGE INSTRUCTIONAL METHODS. International Bulletin of Medical Sciences and Clinical Research, 3(12), 54-60.

40. Djalilova, Z. (2023). ADVANCING CRITICAL THINKING PROFICIENCY THROUGH OPTIMIZED PEDAGOGICAL APPROACHES. International Bulletin of Medical Sciences and Clinical Research, 3(12), 61-67.

41. Djalilova, Z. (2023). IMPROVING METHODOLOGIES FOR INTEGRATIVE ENGLISH AND LATIN LANGUAGE TEACHING USING ARTIFICIAL INTELLIGENCE TECHNOLOGIES. Центральноазиатский журнал образования и инноваций, 2(12 Part 2), 29-34.

42. Djalilova, Z. (2023). ELEVATING CRITICAL THINKING WITH EFFICIENT TEACHING METHODS (GEARED

TOWARDS MEDICAL STUDENTS). International Bulletin of Medical Sciences and Clinical Research, 3(11), 97-102.

43. Obidovna, D. Z. (2023). THE ART OF QUESTIONING: ENHANCING CRITICAL THINKING THROUGH EFFECTIVE PEDAGOGICAL TECHNIQUES. International Journal Of Literature And Languages, 3(11), 54-60.

44. Djalilova, Z. O., Tasheva, N. Z., Nematova, Z. T., & Nasrieva, G. Z. (2023). LEXICO-SEMANTIC PECULIARITIES IN MODERN ENGLISH (ANALYZING ITS BOTH LANGUAGE VARIANTS: BRITISH AND AMERICAN ENGLISH ONES). Journal of Advanced Zoology, 44(S2), 4433-4445.

45. Olimzhonovna, K. O. (2024). DIABETIC NEUROPATHY: ETIOLOGY, PATHOGENESIS, CLINICAL FEATURES AND TREATMENT APPROACHES. EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE, 4(3), 159-166.

46. Obidovna, D. Z. (2024). THE PEDAGOGICAL-PSYCHOLOGICAL ASPECTS OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN INTEGRATIVE EDUCATION. International Journal Of Literature And Languages, 4(03), 13-19.