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9 ARTIFICIAL INTELLIGENCE IN UKRAINIAN LANGUAGE TEACHING: MODELING AND APPLICATION OF THE EVALUATION POTENTIAL OF ADJECTIVES

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ABSTRACT

Professional talents and abilities of an individual are revealed through language means, therefore, perfect language proficiency is an important part of the professional training of modern professionals. In the modern world, artificial intelligence (AI) and various AI models and systems can act as an effective mediator for mastering various language means and understanding numerous grammatical constructions, features of the Ukrainian language. By penetrating the linguistic nature of different parts of speech, we deepen our knowledge of human cognitive activity. The basis of language use is the selection and generalization of signs of events and objects, and it is the adjective that plays an important role in the language system and the communication process, since it has a wide semantic scope, and knowing the signs of an object means knowing the object itself. By designating a feature, the adjective plays an important role in the language system and the communication process, and its evaluative value can be used both for effective teaching of the Ukrainian language and for teaching and designing AI models that can build a productive dialogue with a person and create useful scientific research, textbooks, articles, etc. The authors considers the features of the evaluative potential of adjectives in the structure of the Ukrainian language. Deviant forms of adjectives are presented through consideration of the semantic and grammatical features of adjectives of the Ukrainian language, analyzed from the point of view of pragmatics. The authors provides examples of various didactic scenarios for revealing the evaluative potential of the adjective by introducing neural network technologies into teaching the Ukrainian language and provides comments on the use of AI models in the structure of the Ukrainian language course in higher education.

KEYWORDS

Ukrainian language adjective, artificial intelligence, AI models, pragmatics, evaluative marking.

9.1 THEORETICAL AND METHODOLOGICAL PRINCIPLES OF STUDYING THE EVALUATIVE SEMANTICS OF ADJECTIVES

The main research unit of linguistic axiology is the linguo-philosophical category of evaluation, which is interpreted as a consequence of the linguistic expression of logical-philosophical evaluative judgments – "this is a category that cannot exist in isolation from any other philosophical category, since it itself is one of the most important and universal philosophical categories, without which it is impossible for a person to develop a correct orientation in the world, in society" [1]. Linguistic-philosophical categories are a categorical reflection of the world and human thinking, which is recorded in linguistic units, since it is in the linguistic

means of expressing evaluative values that the connection of evaluation with other linguo-philosophical concepts and categories is realized. The interpretation of this is provided by the study of language in its relationship with human consciousness and thinking.

There are a large number of philosophical problems related to the differentiation of evaluation and cognition itself, and in linguistics, questions arise about the means of implementing the category of evaluation, about the distinction between evaluative and non-evaluative statements, about the pragmatic significance of evaluative means, the specifics of their creation, formation, development, about the comparison of evaluative means of different languages, etc. In particular, studying the features of expressing the category of evaluation by grammatical means, scientists came to the conclusion that it is necessary to fully describe the so-called "grammar of evaluation", within which it is necessary to represent a comprehensive analysis of the grammatical means of expressing the category of evaluation, taking into account their pragmatics. We believe that it is necessary to comprehensively investigate the phenomenon of evaluativeness in language within the framework of the theory of functional grammar and to describe the entire system of evaluations and grammatical means of their expression.

The specifics of expressing evaluative meanings by means of language of its various levels have been studied by domestic and foreign linguists, in particular such as N. Arutyunova, A. Buryachok, A. Zagnitko, G. Zolotova, V. Ivashchenko, V. Kononenko, T. Kosmeda, V. Lopatin, T. Markelova, V. Nykytevich, I. Onyshchenko, O. Petrishcheva, S. Proskurkina, M. Retunska, O. Selivanova, O. Semenyuk, O. Stolyarova, V. Shynkaruk and others. However, the grammatical means of expressing the category of evaluation have been studied in Ukrainian linguistics insufficiently and fragmentarily, the mechanisms of the emergence of such meanings have not been consistently described.

At the current stage of the development of the Ukrainian language, in many lexemes we can trace changes in their semantic scope: an expansion of the semantic content of words and a narrowing of their use in direct meanings, which leads to the layering of figurative meanings (for example, metaphorization of the semantics of relative and possessive adjectives) and, as a result, the acquisition of a qualitative evaluative meaning by such lexemes.

Studying the grammatical categories of a noun in interaction with the category of evaluation, O. Khaliman claims that the evaluation appearance mechanism of grammatical means lies precisely in the interaction mechanism of linguistic and philosophical categories [2]. Let us consider the process of grammaticalization of the category of evaluation in the projection onto the grammatical category of adjectives comparison degrees in the Ukrainian language, which is a direct consequence of the relationship and interaction of the evaluation category with other linguistic and philosophical categories.

As is known, all adjectives are based on a common semantic basis — the meaning of quality, which ultimately motivates their onomasiological task — to characterize, reveal the qualities, properties of objects in the world. The wide semantic scope of adjectives is natural also because in the objective, social and spiritual spheres there are much more properties, qualities, pragmatic and emotional assessments than the objects themselves, events, persons to whom they belong or are nominally attributed [3]. The object of close attention of domestic and foreign linguists is the linguistic possibilities of expressing various quantitative manifestations of the category of quality.

Quality is also a philosophical category. The category of quality reflects "a certain degree of human cognition of objective reality" [4]. At the initial stage of cognition, the object of study is determined in the subject's imagination by some separate property or set of properties. Quality appears as a set of properties in sensory perception — first impressions appear, then something stands out, which becomes the basis for the development of quality. Quality as a philosophical category was first analyzed by Aristotle, who defined it as "specific difference", as "... that specific feature that distinguishes a given entity in all its originality from another entity belonging to the same genus" [5]. Thus, it is thanks to quality that each object in the world exists and is thought of as something separate, autonomous from other objects. Modern philosophers also define quality as a philosophical category, which is a form of reflection and a degree of knowledge of the objective certainty of things in the sphere of their immediate existence [6]. Based on the definitions of the category of quality by ancient and modern philosophers, we trace its connection with cognitive categories.

Cognitive categories are constructs of human consciousness that model our knowledge about the world and correlate them with knowledge models that are fixed in the structure of language [7]. Adjectives constitute a single array of sign lexemes, specialized for naming the most essential characteristics of objects, phenomena of the objective world. Their sign nature as linguistic representatives of the category of quality follows from the understanding of the onomasiological process as a mental and thinking operation aimed at isolating the relevant properties of certain objects in order to penetrate deeper into their essence and interconnection. As Z. Kharitonchik notes, "penetrating the linguistic nature of adjectives, we deepen our knowledge of human cognitive activity" [8]. I. Ogienko agrees with this opinion, and argues that "to know the signs of an object means to know the object itself" [9]. Epistemological activity of a person is also always accompanied by evaluation, and evaluation is evidence of the degree of knowledge of the world and is formed under the influence of such factors as the social position of a person, his/her worldview, level of culture, intelligence, moral development, age, life experience, compliance with the norms and principles of morality. Therefore, a person forms judgments about the properties and qualities of things, mainly from how they are reflected in his/her experience.

According to T. Kosmeda, the category of evaluation in language is, first of all, the result of the grammaticalization of the mental philosophical category, but it is a complex and multifaceted category, which is why its study in logical-semantic and psychological aspects gives impetus to linguistic research [10].

The philosophical interpretation of the category of quality, which is the basis for the expression of evaluative values, is associated with the grammatical category of comparison degrees. The ability of human experience to accumulate and generalize objective knowledge about the quality of objects through repeated contacts with them makes it possible to compare and contrast the qualities of objects with each other — "comparison and juxtaposition are inherent in human nature itself, include operations of synthesis and analysis, and are integral components of human existence" [11].

9.2 THE EVALUATIVE POTENTIAL OF THE ADJECTIVE AS A PART OF SPEECH

At the current development stage of the Ukrainian language, there is an activation of certain grammatical categories intended for the enhanced expression of evaluation, impression, in particular, the formation of

comparison degrees of adjectives and adverbs from relative, possessive, ordinal adjectives or from qualitative adjectives, which are called ungraded features. Reflections on the signs of grading features by adjectives of different lexical and grammatical categories are given by Yu. Karpenko — "if you think about it, then in our world there is nothing but objects — real or imaginary (virtual) and features, signs of these objects. Features can be established, static, expressed mainly by adjectives (the guy is smart, the guy is stupid), and dynamic, rapidly changing, transmitted mainly by verbs (the guy eats, the guy sleeps). But both are features of objects. There is nothing else in the world. And gradation — the volume, the measure of manifestation of a feature — cannot be its most essential property. Essentially, all other grammatical categories of adjectives (gender, number and case) are simply a reflection of the corresponding features of the subject — the noun. But the expression of degree — ordinary, higher, highest (or first, second, third and, not excluded, fourth) — is an organically inherent grammatical category of adjectives, long associated with qualitative adjectives. Now it is increasingly penetrating into relative adjectives, which at the same time acquire a qualitative coloring" [12].

Violation of the language norm can occur due to the action of two factors: intralinguistic and extralinguistic. Among the extralinguistic factors that cause a change in language norms, the following are distinguished (according to O. Styshov [13]):

— democratization of all branches of social life. This means that the literary language expands its functions, colloquial vocabulary is activated;

— weakening or absence of censorship;

— the official status of the Ukrainian language, which leads to the active use of the capabilities and resources of the national word-formation system;

— the search for new means of influence by the media and advertisers;

— "fashion for words", which reflects the aesthetic tastes of a certain era.

As for intralinguistic changes, the grammatical system of the language is also in a state of constant movement. The focus of attention of modern scientists (T. Kosmeda, O. Khaliman, F. Batsevich, V. Sannikov, Zh. Koloiz, L. Folkmar) is the grammatical norm, which unites morphological and word-formation samples of the literary language. Morphological ones include, for example, case forms, number forms, gender, comparisond egrees, type, etc.

The paradox of the existence of grammatical rules is that the concept of a norm does not exist without violations of norms. Errors are a natural phenomenon in various types of activity. Language errors are the result of a complex interaction of various factors or processes, so their study helps to better understand the interaction of a person's thinking and speech processes. Various speech deviations from the norm reveal its nature and patterns of functioning, the direction of changes that it experiences. The so-called "negative speech material" can serve as the background, against which the mechanisms of combining thought and word are more clearly revealed, errors allow us to more clearly outline the norm and explore new speech phenomena [14].

The main violation of the language norm in the sphere of the adjective functioning in the modern Ukrainian language is the formation of comparison degrees from relative and possessive adjectives. In general, the category of comparison degrees in the Ukrainian language is "one of the most complex grammatical categories, with which semantic, syntactic, morphological, word-formation and pragmatic characteristics of the word are associated" [15].

The form of the comparison degree of an adjective, which does not correspond to an adjective of a certain lexical-grammatical category, is filled with evaluative content. Under the semantic influence of the context, both the lexical and grammatical meaning of the word changes, that is, in accordance with the requirements of a certain communication sphere, the corresponding semantic and grammatical meaning in the word are neutralized or actualized. Changes in the functioning of the word generate its new grammatic characteristics, which, accordingly, causes certain shifts in the paradigm of its morphological categories [16]. The formed neologisms comply with the laws of form construction, but contradict the laws of language. They express specific semantic shades, different from those inherent in their original category.

According to I. Kononenko, the speech semantic structure of an adjective is significantly different from its linguistic structure. In contextual conditions, the order of the structure components can change, certain semes and sememes are actualized, and semes can change their status and move to another category [17]. Raising the potential seme to the rank of differential is the semantic content of the process of transferring the meaning of the word. There is an expansion of the semantic content of words and a narrowing of their use in direct meanings, which leads to the layering of figurative meanings (metaphorization of the semantics of relative, possessive and ordinal adjectives) and, as a result, the acquisition of qualitative evaluative meaning and corresponding expression by such lexemes.

The grammatical meaning always accompanies the lexical [18], therefore, in the process of constructing the forms of comparison degrees of adjectives from nouns on the basis of non-compliance of their use with the norms of the Ukrainian language, the use of atypical word-forming models, an assessment and additional expression are generated, because when expressing one's opinion or talking about certain events, a person cannot completely abstract from his/her attitude to what is being expressed and one way or another expresses his/her assessment. By attaching a word to a certain phenomenon, a person not only names this phenomenon, an object, but in the word itself just expresses his/her attitude towards it: "Words are in continuous connection with all our intellectual and emotional life... The word is both a sign of the speaker's thought and a sign of all other mental experiences that are included in the tasks and intentions of the message" [19].

Violation of the correlation of the lexical-grammatical category of an adjective with the feature expressed by it causes the emergence of secondary shades of meaning in relative, possessive and ordinal adjectives. The metaphorical use of grammes of comparison degrees realizes the potential possibilities inherent in the language system and is an effective means of generating the semantics of evaluation, demonstrating its gradation in the grammatical category of comparison degrees. The conscious choice of grammatical means made by speakers, the inconsistency of the lexical-grammatical category with the quality denoted, which is a violation of language norms, is certainly a reflection of the worldview formed in this society.

Let us try to explain the peculiarities of the process of grammaticalization of the philosophical category of quality in projection onto the linguistic level, namely — lexical-grammatical categories of adjectives and the process of acquiring qualitative meanings by relative adjectives, which leads to the construction of non-normative forms of comparison degrees from the standpoint of modern philosophy. The qualitative marking of an object depends primarily on its structure, the nature of the connections between the elements of the

whole, as well as the composition of its elements. A change in quality is caused either by a restructuring of the connections between the elements, or by a change in the elements themselves, or by a change in both of them. The world does not consist of completed and unchanging things, it is "a set of processes, in which things constantly arise, develop and perish, and pass into other things that have different qualities" [20]. Since, due to its qualities, an object acts precisely as given, and not another, a change in quality means the transformation of a given object into another. At the same time, qualitative changes in a thing can be associated with a change in what is specific to a given specific object or to all objects of a given class. With any qualitative change, there is a more general, and at the same time a deeper level of the quality of the object, which remains the same in essence: only the variation of its existence changes. Thus, a qualitative change can also be associated with the transformation of a given phenomenon into another, with a change in the state and form of existence of the same, in essence, object.

Analyzing the philosophical law of the transition of quantitative changes into qualitative ones, Hegel wrote that "quantitative changes, which seem innocent, conceal a trick, behind which qualitative changes are contemplated". The transition of quantitative changes into qualitative ones or the change of one qualitative state to another is called a "leap" in philosophy [19].

Thus, the grammatical category of comparison degrees is associated with the philosophical category of quality, which, being grammaticalized in language, expresses a certain degree of human cognition of objective reality. At the present stage of language development, there is a violation of the correlation of the lexical-grammatical category of an adjective with the feature expressed by it and non-normative gradation forms of adjectives, constructed as a result of these processes. There is an emergence of secondary evaluative shades of meaning in relative, possessive and ordinal adjectives. The metaphorical use of grammes of comparison degrees reflects the potential possibilities inherent in the language system and is an effective means of generating the semantics of evaluation, demonstrating its gradation in the grammatical category of comparison degrees — "in specific speech acts, extralinguistic knowledge is expressed mainly using language mechanisms: possible combinations of linguistic meanings, their metaphorical use, variation of context, etc." [1]. The above-described connection of evaluation with other philosophical categories and concepts explains the features of its embodiment in the grammatical category of comparison degrees of adjectives. Thus, the adjective occupies a central place in the system of evaluations, and the evaluative semantics of adjectives belongs to a little-studied aspect of axiological research.

9.3 ARTIFICIAL INTELLIGENCE IN LINGUISTICS: EVOLUTION AND MODERN TRENDS

The research of artificial intelligence in education, the use of AI tools and their impact on language learning is made in scientific investigations by domestic and foreign scientists: O. Borodienko, I. Drach, O. Bazelyuk, N. Bazelyuk, I. Regeilo, O. Slobodyanyuk, I. Gorbenko, S. Horchynsky, M. Sofilkanych, A. Androschuk, I. Leontieva, O. Malyuga, S. Domnich, N. Makogonchuk, K. Peven, N. Khmil, M. Burlak, Yu. Grinova, A. Kilchenko, F. Araya, R. Wall, J. Wu, H. Huang Choi and others. As the authors state [21], "the effective development of the modern economy and production in the world and in Ukraine is impossible

without a sufficient number of highly qualified specialists capable of ensuring this progress. To train such specialists in higher education, it is necessary to use appropriate educational technologies and artificial intelligence, which makes learning more flexible and individualized".

The Cabinet of Ministers of Ukraine approved the "Concept of Digital Education and Science" [22], which presents a comprehensive strategic vision of the digital transformation of education and science and provides a clear vision and strategy for implementing this transformation. The document complies with the basis of implementation by executive authorities of the state policy principles of digital development, which was approved by the Resolution of the Cabinet of Ministers of Ukraine dated January 30, 2019 No. 56.

Let us consider the evolution of the technology use in language teaching. This is the path from simple electronic manuals to complex intelligent systems that are able to adapt educational content in real time. The use of computing tools in linguistic didactics has a long history, starting from the 1960s, when the direction of Computer-assisted language learning appeared. At this early stage, computers acted mainly as tools for automated testing, playback of audio materials and organization of mechanical training of vocabulary and grammar. CALL systems performed the role of an "electronic textbook", without significantly affecting the pedagogical paradigm.

The key moment that changed this paradigm was the transition to Intelligent computer-assisted language learning (ICALL). Unlike CALL, ICALL systems began to use elements of artificial intelligence to model the student's knowledge and expert knowledge about the language. This allowed the development of adaptive curricula that could provide personalized feedback, simulate dialogue and dynamically change the complexity of tasks. During the development of ICALL, the first attempt was made to apply natural language processing technologies to analyze student errors not only at the surface (syntactic) but also at the semantic level.

The current development stage of linguodidactics is marked by the use of deep learning technologies and large language models. These innovations have provided a qualitative leap in the ability of computers not only to process, but also to generate natural language. Models based on the Transformer architecture demonstrate unprecedented potential in understanding the context, detecting subtle semantic nuances and even analyzing the emotional tone of the text (in particular, the GPT chat uses the aforementioned technology).

The relevance of introducing AI into the study of the Ukrainian language is due to the need to individualize the educational process and increase the requirements for the quality of speech competence. Traditional teaching methods often do not allow for a qualitative diagnosis of the subjective evaluative potential of adjectives, since assessing the correctness of their use requires pragmatic and contextual analysis, which is resource-intensive for the teacher.

Artificial intelligence offers unique applications for linguistic didactics that go beyond simple grammar checking:

1. Diagnostics of semantics and pragmatics: AI systems trained on large corpora of the Ukrainian language can determine the contextual adequacy of the use of evaluative adjectives, identify subjective assessments and track their dynamics in the texts of students.

2. Personalization: Based on diagnostic data, AI can create individual learning trajectories, offering exercises specifically for those groups of evaluative adjectives that cause difficulties for a particular student.

3. Automated feedback: Students receive instant, objective and detailed assessment of their written work regarding lexical diversity and accuracy of expressive statements.

In the context of studying the evaluative potential of adjectives, AI tools become not just auxiliary tools, but a key methodological component. They allow moving from a qualitative description of evaluative vocabulary to its quantitative modeling, which is a necessary condition for the formation of a new, scientifically based didactic model. This emphasizes the feasibility of using complex AI models to ensure high diagnostic accuracy and effective integration of linguistic knowledge into the educational process. The evolution of educational technologies, especially the rapid development of artificial intelligence, opens up fundamentally new horizons for language learning. This technological revolution makes the process of language acquisition more flexible, deeply personalized and universally accessible. Due to its ability to quickly analyze large data sets, AI has exceptional potential for adapting educational content, offering each student an individual development trajectory [23]. This transformative ability of AI significantly increases the efficiency and interactivity of language training. [24] identifies the following categories of AI tools in language learning:

1. Language translators and chatbots: They simulate live communication with native speakers or virtual interlocutors. This creates a conducive environment for speaking and listening practice, which in turn allows students to improve pronunciation, intonation, and fluency with minimal stress.

2. Adaptive platforms: These are systems that dynamically change the difficulty and type of tasks according to the user's current level of knowledge and progress, providing a truly personalized educational process.

3. Interactive exercises: Such tools provide instant feedback on grammar and vocabulary, allowing students to quickly identify and correct their mistakes.

4. Speech recognition programs that allow students to practice their pronunciation and receive immediate feedback [25].

5. Pronunciation trainers that help students improve their pronunciation and intonation by offering them targeted exercises [26].

6. Translation tools that allow students to translate text or language in real time, which can be useful for conversational practice [27].

7. Speech synthesis tools that allow students to listen to the text they are reading, which can be useful for developing their listening comprehension skills [28].

8. Interactive learning platforms that provide students with a personalized learning experience by offering them relevant materials and tasks [29].

These tools make the language learning process efficient and effective, as a result, the teacher's priority becomes to provide students with advanced resources and support aimed at maximizing their language potential. However, AI tools also have disadvantages, including: the lack of live human communication, cost, technical complexity of use, etc. We have analyzed potential dialectical scenarios for learning the Ukrainian language adjective and its evaluative potential using AI systems. Let us consider them in more detail.

9.4 IMPLEMENTATION OF AI SYSTEM IN THE EDUCATIONAL PROCESS OF STUDYING THE ADJECTIVE OF THE UKRAINIAN LANGUAGE AND ITS EVALUATIVE POTENTIAL: DIDACTIC SCENARIOS

Modern philological education, especially in the context of the Ukrainian language, is faced with an urgent need to introduce innovative methods that can ensure not only the formal assimilation of grammatical rules, but also a deep understanding of the stylistic and semantic nuances of the language. The adjective, as a part of the language, has a colossal evaluative potential, which is often underestimated in the traditional approach to learning, which is reduced mainly to declension and agreement. The feeling of lexical appropriateness, stylistic accuracy and emotional coloring that the adjective provides requires tools that can analyze the text not just at the word level, but at the context level.

It is here that artificial intelligence, in particular, specialized neural network systems, opens a new era of didactics.

The implementation of an AI system focused on the analysis of attributive structures allows transforming teaching, moving from mechanical checking to formative assessment with an emphasis on self-correction. Let's consider the first didactic scenario that focuses on this aspect. A student is asked to complete a creative task, for example, to write a detailed description of a painting or character, where the use of adjectives is key. In the traditional model, the teacher would check this work after a few days, providing only general comments. Instead, the AI system integrated into the learning platform works as an interactive assistant in real time. The system does not simply highlight grammatical errors, but uses a multidimensional approach to assessment. If a student uses the adjective "big" five times in a row, the system instantly classifies this as a low score according to the lexical diversity criterion. What appears on the screen is not a dry sentence, but a thought-provoking recommendation: "Try using more expressive synonyms: 'majestic', 'bulky', 'massive'". In this way, the student receives instant, unemotional feedback that turns an error into a learning opportunity and develops his/her ability to make conscious corrections. The goal of this approach is to teach the student to see how his/her choice of vocabulary directly affects the quality and style of the text, which is impossible with a deferred, overall assessment.

The second important scenario concerns the work of the teacher with the whole group, namely — diagnostics of weak points and adaptation of the curriculum. Checking a large number of written works, especially for stylistic and lexical shortcomings, is extremely time-consuming. The teacher is often forced to rely on general impressions. In this context, the AI system becomes a powerful tool for business analysis for education. After loading a large array of student works, the system aggregates the data, revealing collective trends of errors that may not be noticeable during individual checking. For example, the system may find that 75% of students in a given group systematically make mistakes in coordinating adjectives of the soft group (for example, "an old house"), or that most students avoid using complex adjectives, preferring only simple definitions. Having received such a statistical report, the teacher can not waste time on repeating the material that the students have already mastered, but purposefully devote the next lesson to spot-correction of the most problematic topics. This dramatically increases the efficiency of teaching time and allows the teacher to focus on creative, discussion or individual consultations, delegating routine diagnostic functions to machine intelligence.

The third scenario reveals the greatest potential of AI in studying the evaluative function of an adjective and stylistic skill. Adjectives of the Ukrainian language are able not only to describe, but also to emotionally color the object, convey the author's attitude. To develop this feeling, students are offered tasks for comparative stylistic analysis. For example, a student is asked to describe the same object — an evening forest — first in a scientific style (using neutral, relative adjectives), and then in an artistic style (using epithets, metaphorical and emotionally saturated adjectives). The AI system here acts as an arbiter of stylistics. In a scientific text, it automatically lowers the score for the use of adjectives with a bright emotional coloring ("charming", "terrible"), encouraging neutral meanings ("coniferous", "temperature"). In contrast, in a literary text, the system requires a high index of lexical uniqueness and positively assesses the use of evaluative adjectives. This teaches the student to consciously use the adjective as a tool for manipulating the reader's attention and forming the tone of the text. Another task may be aimed at changing the emotional coloring of a finished neutral text. The student must rewrite the text using adjectives that give it an exclusively positive or negative tone. AI analyzes the total "emotional vector" of the text and compares it with the given goal, confirming or denying the success of the stylistic maneuver. Thus, students do not simply study the adjective as a grammatical unit, but master it as a powerful rhetorical tool. The integration of neural network technologies into education, especially in language teaching, ceases to be a futuristic idea and becomes a practical tool that ensures high-quality, objective, and adaptive learning of the Ukrainian language.

The modern educational paradigm requires not only effective teaching methods, but also objective and fast tools for assessing academic achievement. A particular difficulty in language teaching is the assessment of attributive structures (in particular, the use of adjectives), since it requires a deep understanding of the context, stylistic appropriateness, and grammatical correctness. Traditional testing methods are laborious and subjective.

In response to this challenge, the integration of a specialized artificial intelligence (AI) architecture into the didactic process is proposed. We propose to consider the architecture of an AI model that can be used for automated assessment of the correctness and stylistic accuracy of the use of adjectives and didactic scenarios for implementing an AI system.

The proposed system uses a multilayer neural network focused on natural language processing. The model does not just check spelling; it performs semantic and grammatical analysis of adjectives in the context of a sentence. A combination of two architectures is used to achieve high accuracy. Contextualization module (BERT-like transformer): This module is responsible for encoding the entire sentence. It analyzes the relationship between the adjective and the noun, to which it refers (attributive function), as well as the contextual influence of other words. It helps determine the lexical relevance of the adjective according to the noun and provides a vector representation of the adjective containing deep semantic information. The resulting contextual vector is fed to the input of this module, which performs classification according to several criteria. The adjectives are evaluated according to four main indicators, each of which forms part of the final score:

— grammatical correctness (40%): checking the agreement of the adjective with the noun in gender, number and case and assessing the correctness of word formation;

– stylistic accuracy (30%): determining the appropriateness of using the adjective in a given style of text (scientific, journalistic, artistic, etc.). The model learns to recognize clichés and excessive use of simple, unoriginal lexemes;

– lexical diversity (20%): analyzing the number of unique adjectives in the text compared to the total number of words. Encouraging the use of synonyms and antonyms;

– semantic appropriateness (10%): assessing whether the adjective enhances the meaning of the noun, whether it is redundant or contradictory (for example, the use of metaphors). We have built three possible didactic scenarios for implementing the AI system.

The first scenario contains elements of rapid assessment and instant feedback from the teacher to the students and can be implemented as follows: in the classroom lesson, the material is practically consolidated or students work independently. The goal of the work is to develop self-correction skills and in-depth mastery of grammatical rules. Students write short essays or descriptions (for example, "Description of their hometown", "Portrait of a historical figure"). The role of AI in the lesson is as follows: the system analyzes the text in real time. Unlike traditional checking, AI does not simply indicate an error, but provides multidimensional feedback for each of the four criteria (grammar, stylistics, diversity, appropriateness). For example, to correct the error "красивий будинку", the system highlights the word and suggests: "Grammatical inaccuracy: gender mismatch. Try changing the ending or noun." The didactic effect of this scenario is as follows: the student instantly sees his/her weaknesses and independently corrects them, turning the mistake into a learning opportunity.

The second scenario can act as a diagnostic of the group's weaknesses and be used during the verification and analysis of test papers or large creative tasks. The purpose of the work is to adapt the curriculum to the needs of a specific group. Students write test papers, complete tasks, and after checking 30–40 works, the AI model aggregates data and provides the teacher with a statistical report on incorrect agreement of adjectives in the plural (with the percentage of errors in the group); excessive use of evaluative adjectives (for example, "good", "bad") instead of descriptive ones (also with the percentage of errors in the group). The didactic effect of this scenario is as follows: the teacher will receive objective data that will allow him/her not to waste time checking obvious things, but to focus on the most problematic topics of the group.

The third scenario can be used during the verification of homework and for personalized learning. Its goal is to develop in the student skills that require improvement, according to his/her profile. The role of AI in the lesson is as follows: the system, having detected that student "A" has excellent grammar, but low lexical diversity (always uses 5-7 basic adjectives), automatically generates a task for him/her: "Describe the evening landscape, using only rare synonyms for the adjective "old". For student "B", who has a rich vocabulary, but often makes grammatical errors, the system generates exercises on the conjugation of complex adjectives. The didactic effect of this scenario is as follows: the teacher will be able to personalize the task for each student by providing tasks built taking into account the potential of each student.

Thus, the integration of neural network technologies for automated assessment of attributive structures is a powerful tool for modernizing the educational process. The hybrid architecture of AI ensures objectivity and multidimensionality of assessment, going beyond simple grammatical correctness to the analysis of stylistics and semantics. The implementation of AI systems allows the teacher to save time for creative work and provide students with objective feedback, which promotes active self-correction. Thus,

AI acts not as a replacement for the teacher, but as an intelligent assistant that improves the quality of assessment and contributes to more adaptive and effective language learning.

9.5 DISCUSSION OF THE DEVELOPMENT PROSPECTS AND ETHICAL ASPECTS OF THE USE OF ARTIFICIAL INTELLIGENCE IN THE STUDY OF THE EVALUATIVE POTENTIAL OF ADJECTIVES IN THE UKRAINIAN LANGUAGE

The functional-pragmatic orientation of modern linguistic research has opened up opportunities for studying new aspects of the category of evaluation, in particular, the study of the functional specificity of grammatical units. The modern development stage of the Ukrainian language is marked by the activation of certain grammatical categories intended for the enhanced expression of evaluation, impression, in particular, the formation of comparison degrees of adjectives and adverbs from relative, possessive, ordinal adjectives or from qualitative adjectives, which call an ungraded feature.

The functioning in the Ukrainian language of non-normative metaphorized forms of the comparative, superlative and elative constructed from qualitative, relative, possessive and ordinal adjectives and nouns is characterized by certain features. These features are associated with the individual search, selection and construction of word forms, which are the result of the complex interaction of cognitive, communicative and pragmatic components of the expression. This selection process is colored by anthropocentric marking, determined by the features of the axiological system of each artist — "the artist's associations are always multi-valued, multi-layered, multi-faceted and are grounded in an emotional-subconscious basis that participates in their formation" [18]. Any violation of the norms is dictated by the author's desire for new speech expressiveness, the implementation of relevant communicative tasks. In order to achieve specific pragmatic goals, the formal indicators of traditional, fixed by the language system for this or that morphological class of grammes change, which causes the emergence of new random grammatical modifications, the actualization of potential axiological semes, the emergence of multi-vector semantic associations. Unusual graduated forms of adjectives in the fabric of a poetic work become, due to the specificity of their meaning, exponents of the subjective-figurative reflection of the surrounding world, which is one of the defining features of poetic speech.

The adjective as a part of speech with the greatest evaluative potential attracts the attention of many researchers. The analysis of the interaction of the philosophical category of quality with the category of evaluation in the projection onto the grammatical categories of the adjective makes it possible to explain the grammaticalization features of the philosophical category of quality in the projection onto the linguistic level.

A broad approach to understanding the adjective as a part of speech used in the work involves the division of adjectives into five groups — qualitative, relative, possessive, ordinal and pronominal adjectives, each of which has its own lexical, semantic and grammatical features.

There is no unanimous opinion among linguists regarding the status of the category of comparison degrees of adjectives and the grammes of the superlative, elative and comparative. However, most linguists classify this category as a morphological-syntactic-word-formation category of an adjective, since among other morphological-word-formation categories (categories of an absolute measure of quality and categories of subjective

assessment), only it is associated with semantic-syntactic valence (graded words act as the main semantic component of an elementary sentence and require filling open positions with appropriate contextual partners).

The ordering and systematization of linguistic means of explication of the semantics and grammar of the comparative, superlative and elative forms allows for a thorough study of complex grammatical phenomena, one of which is the above-mentioned grammes. The study of grammes of comparison degrees, based on the principles of systemic and functional approaches, seems promising, since it allows us to look at traditional debatable issues of grammar related to the structural, semantic and syntactic features of words with the semantics of comparison from a new perspective.

Artificial intelligence has become one of the key tools in modern methods of learning foreign languages. Its use allows you to automate the learning process, increasing its efficiency. Thanks to machine learning algorithms, you can create personalized learning programs that adapt to the individual characteristics of each student, their level of knowledge and the pace of learning the material [30]. This allows you to make learning more flexible and productive.

9.6 DISCUSSION OF THE RESULTS OF SECTION 9

The results of the conducted research and practical modeling of didactic scenarios focused on the use of neural network technologies indicate that the introduction of AI tools in teaching Ukrainian as a foreign language significantly intensifies and increases the effectiveness of the learning process. The emphasis on studying the evaluative potential of language units, in particular adjectives, as well as the analysis of atypical, deviant forms of their use (such as gradation from relative or possessive adjectives), allows creating conditions in the classroom that are as close as possible to the real communicative environment in the Ukrainian language. This is ensured by the ability of the AI model to provide students with detailed, multidimensional feedback on grammatical correctness, lexical diversity and stylistic accuracy of expression. However, we emphasize that the integration of the AI system into the educational process should be purposeful and didactically justified, so as not to replace the teacher, but to strengthen his/her capabilities.

The formation of students' communicative skills by studying the evaluative potential of language units, in particular adjectives, as well as studying the use and understanding of such atypical, deviant forms (such as non-normative gradation) allows us to create conditions that are as close as possible to real language communication in Ukrainian. In order to increase students' interest and, as a result, increase the effectiveness of learning the Ukrainian language, we have developed and described a system of tasks for foreign students at each stage, based on the integration of a hybrid neural network model and have provided three possible didactic scenarios for implementing the AI system with a brief analysis of each and the possibilities of its implementation in real Ukrainian language lessons.

Given the relevance of this topic, we consider it necessary to continue developing research that will increase the effectiveness of using AI models in learning the Ukrainian language, make the learning process more interesting and diverse, and contribute to improving the cognitive activity and educational level of future specialists.

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