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Semantic Features And Equivalence Of Technical Terms In Uzbek And English Languages

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Abstract: The rapid globalization of science and technology has intensified the need for accurate bilingual terminology, yet disparities in semantic structure between languages often impede exact transfer. This article investigates the semantic features and equivalence of technical terms in Uzbek and English by analysing corpora from information-technology, engineering, and telecommunications domains. Drawing on a corpus of 2 800 Uzbek terms and their English counterparts, the study applies componential and contrastive semantic analysis to identify degrees of equivalence, sources of semantic divergence, and strategies for harmonising terminological gaps. Findings show that only thirty-eight per cent of Uzbek technical terms exhibit full semantic congruence with English equivalents, while forty-four per cent demonstrate partial overlap caused by polysemy, metaphorical extensions, and divergent affixation patterns. The remaining eighteen per cent lack direct equivalents and rely on calques, descriptive phrases, or internationalisms. These results highlight the pivotal role of morphemic transparency, loanword adaptation, and contextual disambiguation in achieving terminological precision. The article concludes with recommendations for bilingual term-bank development and outlines implications for computer-assisted translation and technical education in Uzbekistan.

Keywords: technical terminology; semantic equivalence; Uzbek language; English language; contrastive analysis; corpus linguistics.

INTRODUCTION: Technical progress invariably produces neologisms whose meanings must be transferred across linguistic boundaries without loss of specificity. In the Uzbek context, intensified integration with global research and industry has exposed limitations in existing bilingual glossaries, especially in high-velocity fields such as information technology and telecommunications. Although Uzbek and English share certain internationalisms—terms borrowed wholesale from languages of technological prestige—they diverge in morphological

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mechanisms and semantic categorisation. English favours compounding and conversion ("download", "hard-drive") whereas Uzbek, historically agglutinative, relies on suffixation and calquing. The resulting asymmetry complicates direct lexical transfer, often prompting translators to oscillate between literalism and paraphrase.

Theoretical exploration of equivalence, beginning with Vinay and Darbelnet's taxonomy of translation procedures and refined in recent corpus-based studies, underscores the centrality of semantic features—denotation, connotation, collocational range—in determining whether two terms can be considered functionally identical. Technical communication demands the highest level of precision; even minimal semantic drift can undermine safety protocols or software interoperability. Consequently, a systematic contrastive investigation of Uzbek and English technical lexicons is indispensable for terminologists, translators, and educators.

The study synthesises descriptive and quantitative approaches. A parallel corpus was compiled from three sources: (1) official Uzbek standards and their English translations, (2) bilingual user manuals for network hardware, and (3) peer-reviewed conference proceedings in computer engineering published between 2018 and 2024. After filtering non-technical lexemes, the corpus comprised 2 800 term pairs, each verified by at least two subject-matter specialists.

A componential analysis isolated semantic features—functional role, material reference, process orientation—encoded by morphemes in both languages. Degree of equivalence was modelled on a three-tier scale: full (all semantic features match), partial (overlap with at least one divergent feature), and zero equivalence (no direct counterpart). For statistical validity, χ^2 tests assessed whether observed distribution of equivalence levels differed significantly across sub-domains (software engineering, telecommunications, mechanical engineering). Qualitative insights were triangulated through semi-structured interviews with ten practising translators and two terminologists.

The corpus analysis yielded a non-uniform distribution of equivalence. Full equivalence occurred in thirty-eight per cent of cases, frequently involving internationalisms such as "server" (Uz. server), acronymic borrowings like "GPS," and highly conventionalised calques ("sun'iy intellekt" for "artificial intelligence"). These terms exhibit stable referential identity because their denotative cores are anchored in globally standardised technical discourse.

Partial equivalence—forty-four per cent of the dataset—arose when morphological or semantic nuances diverged. For example, English "firmware" designates permanent software embedded in hardware, whereas its customary Uzbek rendering "dasturiy ta'minotning o'rnatilgan turi" foregrounds installation rather than permanence, thereby omitting the built-in implication. Another recurrent pattern involves English zero-derivation nouns such as "backup;" Uzbek expresses the same concept through deverbal formations—"zaxira nusxalash"—that carry procedural connotations absent in the English root noun. Such mismatches require translators to weigh brevity against semantic completeness, often opting for explanatory paraphrase in pedagogical contexts while retaining compressed forms in professional jargon.

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Eighteen per cent of terms exhibited zero direct equivalence. The absence of a concise Uzbek counterpart for English "throughput" exemplifies this category. Translators resort to multi-word expressions—"ma'lumot o'tkazish qobiliyati" (data-transfer capability)—which, although semantically adequate, reduce processing efficiency in simultaneous interpreting and may hinder rapid written communication. Likewise, Uzbek specificities such as "shovqin immuniteti" (noise immunity) sometimes lack a single-word English parallel, necessitating circumlocution in the reverse direction.

Morphological analysis shows that English compounds preserve semantic transparency through juxtaposition, as in "firewall" or "motherboard," while Uzbek equivalents frequently adopt suffix-based structures, e.g., "xavfsizlik devori" and "ona plata." Componential decomposition reveals that the Uzbek genitive construction distributes semantic load across multiple lexemes, potentially diluting immediacy but accommodating agglutinative syntax. Translators must therefore balance structural fidelity with terminological economy.

Statistical testing confirmed significant variation in equivalence levels among sub-domains ($p < 0.05$), with software engineering demonstrating higher rates of full equivalence due to ubiquitous Anglicisms, whereas mechanical engineering terms more often require calques or descriptive phrases because of entrenched Russian-derived terminology dating to Soviet industrial standards. Interviews corroborated that translators perceive software texts as "linguistically permeable," while mechanical manuals demand deeper background knowledge to negotiate entrenched multilayered semantics.

The cognitive processing implications of these findings are manifold. First, partial equivalence imposes an additional inferential load on the end-user, particularly in safety-critical documentation where misunderstanding can lead to operational failures. Second, zero-equivalence cases expose a strategic choice between coining neologisms, which may alienate practitioners, and adopting lengthy paraphrases, which compromise brevity. Third, computational terminology management systems must incorporate semantic feature tagging to propose context-sensitive equivalents rather than one-size-fits-all glosses.

The investigation demonstrates that semantic equivalence between Uzbek and English technical terms is contingent upon both linguistic structure and socio-historical factors. Full congruence predominates in domains where Anglophone innovation drives global discourse, yet a substantial proportion of terms reveal partial or non-equivalence triggered by divergent morphological strategies, legacy borrowings, and culturally embedded conceptualisations. For lexicographers, the results underline the necessity of feature-rich term-banks that capture not only denotational content but also pragmatic constraints. Translators should adopt adaptive strategies that combine calibrated use of internationalisms with explanatory expansion when required. Finally, the integration of semantic tagging into machine-translation engines promises to mitigate ambiguity and foster more reliable communication across the expanding Uzbek-English technical interface.

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REFERENCES

1. Akbarov Z.A. Sozlashuv nutqida inglizcha texnik terminlarning semantik xususiyatlari. — Toshkent: Fan, 2021. — 184 p.
2. Alavi S., Daneshvar K. Contrastive Terminology: A Corpus-Based Approach to Technical Equivalence. — Teheran: Azar Pub., 2022. — 276 p.
3. Baker M. In Other Words: A Coursebook on Translation. — 3-rd ed. — London: Routledge, 2018. — 342 p.
4. Davletov Q.Y. Inglizcha-o‘zbekcha axborot texnologiyalari lug‘ati. — T.: Yangi Asr Avlodi, 2020. — 512 p.
5. Dmitrieva N.N. Funktsionalnaya semantika professionalnoy leksiki. — Moskva: URSS, 2019. — 208 p.
6. Kelly D., Moorkens J. Human-Machine Terminology Management in the Age of Neural MT // Translation Spaces. — 2023. — Vol. 12, № 1. — P. 57–79.
7. Khudayberganov B.B. O‘zbek tilida kompyuter terminologiyasining shakllanishi. — Samarqand: SSV Matbuot, 2019. — 196 p.
8. Picht H., Draskau J. Terminology: An Introduction. — London: Bloomsbury, 2020. — 228 p.
9. Vinay J.P., Darbelnet J. Stylistique comparée du français et de l’anglais. — Paris: Didier, 1958. — 336 p.
10. ISO 704:2022 Terminology Work — Principles and Methods. — Geneva: International Organization for Standardization, 2022. — 45 p.