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THE RELATIONSHIP BETWEEN COGNITIVE LINGUISTICS AND TERMINOLOGY

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MAQOLA MALUMOTI	ANNOTATSIYA:
MAQOLA TARIXI: *Received:31.10.2025* *Revised: 1.11.2025* *Accepted:2.11.2025* **KALIT SO'ZLAR:** *cognitive linguistics, terminology, conceptualization, terminological system, mental model, specialized knowledge, conceptual metaphor..*	*This article examines the relationship between cognitive linguistics and terminology. The research analyzes the cognitive foundations of terminological units, their conceptual structure, and the role of mental models in the formation of terminological systems within the framework of modern linguistics. The results indicate that the cognitive approach allows us to understand terminology not merely as a lexical layer of language, but as part of the human conceptual system and the cognitive structure of professional knowledge.*

Introduction

The cognitive paradigm which has become very common in today's linguistics has given rise to new studies in the field of language, including terminology. The traditional terminology approaches, mainly represented by Wüster [1], gave priority to standardization and systematization of terms as labels for concepts that are already there. The cognitive revolution in linguistics initiated by Lakoff and Johnson [2] has drawn a great deal of disagreement with the aforementioned view since it has accentuated the significance of human cognition in determining linguistic structures. Cognitive linguistics makes a claim

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that language is not an independent system but a reflection of the general cognitive processes of categorization, conceptualization, and mental representation.

This viewpoint results in an enormous impact on the understanding of terminology since the technical terms are not mere arbitrary signs but the very linguistic manifestations of the expert's mental structures. The connection between cognitive linguistics and terminology has become more and more important in the last few decades, as researchers come to the realization that the professional knowledge areas have their own visualizations and architectures of concepts that form and are formed by the terminological systems. Grasping this relationship of twofold nature that exists is of utmost importance for the areas of terminological theory, specialized translation, knowledge representation, and domain-specific communication. The present paper seeks to investigate the extent to which cognitive linguistic principles are responsible for providing a better comprehension of terminological phenomena and also how terminological analysis is able to support cognitive linguistic theory.

Methodology and literature review

This study employs a systematic literature review methodology to examine the intersection of cognitive linguistics and terminology. The analysis draws upon foundational texts in cognitive linguistics, terminological theory, and interdisciplinary works that bridge these fields. The foundation of cognitive linguistics rests on several core principles that distinguish it from earlier linguistic theories. Lakoff [3] argues that conceptual metaphor is fundamental to human thought and language, demonstrating that abstract concepts are systematically structured through metaphorical mappings from more concrete experiential domains. This principle has direct relevance to terminology, as many technical terms across various domains exhibit metaphorical foundations. Langacker [4] develops cognitive grammar, proposing that grammatical structures are meaningful and reflect conceptual organization rather than arbitrary formal rules.

Temmerman [5] makes a groundbreaking contribution by developing sociocognitive terminology, which explicitly challenges traditional Wüsterian terminology and integrates cognitive linguistic principles. She argues that terms should be understood as units of understanding rather than units of knowledge, emphasizing the dynamic, context-dependent nature of specialized concepts. Similarly, Faber [6] develops frame-based terminology, which applies frame semantics to terminological analysis, showing how specialized

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concepts are organized within structured knowledge configurations that reflect cognitive organization.

Russian terminological school, represented by scholars such as Grinev-Grinevich [7], has developed its own tradition of cognitive-oriented terminological studies. This approach emphasizes the relationship between professional thinking, conceptual systems, and terminological nomination, examining how expert knowledge structures influence term formation processes. The Russian tradition particularly emphasizes the role of derivational patterns and word-formation models in reflecting cognitive categorization within specialized domains. Research on Uzbek terminology by Rahmatullaev [8] and others has explored how cognitive principles operate in the development of national scientific terminologies, examining processes of term borrowing, adaptation, and creation through the lens of conceptual integration and cultural cognition.

Cognitive terminology research has identified several key mechanisms through which specialized knowledge is conceptualized and linguistically encoded. Conceptual blending theory, developed by Fauconnier and Turner [9], explains how novel concepts emerge through the integration of elements from distinct mental spaces. This mechanism is particularly relevant for understanding neologism formation in rapidly developing fields such as information technology and biotechnology. Research on medical terminology by Tercedor-Sánchez [10] demonstrates how conceptual metaphors structure understanding of disease processes, with systematic mappings from source domains such as warfare, journey, and machinery to the target domain of pathological conditions.

Results and discussion

The analysis of literature reveals several significant findings regarding the relationship between cognitive linguistics and terminology. First, terminological systems exhibit all the hallmarks of cognitive linguistic phenomena, including prototype effects, radial category structures, and metaphorical organization. Terms cannot be adequately understood through classical definitional approaches alone; rather, they function as access points to rich conceptual structures that experts activate during professional communication. This finding challenges traditional terminological practice, which has emphasized precise definition and univocal correspondence between terms and concepts. The cognitive perspective reveals that terminological polysemy is not merely a defect to be eliminated but often reflects genuine conceptual complexity and the multifaceted nature of specialized knowledge.

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Second, the relationship between cognitive linguistics and terminology is bidirectional. While cognitive principles illuminate terminological phenomena, terminological analysis also contributes to cognitive linguistic theory. Specialized domains provide valuable evidence for understanding how human cognition organizes complex knowledge structures. The systematic nature of expert conceptual systems makes them particularly suitable for studying categorization, conceptual hierarchies, and knowledge representation. Terminological research reveals that different domains employ distinct cognitive strategies for organizing information, with some fields favoring taxonomic hierarchies while others utilize network-like configurations or process-based schemas.

Third, the cognitive approach has practical implications for terminology management, translation, and specialized communication. Understanding the conceptual motivations underlying term formation enhances terminological consistency and facilitates communication between experts and non-experts. For translators working with specialized texts, awareness of conceptual metaphors and frames provides crucial guidance beyond mere lexical equivalence. In terminology development for emerging fields or under-resourced languages, cognitive principles offer systematic methods for creating terms that align with natural cognitive processing and cultural conceptualization patterns.

Fourth, cognitive terminology highlights the dynamic nature of specialized knowledge. Rather than viewing concepts as static entities, the cognitive approach recognizes that expert understanding evolves through professional practice, research advances, and interdisciplinary interaction. Terms serve not merely to label concepts but to shape and refine them through ongoing use in professional communities. This perspective aligns with contemporary philosophy of science, which emphasizes the constructed and negotiated nature of scientific knowledge.

The integration of cognitive linguistics and terminology also raises important theoretical questions. One concerns the relationship between individual cognition and collective professional knowledge. While cognitive linguistics traditionally focuses on general human cognitive capacities, terminology deals with knowledge shared by expert communities. Recent research suggests that professional expertise involves both general cognitive mechanisms and domain-specific conceptual structures acquired through training and practice. Another question involves cross-linguistic and cross-cultural variation in specialized conceptualization. Comparative terminological studies reveal that different

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linguistic communities sometimes conceptualize the same specialized domains differently, reflecting both universal cognitive constraints and culture-specific patterns.

Conclusion

The relationship between cognitive linguistics and terminology represents a productive interdisciplinary convergence that enriches both fields. Cognitive linguistic principles provide theoretical frameworks for understanding how specialized knowledge is conceptualized, structured, and linguistically encoded through terminological systems. Conversely, terminological phenomena offer empirical domains for testing and refining cognitive linguistic theories. The cognitive approach transforms our understanding of terminology from a prescriptive discipline focused on standardization to a descriptive and explanatory science investigating the cognitive foundations of specialized knowledge representation. This perspective has significant implications for terminological theory, terminology management practices, specialized translation, and professional communication. Future research should continue exploring the cognitive dimensions of terminology across diverse domains and languages, investigating how expert conceptual structures develop through training and practice, and developing cognitive-based methodologies for terminological work. As scientific and technical knowledge continues to expand and diversify, the insights provided by cognitive linguistics will become increasingly valuable for understanding and managing the terminological systems through which this knowledge is expressed and communicated.

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