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TRANSLINGUALISM IN TEACHING KAZAKH AS A SECOND FOREIGN LANGUAGE: MODELING ACADEMIC WRITING

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Abstract. This article explores the role of the translingual approach in teaching the Kazakh language in a multilingual environment. This method focuses on acquiring a second language by leveraging connections between languages. Translingual teaching enhances students' cognitive and linguistic skills while helping them recognize the similarities and differences between language systems. It is useful in foreign language education, particularly in teaching Kazakh as a second foreign language, where academic writing proficiency plays a crucial role. *The goal* of the study is to differentiate the types, structures, and creation methods of linguistic models applicable to teaching academic writing in Kazakh as an L2 using translingualism. *The key tasks* involve analyzing global and domestic modeling practices, selecting suitable models for teaching academic text genres, and developing a structured model by defining its content and framework. *Through the analysis and synthesis* of existing models, the graphical model of K. Zhubanov was selected as a foundation for constructing a structured model of a scientific article. The practical value of this research lies in the application of graphical models to teach students how to structure essays, scientific articles in Kazakh as an L2, making the writing process more accessible and systematic. The study's findings indicate that the translingual approach significantly facilitates the acquisition of the Kazakh language, while the simultaneous use of multiple languages accelerates the assimilation of educational material. The process of learning new grammatical structures is enhanced through code-switching and language comparison. Additionally, the article demonstrates the effectiveness of modeling the structures of both the learner's native language and the target language in improving language acquisition.

Keywords: translingual approach, multilingual education, language codes, language modeling, academic writing, graphical model, modeling text genres, Kazakh as a second language

Introduction

The growing globalization and expanding use of Kazakh as a second or foreign language in academic and professional contexts have created an urgent need

for effective instructional methods to support learners' development of academic writing skills. As Kazakh increasingly becomes a language of education, research, and official communication, learners from diverse linguistic backgrounds face significant challenges. Many struggle particularly with mastering the complex syntactic and discourse structures characteristic of academic texts. These difficulties often hinder their academic performance, reduce their confidence, and limit their full integration into academic and professional environments.

Traditional teaching methods, while valuable, frequently fall short of meeting the needs of these learners. They often do not account adequately for the diverse linguistic and cultural backgrounds students bring to the classroom, nor do they fully address the specific structural complexities of Kazakh grammar and academic discourse. This gap in instructional effectiveness highlights the need for innovative pedagogical tools that can bridge learners' existing language knowledge with the demands of Kazakh academic writing.

In response to this challenge, modeling strategies—especially graphical and translingual models—emerge as promising solutions. These approaches offer learners clear, visual, and comparative frameworks that simplify and illuminate complex language structures. Graphical models, such as those derived from Zhubanov's syntactic system, visually represent sentence components and their relationships, helping learners grasp syntactic dependencies and logical progression in texts. Translingual models, on the other hand, leverage learners' native languages as cognitive scaffolds, enabling comparisons that deepen metalinguistic awareness and facilitate the transfer of existing linguistic knowledge to Kazakh.

The translingual approach is particularly well-suited to multilingual classroom settings, reflecting the linguistic realities many learners face. It acknowledges the fluid and interactive nature of language use among bilingual and multilingual speakers, promoting not only the acquisition of Kazakh but also an understanding of how languages influence each other in dynamic ways. By exploring connections and contrasts between their native language(s) and Kazakh, learners develop a richer linguistic competence and enhanced communicative abilities. This approach aligns with current research emphasizing the cognitive and linguistic benefits of integrated, cross-linguistic learning processes.

Moreover, translingualism supports the development of language skills at multiple levels, from vocabulary and grammar to discourse and pragmatics, by recognizing the interplay of different linguistic systems. Researchers argue that such integrated learning fosters the interconnected development of language and thinking skills, making it easier for learners to internalize new structures and apply them in academic contexts. This method also addresses the needs of multilingual learners more holistically, preparing them for active participation in increasingly globalized and linguistically diverse environments.

Kazakhstan's unique linguistic landscape further underscores the relevance of this research. The country is characterized by its multilingualism, where Kazakh, as the state language, coexists alongside Russian and English, among other languages. In this multicultural setting, traditional monolingual teaching approaches are insufficient to address the realities of language use and acquisition. Instead, translingualism offers a practical and culturally responsive methodology that embraces linguistic diversity as an asset rather than a barrier. By incorporating learners' native languages into the learning process, educators can more effectively support Kazakh language acquisition and academic success.

In light of these considerations, investigating and adapting graphical and translingual linguistic models to enhance Kazakh academic writing instruction is both timely and essential. This research addresses a critical gap by providing pedagogically sound, theoretically grounded, and practically applicable tools designed specifically for the multilingual and multicultural contexts of Kazakh language learners. The study's findings aim to guide educators in selecting and applying effective modeling strategies that simplify complex linguistic concepts, foster cross-linguistic connections, and ultimately improve learners' academic writing proficiency in Kazakh.

It is known that the scientific knowledge creation and dissemination are carried out on the basis of textual activity, and in the scientific environment this process is carried out by publishing the scientific research results, and in education by writing student's qualification works. In the context of foreign language education, particularly when teaching Kazakh as a second foreign language, academic writing plays a significant role in preparing students for engaging with global scientific discourse. During the transition to the information society, the volume of scientific publications has increased sharply, and written communication has become more dominant than oral communication, requiring students to master not only academic writing but also digital technologies. That is, in the modern era of the development of information technologies, when filling out documents written in a scientific style, students, particularly those learning Kazakh as an L2, first turn to Internet sources for reference. Although the ways of writing a summary, review, and abstract are generally indicated, step-by-step advice and ready-made linguistic models for writing them in Kazakh will be especially useful for students in foreign language education. These models will not only aid in mastering the structure and content of academic texts but also help students develop the necessary skills for producing high-quality written work in their second language.

Academic text genres differ in structure and content, as each genre is designed to meet specific writing purposes. Understanding these structural features is essential for producing competent academic texts. Using a model can significantly enhance writing skills, as it represents a functional analogue of the original, guiding the process of interpreting and reproducing its essence through a sequence of tasks.

The concept of linguistic modeling emerged from structural linguistics and became scientifically prominent in the 1960s and 1970s. While modern linguistics often uses the term "theory" to encompass what was previously referred to as a "model," a well-structured and formalized theory is still considered a type of model.

Modeling involves studying objects, processes, and phenomena to create a representation or model of them. The need for modeling arises for several reasons. First, the object of study might not exist in real-time or may not occur naturally. Second, the original may have numerous properties and relationships, but the modeler may only need to focus on specific aspects.

During the modeling process, it is crucial to identify the properties of the object or process and plan the stages of modeling effectively. Modeling is particularly useful when studying the original object is challenging or impossible due to constraints in natural conditions. It simplifies the study by focusing on a manageable version of the object.

The methods used in modeling depend on the type of model, its nature, the field of application, and the purpose of the study. Modeling helps make the invisible and complex visible and understandable, transforming the unknown into the known and allowing for a thorough examination of intricate objects.

Methods and materials

This study uses a qualitative research approach, with a focus on descriptive and comparative analysis. The main aim is to explore how translingual strategies and linguistic modeling—particularly Kudaibergen Zhubanov's graphical model—can support the development of academic writing skills for students learning Kazakh as a second or foreign language.

To address the research questions, several key methods like textual analysis, modeling, comparative analysis were applied.

First, academic texts in both Kazakh and English to identify structural patterns, similarities, and differences were examined. This approach allowed to understand how translingual strategies and syntactic modeling could help bridge the gap between students' first and second language writing practices.

Second, the use of graphical modeling, based on Zhubanov's syntactic diagrams was studied. His visual system was adapted to map out the structure and logic of academic texts-like essays and research papers showing how ideas and sentence components connect. We tested these adapted models in an instructional setting.

Third, Various schematic models commonly used in English academic writing instruction were identified and compared them with our adaptation of Zhubanov's approach. This helped us identify effective practices and refine our model for use in the Kazakh language context.

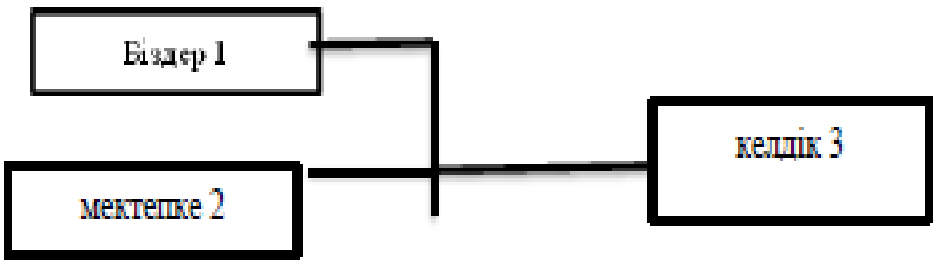
Kudaibergen Zhubanov's works, *Statistical Linguistics* and *Modelling in Linguistics*, describe a graphical model for analyzing sentence structure. Zhubanov emphasizes the importance of understanding the formal representation of sentence structure in any language. To achieve this, he proposes constructing a system of constructors, or a constructor model, represented as a set of ordered sections forming a linear chain. In this model, words, phrases, and their structural relationships are considered syntactic units [1, p.361].

Zhubanov notes that the smallest unit at the top of the graphical system can be a basic word, a word, or a phrase. Relationships within the set are termed «graphs» and are illustrated through drawings [1, p.12].For modeling text types, we might use the name of the academic text type as the smallest unit.

The author further explains that constituent idioms should be connected by straight lines, numbered according to their internal and external dependencies. Constituent idioms at the top of the graph should be semantically divided into internal phrases, represented in the drawings. Sentences are connected according to their structure and meaning using straight line segments, without serial numbers.

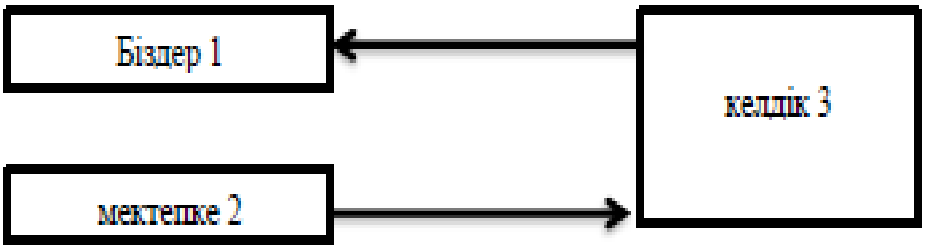
Zhubanov believes that the graphical model accurately represents sentence structure from both semantic and grammatical perspectives. He refers to this straight graphical form of the model as the «compiler model» or «syntactic model» in the literature. This model illustrates various dependencies, such as overlap, contact, crossing, and acquisition, between elements, providing detailed information about the syntactic structure of the sentence. Practically, these dependencies are depicted as drawings or graphs [1, p.13].

Although Zhubanov did not use the terms «graph» or «compiler model» to describe the figures and phrases within a sentence, he numbered the words and depicted their dependencies using sections and squares in diagrams. He suggested that sentence dependencies should be displayed using a cross-section diagram as follows: Words are connected to each other in the sentence, with each word leading to the next. For example, in the sentence «We came to school,» the connections can be illustrated as shown in Picture 1.



Picture 1 – K. Zhubanov's graphical model 1

Words in a sentence are connected sequentially, with each word leading to the next. For example, in the sentence “We came to school,” the connections between the words can be illustrated by drawing lines to indicate their direction and relationship. The connections are represented as follows: (see Picture 2).



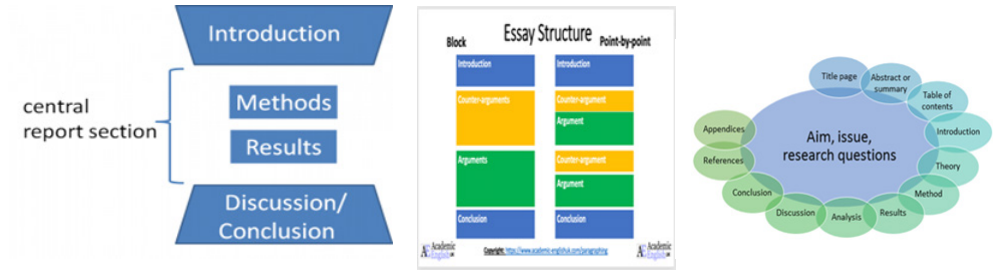
Picture 2 – K. Zhubanov’s graphical model 2

We believe that the model illustrated in the example was developed in the 1930s. Despite its simplicity, it is clear and effective for presenting the content of texts, demonstrating text structures, and illustrating the connections and dependencies between text components.

Today, graphical modeling methods are widely used to develop writing skills in English. Academic texts are complex, with multiple structural parts. Therefore, when creating a text, it is crucial to simplify the model by reducing the number of components. Simplifying the model not only enhances its visual clarity but also minimizes the steps required to achieve the final goal. Thus, ease of use is a key requirement for effective text modeling.

Another important requirement is that the model should allow for comprehensive analysis from all perspectives, ensuring clear connections between text components. Successful models often incorporate tables and diagrams that facilitate text analysis.

In the field of foreign text analysis, numerous schematic models are employed to describe the stages of scientific research methods, the structure of essays, and the process of writing scientific articles. These models serve as essential tools in understanding and organizing academic texts, providing clear frameworks for students and researchers alike. By illustrating key steps such as hypothesis formulation, data collection, argument development, and conclusion drawing, these models help streamline the writing process. Additionally, they guide learners through the structural components of various academic genres, ensuring clarity, coherence, and logical progression in their writing. Some of these models are visually represented in Figure 3, highlighting the interconnections between different stages of academic writing and the crucial role these frameworks play in fostering effective written communication in scientific and academic contexts.



Picture 3 – Modeling of academic texts

The models are constructed using the schematic modeling method, which plays a crucial role in simplifying and structuring academic writing, especially in foreign language education. The first model is the **IMRAD format** for academic articles, widely recognized for its clarity and organization. This model is effective because it clearly delineates the stages of writing an article—**Introduction, Methods, Results, and Discussion**—without including redundant information, making it particularly useful for students learning to write academic texts in a foreign language, such as Kazakh as a second language. The second model presents the stages of writing essays at two different levels of complexity, helping students gradually build their writing skills from basic to advanced essay structures. This tiered approach is especially beneficial for foreign language learners, as it allows them to understand and apply varying degrees of complexity in their writing. The third model outlines the stages of conducting research, breaking down each step involved in gathering data, analyzing information, and synthesizing findings into a coherent research paper. These models feature straightforward structures and provide information in a clear and concise manner, facilitating the writing process for learners at different stages. In the context of foreign language modeling experience, these approaches are valuable tools in helping students master academic writing in a second language. They serve as guides to both the structural and linguistic aspects of academic texts, improving students' ability to produce well-organized and effectively written scientific work in languages such as Kazakh, all while ensuring clarity and ease of understanding. These models are designed to facilitate the preparation of the final text based on their structure, making the academic writing process more accessible and manageable for students learning Kazakh as a second foreign language.*Results*

The term "model" is defined in foreign language dictionaries as a conventional representation, image, outline, or description of an object of study created either conceptually or materially [2, p.360].

S.A. Odanova and K.E. Moldabaeva define a model as "an ordered set of data representing the essential properties of an object for the purpose of simulating a real physical object or process, or a theoretical structure. Modeling is utilized in science, education, and the creation of artificial systems. It allows

for a general description of the original and offers various ways of interpretation without needing to fully describe it" [3, p.277].

According to Professor A. Zhubanov, a model is "a summarized, simplified representation of a collection of functional, structural, and other properties of a phenomenon using various methods" [4, p.280].

M.F. Pankina describes a model as a tool used to study the state and dynamics of an original object. While a model does not provide a complete description of the original, it offers a general overview and allows for various interpretations [5, p.18].

Yu. V. Kravtsova outlines the stages of model building as follows:

1. Setting Research Problems and Tasks: Identifying the key features and properties of the modeled object, studying its structure and the connections between its elements, and formulating hypotheses to understand the object's meaning and development.
2. Building a Language Model: Justifying the structure and type of the model, selecting a model, and examining its features.
3. Research and Analysis of the Model: Clarifying the general properties of the model.
4. Summarizing Preliminary Results: Transferring knowledge from the model to the original, adjusting the understanding of the model based on the properties of the original object.
5. Analysis of Results and Application: Verifying the results of the model, assessing their practical application, and developing a general theory of the object [6,p.181].

M. Ermekbaev notes that models vary based on their content, type, purpose, and task. They adapt according to their impact on the environment and the nature of the original context being studied. Models, as a concept of knowledge, define the material environment through various forms: as a series of well-organized, interconnected statements, a physical graphic or schematic representation highlighting the main aspects, elements, and connections of an object, mathematical formulas illustrating key external and internal relationships, or numerical tables

In his work Models of Phrases in the Modern Kazakh Language, M. Ermekbaev presents models of phrases in Kazakh. He describes the basis of his models using Latin letters and symbols to denote sentence components: S for subject, P for predicate, At for determiner, Ob for object, and Ad for modifier. For example, he uses the notation "gold + hour. ADJ is an adjective + S is a noun" to illustrate these components [7].

Thus, modeling in Kazakh language education is not a new field. However, the globalization of science and education, along with advancements in digital technologies, has introduced new types of language modeling and methods of use.

Russian scientist K.I. Belousov, in his work Model Linguistics and Problems of Modeling Linguistic Reality, discusses the theory of modeling linguistic units. He notes that model linguistics emerged from methodologies and approaches popular in the 1980s and 1990s. Belousov argues that it is possible to develop a theory of linguistic model research, termed "model linguistics," based on these approaches. He emphasizes that the shift from mere description to modeling linguistic phenomena has expanded the boundaries of linguistic science, fostering new interdisciplinary connections. However, he also highlights the challenge of ensuring that created language models meet specific requirements while maintaining their quantitative and predictive qualities [8, p.95].

From a methodological perspective, American philosopher M. Wartofsky provides a significant insight into the nature of models. He views models as prototypes designed for future actions. According to Wartofsky, models serve as tools for achieving language goals and are structured to ensure the realization of these goals [9,p.110].

Based on the researchers' definitions of the term "model," we can describe a model as follows: A model is a representation created using tables, drawings, mathematical symbols, or other forms, designed to preserve the properties of the original. Its purpose is to present the structure and content of a specific text in a concise and simplified manner. In essence, a model does not introduce new information but interprets and organizes the existing information for clearer understanding.

Results

Mastering writing skills is essential for students, as writing serves as a key medium for articulating thoughts in a clear, coherent, and academically appropriate manner, fulfilling the stringent requirements of academic discourse. The ability to effectively produce academic texts is not only a foundational skill but also an important intellectual asset that significantly contributes to the cognitive and professional development of a future specialist. The acquisition of academic writing skills equips students with the tools necessary to engage in scholarly communication, thus enhancing their ability to participate in the global scientific community. Given the formal nature and rigid structure required in academic writing, students who have mastered these skills—particularly through the use of structured models—are better positioned to adhere to established conventions and effectively communicate within academic and research contexts. Furthermore, the proficiency in academic writing gained through such models fosters critical thinking, facilitates the synthesis of complex information, and supports the development of a disciplined approach to scholarly work, ultimately benefiting the student's future career and intellectual growth.

As well as the teacher plays a crucial role in teaching the Kazakh language in multilingual groups, as they not only develop students' language skills but

also introduce them to the cultural and social aspects of Kazakh society. Through learning the Kazakh language, students gain insight into Kazakhstan's historical and cultural values, fostering a deeper understanding of their place within a multicultural and multilingual society.

By applying the translingual method of modeling in practice, the teacher not only facilitates Kazakh language acquisition but also bridges different languages and cultures. This approach enables students to navigate a new linguistic and cultural environment by drawing on their existing linguistic knowledge. Additionally, translingual teaching enhances lesson interactivity by actively engaging students and encouraging participation. Therefore, in the era of globalization, teachers must continuously enhance their professional skills and refine the methodological tools of translingual teaching to meet the demands of the modern educational landscape.

In linguistics, there are various classifications of model types. A widely recognized classification in Russian science is based on Yu.D. Apresyan's framework. Apresyan's classification divides language modeling into three main types, such as Reproduction models, Models of Linguistic Works, Linguistic Mechanism Models.

Reproduction models in language activity play a crucial role in various aspects of linguistic work. These models can be broadly classified based on their function. First, there are models designed for understanding or analyzing text content, which focus on interpreting and extracting meaning from the text. Such models are instrumental in comprehension tasks, helping learners and researchers make sense of complex materials. Next, models for creating or assembling (synthesizing) linguistic works are used to generate new linguistic content, facilitating the production of written or spoken language, whether for academic, professional, or everyday purposes. Another significant category is automatic translation models, which assist in translating text from one language to another, enabling communication across linguistic barriers. Language training models are also essential as they support learners in acquiring and practicing language skills, providing a structured approach to mastering new languages. Finally, natural language dialog systems represent an advanced application, encompassing intelligent systems that engage in conversation and other complex interactions, simulating human-like communication in various contexts. These models collectively contribute to the evolution of language understanding, learning, and production, facilitating the advancement of both linguistic theory and practical language use.

Models of Linguistic Works (Texts), or Research Models, are concerned with texts as fundamental components of language activity. These models function as representations of existence, often referred to as "models of the world," as they reflect the nature, structure, and purpose of linguistic works within various contexts. They capture the ways in which texts operate within specific

domains—such as academic, scientific, literary, or professional environments—emphasizing their role in communication and knowledge dissemination. These models are integral in understanding how different types of texts fulfill specific functions, adhere to particular conventions, and engage with audiences across diverse settings.

Linguistic Mechanism Models focus on defining the linguistic laws and principles necessary for understanding, analyzing, and constructing linguistic works. These models provide the theoretical framework required to analyze the structure and composition of language. By identifying and outlining key elements such as syntax, morphology, semantics, and pragmatics, these models guide the analysis of how language operates at a deeper level. They are essential in uncovering the underlying mechanisms that govern linguistic works, enabling a more nuanced understanding of language use, structure, and function. Both types of models—those reflecting texts as communicative entities and those defining the mechanisms behind their construction—are crucial in advancing our comprehension of language as a system and its application in various domains of activity. [10, p.304].

Among these models, both the models of language works and reproduction models are particularly useful in the context of modeling academic text types. Depending on the aspect of the modeled text, these models can be further classified into:

- Functional Models: These models focus on recreating the character and nature of the object in society, reflecting the social and communicative functions of the text.

- Structural Models: These models examine the interrelationships and key elements within the system of the text, analyzing the organization and arrangement of linguistic components.

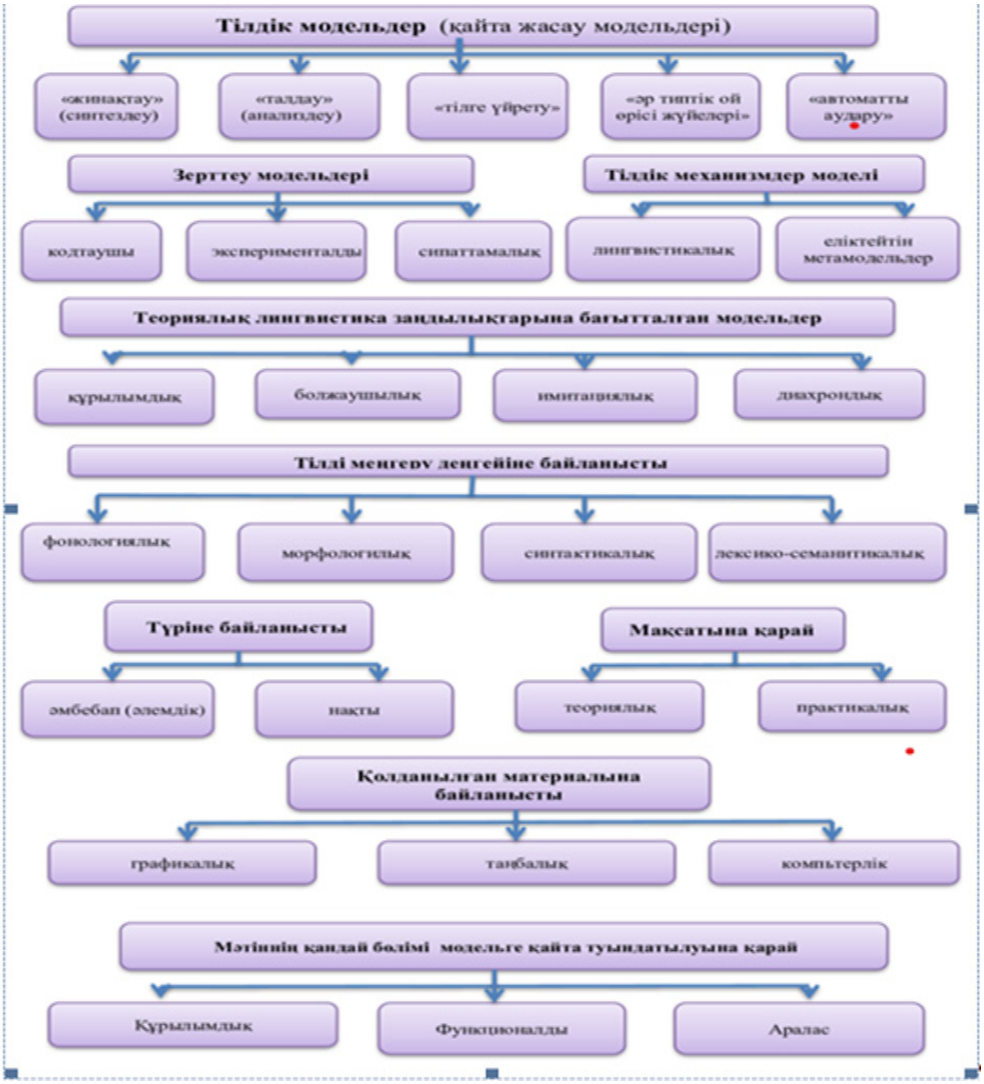
- Mixed Models: Combining elements of both functional and structural models, these models provide a comprehensive approach to understanding texts by addressing both their social functions and their internal structure.

Together, these models offer diverse perspectives and tools for analyzing, creating, and understanding various types of academic texts, making them essential in both language learning and academic research [4, p.58].

Any of these models can be applied to create a text model. Khomenko's criteria for evaluating the quality of language models include completeness, simplicity, clarity, integrity, and correctness of structure, as well as their effectiveness in knowledge accumulation [11, p.35] and given the purpose of modeling academic texts, which is to present the text's structure, structural models are often most appropriate.

By analyzing the conclusions of researchers in explaining the model, various types of language models were identified, leading to a comprehensive classification. This classification is based on the distinct functions and purposes

of each model in the context of language activity. Through the examination of different scholarly perspectives, researchers have highlighted the utility of these models in understanding, creating, and analyzing language use across various domains. The classification categorizes the models according to their application in different aspects of language, including comprehension, synthesis, translation, teaching, and structural analysis. This classification provides a systematic framework for selecting and applying the appropriate model depending on the specific linguistic task or context, thereby enhancing the effectiveness of language-related activities such as academic writing, translation, and language education.The model is given in the next picture.



Picture 4 – Classification of language models

In summary, language models can be classified according to various criteria, each of which highlights a different aspect of the model's design and application. One key classification criterion is the Language Perspective, where models are grouped based on their approach to language, whether through speech acts, language research, or language description. Another criterion is the Rules Used, which categorizes models according to the types of rules they employ. Additionally, models can be classified by their Relation to the Modeled Object, depending on the nature of the model's relationship with the object being modeled, whether it's a direct representation or a more abstract conceptualization.

The Language Level classification groups models based on the level of language they address, ranging from phonology and morphology to syntax and semantics. The Typological State categorization is based on the typological characteristics of the model, such as its structural or functional elements. Finally, models can be classified by their Final Research Goal, depending on the ultimate objective of the research, whether it's to improve language teaching, enhance translation accuracy, or develop more effective communication tools.

Moreover, linguistic and language models used in text composition must reflect the properties of the research object, ensuring that the model aligns with the specific characteristics and requirements of the linguistic task at hand. It is important to note that theoretical models do not impose restrictions on text size or sentence count [11,p.35]. These models are often expressed in mathematical terms, with their interpretations conveyed linguistically, providing a flexible and scalable framework for analyzing and constructing language in various contexts.

Discussion

This study aimed to explore how graphical and translingual modeling strategies, including those derived from Zhubanov's syntactic model, can enhance the academic writing skills of learners of Kazakh as a second or foreign language. The tasks outlined in the research included (1) analyzing existing models of academic writing, (2) adapting Zhubanov's linguistic model for educational use, and (3) assessing the functional value of these models in multilingual learning environments.

The research conducted in following directions where existing models of academic writing were analyzed, Zhubanov's linguistic model was adapted for educational use.

According to the analyses of existing models, the following data were obtained: A model can be either logical or mathematical, wherein the researcher, through abstraction, reproduces the qualitative and quantitative relationships essential to the original object using a system of formulas and equations. Such formalization allows for the systematic visualization of linguistic structures, making complex syntactic relationships accessible to learners.

The primary task for a linguist is twofold: first, to create a text with correct structure and content; and second, to ensure that the model provides a semantic interpretation of any text without significantly deviating from the "correct" text. Meeting these conditions ensures that the use of the model will yield positive pedagogical outcomes, facilitating learner comprehension and application.

From a mathematical perspective, Yu.D. Apresyan emphasizes the importance of formalizing any linguistic model. He states, "Every model, including a linguistic model, must be formal" [10, p.88]. A model is considered formal if it is clearly and systematically defined according to specific rules. Thus, any model, as a mathematical system, must adhere to principles of accuracy and consistency.

Given that a model comprises various components, it is crucial that its internal structures interact cohesively. This necessitates maintaining the principles of consistency and integrity within the model, which in turn supports its explanatory and heuristic value—allowing users not only to understand but also to generate new insights about the language phenomena under study.

By incorporating these principles, the adapted models offer practical benefits in multilingual learning environments. They enable learners to transfer knowledge across languages by using their native language as a scaffold, thus aligning with the translingual approach's pedagogical objectives. In this way, the study's tasks align with its overarching aim and goal, ensuring coherence between theoretical foundations, model construction, and practical application.

Given that a model comprises various components, it is crucial that its internal structures interact cohesively. This necessitates maintaining the principles of consistency and integrity within the model.

A language model must be deductive, employing traditional linguistic methods to analyze data. However, the model need not replicate all aspects of linguistic reality. Instead, it should highlight only those linguistic facts that are pertinent to the researcher and relevant to the practical task at hand. Essentially, a model is built on a hypothesis about the possible structure of the original and serves as a functional analogue that facilitates the transfer of knowledge from the model to the original. Additionally, by applying their native language in various contexts, learners can further develop their language skills and recognize similarities and differences between their native language and the target language. In this way, the translingual approach functions as a linguistic bridge, facilitating language acquisition through the integration of multiple languages. When applying the translingual approach, simplifying the rules of the Kazakh language becomes more achievable. An effective strategy is to use the structures of both the student's native language and the target language as models. For instance, in morphological analysis, creating parallel structural models based on students' existing linguistic knowledge can enhance their understanding and facilitate language acquisition.

One of the critical properties of any model is its functionality. The model does not aim to represent every detail about the original object but focuses on the essential aspects that enable it to perform specific actions effectively [11, p.35].

Linguistic models share several essential properties that define their function and application. Firstly, they are artificial objects, serving as constructed or abstract representations rather than physical entities. These models are based on a conditional and official nature, adhering to specific structural and symbolic conventions that govern their formation and use. They facilitate the transfer of structure, meaning that they represent the structure of one object in terms of another, often simplifying complex concepts for easier understanding. A key aspect of linguistic models is their technical accuracy, as they aim to render the characteristics of the original object with precision, ensuring that the model remains faithful to the real-world phenomenon it represents. This leads to the integrity of the object structure, as the model preserves the coherence of the original object's structure while focusing on essential elements. Models often employ simplification to distill the original into its most significant aspects, making them more manageable and understandable.

The imitation function of models is another critical property, as they mimic the behavior or structure of the original object, providing insight into its operation or characteristics. Additionally, linguistic models have a strong communicative function, designed to convey information effectively and facilitate understanding. They utilize deductiveness, drawing on deductive reasoning and traditional linguistic methods to explain phenomena.

Linguistic models require both mathematical and linguistic tools for analysis, combining the precision of mathematical frameworks with the nuances of linguistic analysis. Their hypothetical nature means they are based on hypotheses about the structure or behavior of the original object, which are tested and refined through their use. Mathematical precision is also emphasized, as models strive for accuracy and unambiguity in their representation of data. Moreover, models must possess explanatory capability, being able to clarify and predict phenomena within their domain. Finally, linguistic models rely on symbolic transmission, representing both material and mental objects through symbolic systems, facilitating the transfer of knowledge and understanding across different context [12, p.134].

According to Kudryavtseva based on abovementioned properties, several fundamental requirements for a linguistic model can be identified:

1. Completeness: The model must capture all necessary information about the object.

2. Simplicity: It should use a minimal number of tools (signatures, rules) to achieve its goals.

3. Economy: The model should efficiently use energy and time resources.

4. Accuracy: It must perform operations with the precision defined by its formal tools.

5. Explanatory Potential: The model should provide insight and predict underlying causes of observed phenomena.

6. Heuristic Value: It should facilitate the discovery of new knowledge about the object.

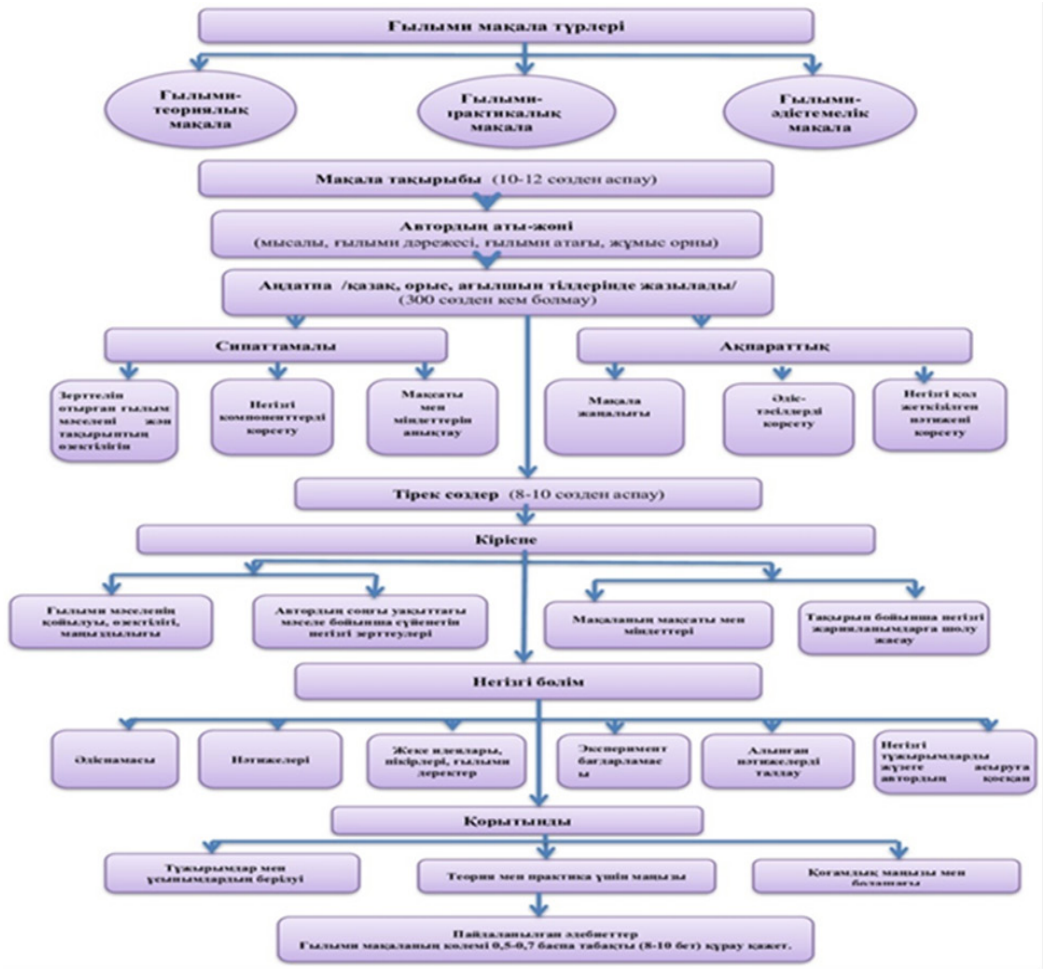
7. Adequacy: The model should closely resemble the original in its structure and behavior.

8. Aesthetic Qualities: It should possess clarity and elegance in its design [12, p.134].

When constructing a language model, it is essential that the model adheres to principles of formality, consistency, deductive reasoning, and functional application, alongside the other properties outlined above. These principles ensure that the model is both theoretically sound and practically applicable across different contexts.

The process of modeling a scientific article can be approached in various ways, with each publication imposing specific requirements for the article's structure. These requirements may vary depending on the individual characteristics of the article, such as the inclusion of an abstract or specific sections, but the general structure of a scientific article tends to remain consistent. Consequently, the models created to represent such articles may differ in detail, reflecting the unique formatting and content requirements of different scholarly fields or publication outlets.

The model presented here outlines the general structure of writing a scientific article, providing a clear framework for what information should be included in each section of the article. This structure serves as a guideline for organizing and presenting research findings in a coherent and systematic manner, ensuring that the essential components of the scientific discourse are addressed while maintaining consistency and clarity throughout the article.



Picture 5 – A model of a scientific article

Adapting Zhubanov's linguistic model for educational use involved a careful process of simplifying and contextualizing his graphical syntactic constructions to fit the needs of second-language learners of Kazakh. This adaptation included developing visual tools such as labeled chains and connectors that clearly represent sentence components and their syntactic relationships, thereby facilitating learners' comprehension of complex sentence structures. Additionally, the model was integrated with translingual strategies by aligning these graphical elements with equivalent structures in learners' native languages, creating parallel morphological and syntactic diagrams that serve as scaffolds. This dual approach allowed the model to function both as an analytical tool for instructors and as an interactive learning aid, fostering deeper metalinguistic awareness and enabling more effective acquisition of academic writing skills.

Therefore, the use of the term "Model" in linguistics is similar to its use in mathematics. A modeling method is usually based on a symbol system, but since language is a symbol system itself, we model with words.

Conclusion

This study demonstrated that graphical and translingual linguistic models, particularly those adapted from Zhubanov's syntactic model, effectively enhance the academic writing skills of learners of Kazakh as a second or foreign language. The adapted model's clear visualization of syntactic relationships and its integration of learners' native language structures significantly supported comprehension and production of academically structured texts.

Based on the research findings, it is recommended that language educators adopt linguistic models that emphasize formal clarity, structural integrity, and semantic accuracy, as these characteristics ensure that learners can internalize correct syntactic and discourse patterns without being overwhelmed by unnecessary complexity. Specifically, Zhubanov's graphical model, with its system of constructors and labeled links, proved particularly useful for illustrating sentence structure and logical progression, making it a practical tool for teaching academic writing.

Additionally, the translingual approach complements this model by allowing learners to draw on their native languages as scaffolding, thus facilitating deeper metalinguistic awareness and smoother transfer of knowledge. This combined strategy is especially effective in multilingual settings, where learners benefit from comparisons between Kazakh and their first languages, aiding both comprehension and retention.

Therefore, the most appropriate linguistic model for academic writing instruction in Kazakh is one that balances formal precision with pedagogical flexibility, incorporates visual syntactic representation, and integrates cross-linguistic comparison through a translingual approach. Implementing such models in language curricula can lead to improved academic writing performance, greater learner engagement, and enhanced language acquisition outcomes.

Future research should further explore how these models can be adapted for learners at different proficiency levels and integrated into digital learning platforms to maximize accessibility and effectiveness.

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ҚАЗАҚ ТІЛІН ЕКІНШІ ШЕТ ТІЛІ РЕТІНДЕ ОҚЫТУДАҒЫ ТРАНСЛИНГВИЗМ: АКАДЕМИЯЛЫҚ ЖАЗЫЛЫМДЫ МОДЕЛЬДЕУ

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Андатпа. Мақалада транслингвалды тәсілдің қазақ тілін көптілді ортада оқытудағы рөлі қарастырылады. Бұл тәсіл тілдер арасындағы байланысты

пайдалана отырып, екінші тілді меңгеруге бағытталған. Транслингвалды оқыту білім алушылардың когнитивтік және лингвистикалық дағдыларын дамытып, тіл жүйелерінің ұқсастықтары мен айырмашылықтарын түсінуге көмектеседі және ол шет тілдерін оқытуда, соның ішінде қазақ тілін екінші шет тілі ретінде меңгеруде айрықша өзектілікке ие, өйткені академиялық жазу дағдылары білім алушылардың ғылыми дискурсқа қатысуында шешуші рөл атқарады. Зерттеу лингвистикалық модельдеу негізінде академиялық мәтін жазу дағдыларын қалыптастырудың ғылыми-әдістемелік негіздерін зерделеуге, сондай-ақ ана тілі мен шет тілінде академиялық сауаттылықты дамытуға бағытталған тиімді стратегияларды ұсынуға арналған. *Зерттеудің негізгі мақсаты* – қазақ тілін екінші шет тілі ретінде оқыту барысында академиялық жазылым дағдыларын дамытуда қолданылатын лингвистикалық модельдердің түрлерін, құрылымдық ерекшеліктерін және оларды құру әдістерін транслингвалды әдіс арқылы саралау. Бұл мақсатқа жету үшін келесі *міндеттер* айқындалды: әлемдік және отандық модельдеу тәжірибесін талдау, академиялық мәтін жанрларын оқытуға арналған қолайлы модельдерді іріктеу және олардың мазмұны мен құрылымдық негіздерін анықтау арқылы жүйелі үлгі әзірлеу. *Анализ, синтездеу әдістерін қолдану нәтижесінде* Қ. Жұбановтың графикалық моделі ғылыми мақаланың құрылымдық моделін қалыптастырудың негізі ретінде таңдалды. *Зерттеудің практикалық маңыздылығы* графикалық модельдерді пайдалану арқылы студенттерге қазақ тілін екінші шет тілі ретінде оқытуда академиялық эссе, ғылыми мақала, тезис және реферат жазу құрылымын меңгертуде жатыр. Бұл тәсіл жазу процесін анағұрлым жүйелі әрі қолжетімді етумен қатар, студенттердің мәтінді ұйымдастыру және логикалық тұрғыдан құрылымдау дағдыларын жетілдіруге мүмкіндік береді. Графикалық модельдер өзінің қарапайымдылығы, көрнекілігі және кезең-кезеңімен ұйымдастырылуы арқылы тиімді оқытуға ықпал етеді, білім алушыларға академиялық мәтіндерді логикалық жағынан байланысты әрі құрылымдық жағынан жүйеленген түрде құруға көмектеседі. *Зерттеу нәтижелері* транслингвалды тәсілді қолдану қазақ тілін меңгеруді жеңілдетіп, бірнеше тілдің қатар қолданылуы оқу материалын жылдам игеруге ықпал ететінін көрсетті. Тілдік кодтардың ауысуы және тілдерді салыстыру арқылы жаңа грамматикалық құрылымдарды меңгеру үдерісі оңайлайды. Мақалада білім алушының ана тілі мен меңгерілетін тілдің құрылымдарын модельдеу тиімділігі дәлелденген.

Тірек сөздер: транслингвалды тәсіл, көптілділік, тілдік кодтар, лингвистикалық модель, академиялық жазылым, сызбалы модель, мәтін жанрларын модельдеу, схемалық модельдеу әдісі

ТРАНСЛИНГВИЗМ В ОБУЧЕНИИ КАЗАХСКОМУ ЯЗЫКУ КАК ВТОРОМУ ИНОСТРАННОМУ: МОДЕЛИРОВАНИЕ АКАДЕМИЧЕСКОГО ПИСЬМА

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Аннотация. В данной статье исследуется роль транслингвального подхода в обучении казахскому языку в полиязычной среде. Этот метод основан на освоении второго языка через установление связей между различными языками. Транслингвальное обучение способствует развитию когнитивных и языковых навыков учащихся, а также помогает им осознавать сходства и различия между языковыми системами и в иноязычном образовании, в частности при изучении казахского языка как второго иностранного данный метод актуален, где навыки академического письма играют ключевую роль. *Цель исследования* – изучение научных и методических основ владения академическим письмом с использованием лингвистического моделирования, а также разработка эффективных методов повышения академической грамотности в процессе обучения казахскому языку как второму иностранному языку. *Задачи исследования* – дифференциация типов, структур и методов создания лингвистических моделей, применимых к обучению академической письменности на казахском языке как второму иностранному языку. На основе *анализа и синтеза* существующих моделей графическая модель К. Жубанова была выбрана в качестве основы для построения структурной модели академических текстов. *Практическая оригинальность* данного исследования заключается в использовании графических моделей в качестве инструмента для обучения студентов основам структуры академических текстов, научных статей, тезисов и рефератов по казахскому языку в качестве второго языка. Применение таких моделей делает процесс написания более доступным, последовательным и систематизированным, с последующим изучением научных публикаций. Графические модели отличаются простотой, наглядностью и пошаговой организацией, которые обеспечивают эффективное обучение, помогая студентам создавать логически выстроенные академические тексты. Интеграция этих моделей в процесс изучения иностранных языков способствует развитию навыков академической литературы, формированию критического мышления и подготовке студентов к развитию научного дискурса. *Результаты исследования* подтвердили, что применение транслингвального подхода значительно облегчает освоение казахского языка, а параллельное

использование нескольких языков способствует более быстрому усвоению учебного материала. Переключение языковых кодов и сравнение языков упрощают процесс изучения новых грамматических структур. В статье обоснована эффективность моделирования структур родного и изучаемого языков для улучшения языковой компетенции обучающихся.

Ключевые слова: транслингвальный подход, многоязычие, языковые коды, лингвистическая модель, академическое письмо, графическая модель, моделирование жанров текста, метод схематического моделирования

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