Semantic Similarities and Differences of Terms in The English And Uzbek Languages

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Abstract: This article examines the semantic similarities and differences of terms in the English and Uzbek languages from a comparative linguistic perspective. The study aims to identify how terminological units function, develop, and acquire meaning in two languages that belong to different language families and typological systems. Special attention is given to the processes of term formation, semantic shifts, borrowing, and adaptation in scientific and technological discourse. The research employs comparative, descriptive, and semantic analysis methods to reveal both universal and language-specific features of terminology.

The findings indicate that English and Uzbek share a number of semantic parallels in international scientific terminology due to globalization and active borrowing, particularly from Latin and Greek sources via English and Russian. However, significant differences are observed in word-formation models, semantic transparency, polysemy, and the degree of terminological standardization. Uzbek tends to preserve agglutinative morphological patterns and semantic motivation, whereas English terminology often demonstrates higher levels of lexicalization and structural compression. The article concludes that understanding these similarities and differences is essential for accurate translation, effective terminology management, and the development of Uzbek scientific language in the context of global integration.

Introduction: In the context of rapid globalization, scientific and technological development, and the expansion of international communication, the role of terminology in ensuring precise and effective exchange of knowledge has become increasingly significant. Terminological systems serve as the backbone of scientific discourse, reflecting not only the conceptual structure of a given field but also the linguistic and cultural characteristics of the language in which they function. In this regard, the comparative study of terminological semantics across languages belonging to different typological groups is of particular scholarly importance.

The English and Uzbek languages represent two structurally and genetically distinct linguistic systems:

English belongs to the Germanic branch of the Indo-European language family and is predominantly analytic, whereas Uzbek is a Turkic language characterized by agglutinative morphology. These fundamental differences inevitably influence the processes of term formation, semantic development, and functional usage of terminological units. At the same time, the growing influence of English as the global lingua franca of science and technology has intensified the interaction between English and Uzbek terminological systems, leading to both convergence and divergence in semantic structures[1].

Despite the increasing number of studies devoted to terminology and comparative linguistics, the issue of semantic correspondence and divergence between English and Uzbek terms remains insufficiently

explored, particularly in the context of modern scientific discourse. Many terminological units enter Uzbek either through direct borrowing from English or via intermediary languages, which raises important questions about semantic equivalence, transparency, and adaptation. Therefore, a systematic analysis of semantic similarities and differences between the two languages is both timely and necessary[2].

The aim of this article is to investigate the semantic similarities and differences of terms in the English and Uzbek languages and to identify the key linguistic mechanisms that underlie these phenomena. To achieve this aim, the study employs comparative, descriptive, and semantic analysis methods. The results of the research are expected to contribute to the theory of terminology, improve translation accuracy, and support the further development and standardization of Uzbek scientific vocabulary in the era of global knowledge exchange[3].

The Degree of the Problem's Study.The issue of terminology and its semantic features has long been one of the central topics in modern linguistics, particularly within the fields of terminology studies, lexicology, and comparative linguistics. Over the past decades, a considerable body of research has been devoted to the nature of terms, their formation, standardization, and semantic development. However, despite this extensive scholarly attention, the comparative semantic analysis of English and Uzbek terminological systems remains insufficiently and unevenly explored[4].

In general linguistic theory, the foundations of terminology studies were established by prominent scholars such as Eugen Wüster, who is widely recognized as the founder of modern terminology science. His works laid the theoretical basis for understanding terms as precise units of professional knowledge. Later researchers, including Maria Teresa Cabré and Juan C. Sager, significantly expanded the functional and communicative approaches to terminology, emphasizing the dynamic and context-dependent nature of terms. These studies provided important methodological tools for analyzing semantic structures in different languages.

Within English-language scholarship, numerous studies have examined semantic features of scientific and technical terminology, including issues of polysemy, synonymy, term variation, and lexical borrowing. Researchers have also paid particular attention to the role of English as the dominant global language of science, which has influenced the internationalization of terminology. However, most of these works focus primarily on Indo-European language comparisons and rarely address Turkic languages in depth[5].

In Uzbek linguistics, terminology has also been an important research area, especially in connection with the development of the national scientific language after independence. Uzbek scholars have investigated term formation mechanisms, principles of standardization, and the adaptation of international terminology into Uzbek. Significant contributions have been made in the study of Uzbek terminological systems from morphological, lexical, and functional perspectives. Researchers have highlighted the agglutinative nature of Uzbek term formation, the role of native word-building resources, and the challenges posed by extensive borrowing.

At the same time, comparative studies specifically devoted to the semantic correspondence between English and Uzbek terms are relatively limited. Existing works often focus either on translation issues or on individual terminological fields rather than providing a comprehensive semantic comparison. Moreover, the rapid influx of English-based terminology into Uzbek scientific discourse in recent years has created new layers of semantic interaction that have not yet been fully systematized or theoretically interpreted[6].

Another gap in the literature concerns the balance between internationalization and nationalization of terminology. While some scholars advocate for preserving native Uzbek word-formation patterns, others note the practical necessity of adopting international terms for the sake of global scientific integration. This tension further underscores the need for detailed semantic analysis of how borrowed and native terms function within the Uzbek language system compared to English.

Therefore, although the theoretical foundations of terminology and separate aspects of Uzbek and English term formation have been studied, the problem of semantic similarities and differences between the two languages still requires deeper, systematic, and

empirically grounded investigation. The present study seeks to contribute to filling this gap by providing a focused comparative semantic analysis of English and Uzbek terminological units in contemporary scientific usage[7].

LITERATURE REVIEW

The study of terminology and its semantic characteristics has been widely addressed in international and national linguistic research. The existing body of literature demonstrates that terminology is a dynamic subsystem of language shaped by cognitive, communicative, and socio-cultural factors. Scholars have approached the analysis of terms from structural, functional, cognitive, and comparative perspectives, each contributing to a deeper understanding of terminological semantics[8].

In classical terminology theory, Eugen Wüster's work laid the normative and standardization-oriented foundation of the field. Wüster viewed terms primarily as monosemous units that should ensure precision and unambiguity in scientific communication. His prescriptive approach significantly influenced early terminological standardization practices. However, later researchers such as Juan C. Sager and Maria Teresa Cabré criticized the overly rigid view of terminology and proposed more descriptive and communicative models. Cabré's communicative theory of terminology emphasized that terms function within real discourse and may exhibit polysemy, variation, and contextual flexibility. This shift from a static to a dynamic understanding of terminology is particularly relevant for comparative semantic studies.

In English-language linguistics, numerous works have explored semantic processes affecting terminology, including borrowing, metaphorization, semantic extension, and lexical compression. Researchers have noted that English, as the dominant global language of science and technology, serves as a major donor of international terminology. Studies in this tradition highlight how English terms often become globalized and subsequently adapted into recipient languages. However, most of these analyses concentrate on Indo-European language pairs, leaving Turkic languages comparatively underrepresented in the broader typological discussion[9].

Within Turkic and Uzbek linguistics, substantial attention has been given to the development of national terminology, especially during the post-independence period when the Uzbek language underwent active modernization and standardization. Uzbek scholars have examined the mechanisms of term formation through affixation, compounding, and semantic derivation, emphasizing the agglutinative nature of Uzbek morphology. Research has also focused on the balance between native term creation and the borrowing of international scientific vocabulary. These studies provide valuable insights into the structural adaptation of foreign terms and the preservation of linguistic identity[10].

A number of Uzbek linguists have specifically addressed issues of semantic transparency, motivation, and equivalence in translated terminology. Their findings suggest that Uzbek often favors semantically motivated and morphologically transparent term formation, whereas borrowed terms—especially from English—may introduce opacity and variation. Nevertheless, much of the existing work remains field-specific (for example, focused on technical, medical, or economic terminology) and does not always offer a systematic cross-linguistic semantic comparison.

Recent studies in comparative linguistics and translation theory have further emphasized the importance of semantic equivalence between source and target language terms. Scholars point out that direct lexical correspondence does not always guarantee conceptual equivalence, particularly when languages differ typologically, as is the case with English and Uzbek. This observation underscores the need for deeper semantic analysis that goes beyond surface-level translation matching.

Despite the significant contributions of both international and Uzbek researchers, several gaps remain in the literature. There is still limited comprehensive research that simultaneously examines semantic similarity, divergence, borrowing patterns, and structural adaptation of terms between English and Uzbek within a unified analytical framework. Moreover, the rapid growth of English-based terminology in digital, technological, and interdisciplinary domains calls for updated empirical studies reflecting current linguistic realities.

Thus, the reviewed literature provides a solid

theoretical and methodological foundation for the present research while also revealing the necessity for further focused comparative investigation. The current study builds upon these scholarly achievements and seeks to extend them by offering a systematic semantic comparison of English and Uzbek terminological units in contemporary scientific discourse.

METHOD

1. Theoretical Foundations of Terminological Semantics

Terminology constitutes a specialized layer of the lexicon that reflects the conceptual structure of science, technology, and professional communication. From a semantic perspective, a term is expected to denote a clearly defined concept within a particular field. However, modern linguistic research has shown that terminological units are not always strictly monosemous; rather, they may display polysemy, synonymy, and contextual variability depending on the communicative environment.

In comparative linguistics, semantic analysis of terms involves examining several key parameters: conceptual equivalence, semantic transparency, structural motivation, degree of borrowing, and functional distribution in discourse. These parameters are especially important when comparing typologically different languages such as English (analytic) and Uzbek (agglutinative). Structural differences between the two languages inevitably influence how terms are formed, interpreted, and standardized.

English terminology often demonstrates lexical economy and structural compression (e.g., compound nouns and nominal clusters), while Uzbek terminology tends to preserve semantic motivation through affixation and descriptive constructions. As a result, the same scientific concept may be expressed through formally different but semantically related units in the two languages.

2. Semantic Similarities Between English and Uzbek Terms

Despite typological differences, English and Uzbek share a number of semantic similarities in their terminological systems. These similarities are largely обусловлены globalization, international scientific cooperation, and the widespread influence of English-language terminology.

Conceptual Equivalence in International Terms

Many scientific concepts have universal status and therefore show high semantic equivalence across languages. This is particularly evident in fields such as information technology, medicine, physics, and economics.

Table 1.

Examples of Semantically Equivalent Terms

English Term	Uzbek Equivalent	Field	Semantic Relation
computer	kompyuter	IT	full equivalence
virus	virus	medicine/IT	full equivalence
atom	atom	physics	full equivalence
bank	bank	economics	near equivalence
internet	internet	IT	full equivalence

As shown in Table 1, many Uzbek terms are either direct borrowings or phonologically adapted forms of English-based internationalisms. In such cases, semantic correspondence is high because the underlying scientific concept is shared globally.

Internationalization of Scientific Vocabulary

The growing dominance of English in global science has led to the internationalization of terminology. Uzbek, like many other languages, actively incorporates international terms to maintain compatibility with global knowledge systems. This process promotes semantic convergence between the two languages.

Key factors contributing to semantic similarity include:

➢ globalization of science and technology

➢ international standards and classifications

➢ translation practices in academic discourse

- influence of Russian-mediated borrowings historically
- expansion of digital and IT terminology

As a result, many modern Uzbek technical terms closely mirror their English counterparts semantically.

3. Semantic Differences Between English and Uzbek Terms

Alongside similarities, significant semantic differences exist due to structural, cognitive, and linguistic factors.

Differences in Word-Formation Models

One of the most notable differences lies in term formation mechanisms.

English tendencies:

- nominal compounds (data processing system)
- lexical compression
- zero derivation
- multiword noun clusters
- Uzbek tendencies:
- agglutinative affixation
- descriptive term formation
- syntactic expansion
- semantic motivation

Table 2.

Structural-Semantic Differences

Concept	English Form	Uzbek Form	Key Difference
data processing	data processing	ma'lumotlarni qayta ishlash	Uzbek uses descriptive expansion
greenhouse effect	greenhouse effect	issiqxona effekti	partial calque
word formation	word formation	so'z yasalishi	Uzbek is morphologically transparent
feedback	feedback	qayta aloqa	semantic calque

The Uzbek language often prefers semantically transparent constructions, whereas English frequently uses compressed nominal structures. This leads to differences in cognitive processing and terminological clarity.

Semantic Transparency vs. Opacity

Uzbek terminology typically demonstrates higher semantic transparency because many terms are internally motivated and analyzable by native speakers.

Examples:

so'z yasalishi ("word formation") — transparent

qayta aloqa ("feedback") — transparent

ma'lumotlar bazasi ("database") — transparent

In contrast, many English terms are historically motivated but synchronically opaque:

- feedback
- software
- hardware
- interface

This difference affects:

- learnability
- translation accuracy
- terminology teaching
- dictionary standardization

Polysemy and Functional Expansion

English terms often develop broader polysemy due to long-term usage and metaphorical extension. Uzbek equivalents sometimes preserve narrower meanings.

Table 3.

Polysemy Differences

English Term	Meanings in English	Uzbek Equivalent	Semantic Scope

network	technical, social, media	tarmoq	usually narrower
platform	physical, digital, political	platforma/minbar	partially narrower
driver	person, software	haydovchi/dastur drayveri	split equivalents
model	physical, theoretical, person	model	near but context-dependent

This demonstrates that one English term may correspond to multiple Uzbek equivalents depending on context, creating challenges for translators and terminologists.

The rapid influx of English terminology has created several issues:

synonym competition (native vs borrowed terms)

inconsistency in spelling and morphology

partial semantic mismatch

terminological instability in new fields

Table 4.

Competing Variants

Concept	Variant 1	Variant 2	Issue
software	dasturiy ta'minot	soft	standardization
manager	menejer	boshqaruvchi	stylistic variation
monitoring	monitoring	kuzatuv	functional choice

These variations show that Uzbek terminology is still in an active normalization phase.

The comparative analysis demonstrates that semantic equivalence between English and Uzbek terms cannot be assumed automatically. Accurate translation requires attention to:

➢ conceptual correspondence

➢ field specificity

➢ semantic scope

➢ degree of lexicalization

➢ audience and discourse type

For the further development of Uzbek scientific language, the following directions are especially important:

➢ systematic terminology standardization

➢ balanced use of native and international terms

➢ development of national term-formation models

➢ creation of unified terminological databases

➢ corpus-based monitoring of new borrowings

The conducted analysis shows that:

➢ semantic similarity is strongest in international scientific vocabulary

➢ semantic differences arise mainly from structural typology

➢ Uzbek favors transparency and motivation

➢ English favors compression and lexicalization

➢ borrowing remains the primary driver of convergence

➢ terminological normalization in Uzbek is still evolving

Overall, the interaction between English and Uzbek terminology reflects the broader processes of linguistic globalization combined with national language development.

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