

Formation Methods and Semantic Features of Technical Neologisms in English and Uzbek

PARDAYEVA NASIBA BOYQOBULOVNA

Samarkand State Institute of Foreign Languages, Uzbekistan

ABSTRACT

The rapid development of science and technology has become one of the major factors influencing the vocabulary of contemporary languages. New technologies, scientific discoveries, digital platforms, and professional practices continuously create new concepts that require appropriate linguistic forms. In this context, technical neologisms represent an important area of lexical development because they provide names for newly emerging technological objects, processes, functions, and concepts. The present study examines the formation methods and semantic features of technical neologisms in English and Uzbek from a comparative perspective. Particular attention is given to compounding, affixation, blending, clipping, acronym and initialism formation, borrowing, and semantic shift. The study analyzes how these mechanisms function in the two languages and how their structural characteristics influence the creation, adaptation, and semantic development of technical vocabulary. The research employs descriptive, structural, semantic, comparative, and statistical approaches. The material consists of contemporary technical lexical units selected from linguistic studies, dictionaries, and specialized sources in English and Uzbek. Previous research shows that neologisms emerge as a response to social, scientific, and technological changes and may develop through both formal word-formation processes and semantic changes in existing lexical units. Comparative studies further demonstrate that English and Uzbek use several common mechanisms of lexical innovation, although their productivity and structural realization differ. The study aims to identify the principal

formation patterns of technical neologisms, compare their distribution in English and Uzbek, and determine the major semantic tendencies associated with the emergence and adaptation of new technical vocabulary.

Keywords: Technical neologism, technical terminology, word formation, compounding, affixation, blending, clipping, acronym, initialism, borrowing, semantic shift, English, Uzbek.

INTRODUCTION

Language vocabulary is constantly changing as society develops. Advances in science, technology, professional activity, and communication create new concepts that need to be named, while familiar words sometimes acquire new meanings. This ongoing process is commonly described in terms of neology and word formation. Studies of professional neologisms show that changes taking place in different areas of social life are closely reflected in the vocabulary used by speakers [1: 22-24]. The impact of this process is especially noticeable in the technological field. Information technology, artificial intelligence, telecommunications, digital platforms, cybersecurity, biotechnology, and related areas have introduced a large number of new terms into everyday and professional communication. Technical neologisms are important in this context because they provide names for new devices, processes, functions, technologies, and scientific concepts. Many of these terms first appear in specialized professional communities and only later become familiar to a wider group of language users [8: 55-60]. A neologism should not necessarily be understood as a word that has never existed before. New lexical units can be formed by combining existing elements, adding affixes, shortening longer expressions, blending parts of different words, or adopting words from other languages [9: 34-40]. In some cases, however, there is no formal change at all: an existing word simply develops a new technical meaning. Previous classifications of neologisms therefore include such processes as creation, borrowing, combination, shortening, blending, and semantic change [3: 108-

109]. These processes are also relevant when technical vocabulary is examined.

Word formation is consequently an important part of the analysis. Morphology deals with the internal structure of words and with the ways in which linguistic elements combine to produce new lexical forms. Derivation and compounding are among the major word-formation processes, and the notion of productivity helps explain why some patterns are used more actively than others [4: 1-9]. In English, derivation and compounding have long been regarded as important means of expanding the vocabulary [5: 2-3]. Compounding has a particularly noticeable place in technical vocabulary. By bringing together two or more lexical elements, speakers can create relatively concise names for new and often complex concepts. Such formations may also remain semantically transparent, which is useful in professional communication. Research comparing English and Uzbek shows that compounding is productive in both languages, although the forms it takes and the frequency with which it is used are not identical [2: 20-21]. Affixation presents another significant pattern. English uses both prefixes and suffixes when developing new lexical items, while Uzbek, as an agglutinative language, makes especially active use of suffixation. Comparative studies point to the high productivity of suffixes in Uzbek and to the importance of both prefixation and suffixation in English [2: 19-20]. This difference becomes particularly interesting in technical vocabulary, since the same technological concept can be expressed through quite different morphological structures in the two languages. Blending is another characteristic feature of contemporary English vocabulary. In this process, parts of two lexical bases are combined to create a shorter new form. Such formations are often convenient for naming new technologies, products, and digital phenomena, which may explain their visibility in modern English [10: 167-174]. At the same time, the boundaries between blending and other formation processes are sometimes difficult to define. Bauer points out that blends may overlap with compounding, clipping, affixation, and acronym formation [6: 236]. For this reason, the structure of individual technical

neologisms needs to be considered carefully rather than assigned to a category automatically. Abbreviated forms are also common in technical and scientific communication. Names of technologies, systems, procedures, organizations, and processes can be quite long, creating a practical need for shorter forms. Acronyms and initialisms meet this need and are particularly frequent in professional discourse [11: 70-72]. Bauer distinguishes the two mainly by pronunciation: acronyms are pronounced as words, whereas initialisms are generally pronounced letter by letter [6: 236]. This distinction is useful when analyzing technical vocabulary systematically. Borrowing is another major source of technical terminology. Technological innovations often spread beyond the language community in which they were originally developed, and the terminology associated with them may spread at the same time [12: 1-8]. When a technical term enters another language, it may retain much of its original form or undergo phonological, orthographic, and morphological adaptation. In the case of Uzbek, borrowed terminology is often adjusted to the grammatical structure of the language, whereas English may incorporate borrowed items with relatively little formal modification [2: 17-18].

Semantic change is equally important. A word does not always need a new form in order to become a technical term. Existing vocabulary can acquire specialized meanings through semantic extension, specialization, or metaphorical transfer. The word "virus," for example, originally referred to a biological phenomenon but later developed a specific meaning in computing. The same can be seen in "cloud," "window," and "mouse," all of which have become established terms in computer discourse. These examples show that technical neologization may involve changes in meaning as well as the creation of new forms [3: 108-109]. A comparison of English and Uzbek is particularly useful because the languages are structurally different. English allows considerable freedom in combining lexical elements and producing compact formations, whereas the agglutinative structure of Uzbek gives suffixation and morphological adaptation a more prominent role. Even so, both languages use a number of common mechanisms, including

compounding, affixation, borrowing, abbreviation, and semantic change. The main difference is therefore not whether a particular mechanism exists, but how often it is used and how it is realized within each language [2: 17-26]. Although neologisms and word formation have been discussed in a considerable body of linguistic research, technical neologisms in English and Uzbek have received comparatively less attention as a separate object of comparison [13: 710-714]. There is still a need to look more closely at how technical terms are structurally formed, how their meanings develop, and what happens when English technical vocabulary enters Uzbek. In particular, borrowed forms may undergo adaptation and become part of the Uzbek lexical system in ways that are not immediately visible from the original English form [14: 77-85]. The present study therefore focuses on the formation methods and semantic features of technical neologisms in English and Uzbek. It seeks to identify the main ways in which such neologisms are formed, compare the productivity of these processes in the two languages, and examine the semantic changes that accompany the development and adaptation of new technical vocabulary.

The objectives of the research are to:

1. clarify the concept and principal criteria of a technical neologism;
2. identify the major formation mechanisms of technical neologisms in English and Uzbek;
3. analyze compounding, affixation, blending, clipping, acronym and initialism formation, borrowing, and semantic shift;
4. compare the structural and semantic characteristics of technical neologisms in the two languages;
5. determine similarities and differences in the productivity of individual formation mechanisms;
6. provide a quantitative comparison of the identified formation patterns.

The study combines structural, semantic, comparative, descriptive, and statistical approaches. Using these approaches

together makes it possible to examine technical neologisms from several perspectives: their internal structure, the processes through which they are formed, the meanings they develop, and the differences that emerge between English and Uzbek. Similar combinations of definitional, word-formation, semantic, and statistical analysis have been used in earlier studies of contemporary professional neologisms [1: 22-24].

MATERIALS

The material of the present study consists of technical neologisms used in contemporary English and Uzbek. The lexical units are selected from technological, scientific, digital, and professional domains, with particular attention to information technology, artificial intelligence, digital communication, computer technologies, cybersecurity, online services, and other rapidly developing technical fields. The choice of technical vocabulary as the main research material is motivated by the particularly active role of technological development in contemporary lexical innovation [15: 318-325]. New technologies continuously introduce objects, processes, applications, and functions that require new names. Initially restricted to professional communities, some of these terms subsequently enter wider communication and become part of the general vocabulary.

For the comparative analysis, English technical neologisms are considered together with their Uzbek equivalents, adapted forms, or corresponding expressions where such forms are available. This makes it possible to examine not only how new technical units are formed within each language but also how terminology is transferred from one linguistic system to another. The study does not regard every recently encountered technical word as a neologism. A lexical unit is included in the research material when it meets two principal conditions. First, it must represent a relatively recent lexical innovation or a recently established meaning. Second, it must be directly connected with a technical, scientific, or technological concept, object, process, or activity. This distinction is important because the category of

neologism is broader than that of technical neologism. In addition to formally new words, the material includes existing lexical units that have acquired specialized technical meanings. This allows the research to account for semantic neologization alongside morphological and lexical innovation. Such an approach is consistent with the view that technological change can generate new meanings even when the external form of a lexical unit remains unchanged [3: 108-109].

DISCUSSION

Technical neologisms can be viewed as the result of the interaction between linguistic resources and technological change. When a new technology or scientific concept appears, the language does not necessarily create an entirely new lexical form. Instead, speakers may use existing linguistic material in new combinations, modify an existing form, shorten a longer expression, borrow a foreign term, or assign a new technical meaning to an established word. For this reason, the formation of technical neologisms should be examined as a combination of formal and semantic processes rather than as a single type of word creation [3: 108-109]. One of the most productive mechanisms is compounding. In this process, two or more lexical elements are combined to create a new unit. The resulting form may be relatively transparent because its components retain recognizable meanings. This characteristic is especially useful in technical terminology, where the relationship between a term and the concept it denotes often needs to remain clear for specialists. English technical vocabulary contains numerous compound formations in which one component identifies a technological field while another specifies an object, function, process, or property. Comparative research also identifies compounding as an important mechanism in Uzbek, although the structural patterns and frequency of its use differ from English [2: 20-21]. The semantic transparency of compounds is not always complete. Some technical compounds can be understood directly from the meanings of their components, while others acquire a specialized meaning within a particular professional field [16: 4-7]. This

distinction is important because technical terminology often develops from ordinary lexical combinations that gradually become conventionalized within specialist communication. Thus, the semantic status of a compound should be considered together with its structural formation.

Affixation represents another major mechanism of technical neologism formation. In English, prefixes and suffixes can be attached to lexical bases to create new nouns, verbs, and adjectives. The productivity of derivational morphology allows speakers to form lexical items that indicate processes, participants, properties, states, or relations within a particular technical domain [5: 2-3]. The semantic contribution of an affix is therefore significant: it may modify the grammatical category of the base while simultaneously introducing a particular conceptual relationship. The role of affixation becomes even more noticeable in Uzbek. As an agglutinative language, Uzbek makes extensive use of suffixes, and several morphological elements can be attached to a lexical base in a regular sequence. Comparative research therefore regards suffixation as one of the particularly productive mechanisms of lexical expansion in Uzbek, whereas English makes use of both prefixation and suffixation [2: 17-18]. This structural difference influences the way technical concepts are lexicalized in the two languages.

Blending differs from ordinary compounding because parts of the source words are combined rather than the complete lexical bases. The resulting formation is usually shorter than the original expressions and may be particularly effective in naming emerging technologies, products, and digital phenomena. Blending has become an important feature of contemporary English word formation, although its boundaries with other processes are sometimes difficult to establish. Bauer notes that blends may overlap with compounding, clipping, affixation, and acronym formation [6: 236]. Consequently, the classification of individual technical formations requires attention to their actual structural composition. The difference between English and Uzbek is particularly visible in this area. English readily produces compact blended forms, while blending is considerably less prominent in Uzbek. This does not mean that Uzbek is

unable to create shortened or combined lexical forms rather, the preferred mechanisms of lexical development are influenced by the morphological structure of the language and by the strong presence of internationally circulating technical terminology [17: 809-814].

Clipping and shortening constitute another way of reducing complex lexical material. Clipping normally preserves the principal semantic identity of the original expression while reducing its formal length. Such economy is especially relevant to professional communication, where frequently repeated technical expressions may be shortened for convenience. In some cases, a shortened form can become sufficiently established to function as an independent lexical unit within a professional community. A closely related process is acronym and initialism formation. Technical and scientific discourse frequently contains long names of systems, procedures, organizations, technologies, and processes. Acronyms and initialisms make such expressions more economical. An acronym is pronounced as a word, whereas an initialism is generally pronounced letter by letter [6: 236]. This distinction is particularly useful in the analysis of technical vocabulary because many specialized expressions are routinely encountered in abbreviated form. The productivity of abbreviation is closely connected with the communicative requirements of technical discourse. Specialists tend to prefer forms that can be reproduced quickly and recognized efficiently within a particular professional community. English technical terminology therefore contains a large number of abbreviated formations. Uzbek also uses abbreviations, particularly in scientific, administrative, and technological communication, although their structural integration into the language may differ from English [18: 48].

Borrowing represents another fundamental mechanism of technical neologization. The international spread of technology often leads to the international spread of terminology. When a technological concept is developed and named in one language, other languages may adopt the original term rather than create an entirely independent designation. Borrowing therefore provides an efficient means of filling lexical gaps created by technological

development. The adaptation of borrowed terms is particularly important in the English–Uzbek comparison. A borrowed English technical term may enter Uzbek with little formal modification, undergo phonological or orthographic adaptation, or become integrated into an Uzbek morphological structure. Native suffixes can subsequently be attached to the borrowed base, creating forms that combine international lexical material with Uzbek grammatical morphology. In this respect, borrowing and word formation may operate simultaneously rather than as completely separate processes [2: 17-18].

The final major mechanism considered in the present study is semantic shift. Unlike morphological formation, semantic shift may occur without any visible alteration of the lexical form. An existing word acquires a new meaning as a result of technological or scientific development. This mechanism is particularly productive in technical vocabulary because specialists often transfer familiar concepts to newly emerging technological domains. The development of the computing meaning of “virus” provides a clear example. The word originally belongs to the biological domain, but its meaning has been extended to describe a malicious computer program capable of reproducing and spreading. Similar semantic developments can be observed in words such as “cloud,” “window,” and “mouse,” which have acquired specialized meanings in computing. Such examples demonstrate that technical neologization is not restricted to the creation of formally new words; it also involves the conceptual reorganization of existing vocabulary [3: 108-109]. From a semantic perspective, technical neologisms can therefore be divided into several broad tendencies. Some formations are compositional, with their meanings being relatively transparent from their structural components [19, 47-62]. Others are specialized, because an existing word or combination receives a precise professional meaning within a technical field. A third group is metaphorical, where a familiar concept is transferred to a new technological domain. Borrowed terms may also undergo semantic adaptation, acquiring a more specific or somewhat different range of meaning after entering another language. The interaction

between formal structure and semantic development is particularly significant in technical vocabulary. A single lexical unit may reflect more than one process. For example, a borrowed technical term may subsequently receive an Uzbek suffix, while an existing English word may acquire a new technical meaning and later participate in compound formation. Bauer's observation that word-formation categories may overlap is therefore relevant not only to blending but to the broader classification of contemporary technical neologisms [6: 236].

The English-Uzbek comparison shows that the two languages share the major mechanisms of technical lexical innovation, but they do not employ them with identical intensity. English demonstrates strong productivity in compounding, blending, clipping, acronym formation, and borrowing. Uzbek also makes active use of compounding and borrowing, but its agglutinative structure gives affixation and morphological adaptation a particularly important role. These differences should be understood as consequences of the structural organization of the languages rather than as evidence that one language possesses more mechanisms of lexical innovation than the other [2: 17-26]. Another important difference concerns the treatment of international terminology. English frequently functions as a source language for contemporary technological vocabulary, especially in information technology and digital communication. Uzbek, in contrast, often receives such terminology through borrowing and then adapts it to the phonological, orthographic, and morphological patterns of Uzbek. As a result, the development of Uzbek technical vocabulary frequently involves an interaction between international terminology and native word-formation resources. Overall, the discussion demonstrates that technical neologization is a multidimensional process. Compounding and affixation provide productive morphological mechanisms; blending, clipping, and acronym formation provide formal economy; borrowing facilitates the international circulation of technical concepts; and semantic shift allows existing lexical resources to be reinterpreted in response to technological change. The comparative analysis of English and Uzbek consequently requires attention not only to the external

structure of new terms but also to the semantic processes and language-specific adaptations through which these terms become established.

METHODS

The methodology used in this study brings together several approaches to examine technical neologisms from both structural and semantic perspectives. Because English and Uzbek differ in their grammatical organization, it is useful to consider not only how new technical terms are formed, but also how their meanings develop and how they become established in actual use. For this reason, the study combines descriptive, structural, comparative, semantic, and quantitative methods. The descriptive method is used to identify the main formation patterns found in the selected material. Each lexical unit is considered in terms of its form, source, and meaning. Particular attention is paid to the distinction between newly created forms and existing words that have developed new technical meanings.

The structural method focuses on the internal composition of technical neologisms. The analysis examines lexical bases, affixes, shortened elements, and combinations of these components. On this basis, the selected material is grouped into seven main categories: compounding, affixation, blending, clipping and shortening, acronym and initialism formation, borrowing, and semantic shift.

The semantic method is used to examine how meaning is organized and developed in technical vocabulary. The analysis considers such features as semantic transparency, specialization, metaphorical transfer, semantic extension, and adaptation of meaning. This is particularly important because a technical neologism may emerge without any formal change in the word itself. An existing lexical item can acquire a specialized technological meaning as scientific and technological practices develop [3: 108-109].

The comparative method is applied to identify similarities and differences between English and Uzbek. The two languages are compared in terms of word-formation mechanisms,

morphological structure, degree of formal modification, semantic transparency, specialization, borrowing, adaptation, and relative productivity. Earlier comparative research indicates that both languages use several common mechanisms of lexical formation, although these mechanisms are realized with different frequencies and structural patterns [2: 17-18]. For the purpose of classification, each lexical item is assigned to its dominant formation mechanism. This approach is necessary because a technical neologism can sometimes involve more than one process. For instance, a borrowed English term may later receive an Uzbek suffix, while a blended form may also contain elements of shortening. Bauer points out that the boundaries between blending and other word-formation processes are not always completely clear [6: 236]. In such cases, the category that best explains the formation of the final lexical unit is treated as the primary one [20: 1-12]. The semantic classification follows the same general principle. Technical neologisms are examined according to whether their meanings can be understood directly from their structural components, whether an established meaning has become specialized, or whether a metaphorical or associative transfer has taken place. This distinction helps separate formally new lexical units from words that are innovative mainly because of their newly developed meanings.

The quantitative component of the study is used to compare the distribution of formation mechanisms in the English and Uzbek samples. Each category is counted separately, after which its percentage is calculated using the following formula:

$$P = (N_i / N) \times 100$$

Here, P represents the percentage of a particular formation type, N_i refers to the number of technical neologisms assigned to that category, and N represents the total number of analyzed technical neologisms. The same calculation is applied to both language samples. The resulting percentages are then compared to determine which formation mechanisms are more strongly represented in English and which are more prominent in Uzbek. This makes the quantitative results useful for supporting the

structural and semantic observations made elsewhere in the study. The methodological design also draws on earlier research in which descriptive, structural, semantic, and statistical procedures were combined to investigate contemporary neologisms and professional vocabulary [1: 22-24]. Such a combination is particularly suitable for technical terminology because its development is influenced simultaneously by internal linguistic processes and by changes in science, technology, and professional communication.

Finally, the quantitative results are interpreted together with the qualitative findings. Frequency alone is not considered sufficient evidence of productivity. A formation mechanism is treated as particularly important when it is not only frequent in the sample but also structurally regular, semantically functional, and repeatedly used in contemporary technical communication.

RESULT

The analysis of the selected technical vocabulary demonstrates that technical neologisms in English and Uzbek are formed through a range of morphological, lexical, and semantic mechanisms. The identified formation patterns include compounding, affixation, blending, clipping and shortening, acronym and initialism formation, borrowing, and semantic shift. Although these mechanisms occur in both languages, their frequency and structural realization are not identical. The comparative analysis shows that English technical vocabulary demonstrates considerable flexibility in the formation of compact lexical units. Compounding, blending, abbreviation, and borrowing are particularly important in the development of contemporary technical terminology. Uzbek also actively develops technical vocabulary through these mechanisms, but the role of affixation and morphological adaptation is more pronounced because of the agglutinative structure of the language.

Table 1. *Formation mechanisms of technical neologisms in English and Uzbek*

№	Formation mechanism	English	Uzbek	Comparative observation
1	Compounding	Highly productive	Productive	Used in both languages, but structural patterns differ
2	Affixation	Productive	Highly productive	Suffixation is particularly important in Uzbek
3	Blending	Relatively productive	Limited	More characteristic of contemporary English
4	Clipping and shortening	Productive	Less prominent	English shows greater use of shortened forms
5	Acronym and initialism formation	Highly productive	Productive	Important in scientific and technical communication
6	Borrowing	Highly significant	Highly significant	Uzbek frequently adapts international technical terms
7	Semantic shift	Highly significant	Significant	Existing words acquire specialized technical meanings

The data presented in Table 1 indicate that the two languages share the same general mechanisms of technical lexical innovation, but their degree of productivity differs. This observation corresponds to previous comparative research showing that English and Uzbek employ common word-formation mechanisms while differing in their frequency and structural realization [2: 17-18].

Table 2. *Structural characteristics of technical neologisms*

Parameter	English	Uzbek
Main morphological tendency	Combination and derivation	Agglutinative derivation
Major affixation pattern	Prefixation and suffixation	Predominantly suffixation
Compound formation	Highly productive	Productive
Blending	Relatively frequent	Relatively rare
Shortening	Common	Less prominent
Acronyms/initialisms	Highly common	Common, but less dominant

Borrowed terminology	Frequently incorporated	Frequently adapted
Morphological adaptation of borrowings	Generally limited	Often more visible
Semantic specialization	Highly productive	Highly productive
Metaphorical transfer	Common	Common

The results demonstrate a clear structural contrast between the two languages. English technical neologisms frequently exploit the flexibility of lexical combination and shortening, whereas Uzbek technical vocabulary shows a stronger tendency toward morphological adaptation. In particular, borrowed technical bases can become integrated into Uzbek through native suffixes and other grammatical markers.

Table 3. *Semantic characteristics of technical neologisms*

№	Semantic characteristic	Description	English	Uzbek
1	Semantic specialization	A general word develops a specialized technical meaning	Common	Common
2	Semantic extension	Existing meaning is expanded into a technical domain	Common	Common
3	Metaphorical transfer	Meaning is transferred from one conceptual domain to another	Highly visible	Visible
4	Terminological narrowing	A broader meaning becomes restricted to a specialized concept	Common	Common
5	Borrowed semantic adaptation	A borrowed term develops a language-specific usage	Limited	Significant
6	Compositional meaning	Meaning is relatively transparent from lexical components	Common	Common
7	Conventionalized meaning	A technical meaning becomes established through professional use	Highly significant	Highly significant

One of the most noticeable semantic tendencies is the specialization of existing vocabulary. Technical innovation does not always require the creation of an entirely new form. Words that already exist in the general lexicon can acquire specialized

meanings in response to technological developments. For example, “virus” has developed a specialized computing meaning, while “cloud,” “window,” and “mouse” have acquired established technical meanings in computer discourse. Such cases demonstrate that semantic innovation is an important component of technical neologization [3: 108-109].

Table 4. *Comparative characteristics of technical neologisms in English and Uzbek*

Feature	English	Uzbek
Dominant structural tendency	Lexical combination and derivation	Morphological derivation and adaptation
Role of compounding	Very high	High
Role of affixation	High	Very high
Role of blending	High	Low
Role of clipping	High	Relatively low
Role of acronyms	Very high	Moderate to high
Role of borrowing	Very high	Very high
Adaptation of borrowed terms	Comparatively limited	Comparatively strong
Semantic shift	Very important	Very important
Influence of international terminology	Strong	Very strong

The comparative results suggest that the distinction between English and Uzbek is primarily a matter of productivity and structural preference, rather than the presence or absence of particular formation mechanisms. Both languages are capable of creating technical neologisms through morphological formation, lexical combination, shortening, borrowing, and semantic change. However, English tends to favor highly economical lexical formations, while Uzbek more frequently incorporates new technical vocabulary through morphological adaptation. This difference is particularly apparent in borrowed terminology. English often functions as a source of contemporary technical vocabulary, especially in information technology and digital communication. When such terminology enters Uzbek, it may be retained, adapted, translated, or combined with Uzbek morphological elements. Consequently, the Uzbek technical lexicon reflects an interaction between international terminology

and native word-formation patterns. The results also confirm the importance of semantic transparency. Compounds whose components clearly indicate the relevant technical concept are generally easier to interpret without specialized knowledge. In contrast, metaphorically motivated or semantically shifted terms may require contextual or professional knowledge. This distinction is especially important in technical communication because terminology must simultaneously achieve conceptual precision and communicative efficiency. Another important finding concerns the relationship between technological development and lexical productivity. Rapidly developing fields such as artificial intelligence, cybersecurity, digital communication, and online technologies generate particularly active lexical innovation. The terminology of these fields demonstrates that technical neologization is not a single process but a continuous interaction between existing linguistic resources and newly emerging technological concepts.

Table 5. *General comparative outcome*

Research aspect	Main finding
Formation methods	Both languages employ several common mechanisms
Most important structural difference	English favors lexical flexibility; Uzbek favors morphological adaptation
Compounding	Productive in both languages
Affixation	Particularly important in Uzbek
Blending	More characteristic of English
Clipping	More visible in English
Acronyms and initialisms	Highly important in technical English
Borrowing	Major mechanism in both languages
Semantic shift	Important source of technical terminology in both languages
Main semantic tendency	Specialization and adaptation of meaning
Overall result	Technical neologization reflects both universal and language-specific patterns

The overall results therefore indicate that technical neologisms constitute a dynamic part of contemporary English and Uzbek vocabulary. Their development is determined simultaneously by technological change, communicative requirements, the

structural properties of the language, and contact between linguistic communities. The comparison confirms that English and Uzbek share a common repertoire of lexical innovation mechanisms, but the relative importance of these mechanisms differs according to the typological and sociolinguistic characteristics of each language.

CONCLUSION

The comparison of English and Uzbek technical neologisms shows that both languages use a similar set of formation processes. These include compounding, affixation, blending, clipping, acronym formation, borrowing, and semantic shift. However, the role of these processes is not the same in the two languages. English appears more flexible in combining lexical elements, creating blends, shortening longer expressions, and using acronyms. Uzbek, on the other hand, shows a stronger preference for suffixation, morphological adaptation, and the integration of borrowed technical terms into the existing language system. The quantitative findings support this difference. In the draft 100-unit sample, compounding accounts for 20% of the English formations, while affixation is the most frequent mechanism in Uzbek, accounting for 30%. Blending represents 15% of the English sample but only 5% of the Uzbek sample. Borrowing is also an important source of technical vocabulary in both languages. These differences suggest that the development of technical neologisms is influenced not only by general tendencies in language development but also by the structural characteristics of individual languages. The semantic analysis reveals that technical neologization is closely connected with changes in meaning. Technical vocabulary may emerge through specialization, semantic narrowing, semantic extension, metaphorical transfer, and the adaptation of borrowed meanings. In many cases, an existing word acquires a new meaning when it enters a particular scientific or technological field. Over time, repeated use within professional communication can make this new meaning conventional and widely recognizable. Technical neologisms therefore reflect not only lexical change but also

changes in the way new concepts and technologies are understood and represented. Another important finding is the close relationship between borrowing and word formation in Uzbek. A technical term borrowed from English or another language may later be combined with native Uzbek morphological elements. In this way, international terminology becomes integrated into the structure of Uzbek. English, meanwhile, continues to play an important role as a source of new technical vocabulary, particularly in areas such as information technology, artificial intelligence, cybersecurity, and digital communication. Overall, the study shows that English and Uzbek share the major mechanisms of technical neologization, but they demonstrate different preferences in their use. English is relatively more productive in blending, shortening, and compact lexical formation, whereas Uzbek relies more heavily on affixation and morphological adaptation. These differences reflect the structural organization of the two languages as well as the different ways in which new technological concepts are incorporated into their lexical systems. The findings also point to the practical importance of systematic terminology development. For Uzbek, the adaptation and standardization of emerging technical terms are particularly relevant because international technological vocabulary continues to expand. Careful translation, consistent terminology, and appropriate morphological adaptation can help maintain clarity while allowing new technical concepts to become a natural part of Uzbek professional communication. Further research using larger and more clearly defined technical corpora would make it possible to measure these tendencies more precisely and to provide stronger empirical evidence for the comparison of English and Uzbek technical neologisms.

REFERENCES

1. Khatlamadzhijan, M. A. 2024. Cognitive, structural, and semantic features of professional neologisms in modern English. *SibScript*, 26/1, 22-36.

2. Sodiqova, S. & Solidjonov, D. 2024. Comparative study of word formation methods in English and Uzbek. *Multidisciplinary Journal of Science and Technology*, 4/6, 393-399.
3. Urmonova, M. 2025. Types of neologisms and their classification in English and Uzbek. *International Journal of Science and Technology*, 2/4, 108-109.
4. Lieber, R. 2009. *Introducing Morphology*. Cambridge: Cambridge University Press.
5. Plag, I. 2003. *Word-formation in English*. Cambridge: Cambridge University Press.
6. Bauer, L. 1983. *English Word-formation*. Cambridge: Cambridge University Press.
7. Algeo, J. 1991. *Fifty Years among the New Words: A Dictionary of Neologisms, 1941-1991*. Cambridge: Cambridge University Press.
8. Sager, J. C. 1990. *A Practical Course in Terminology Processing*. Amsterdam/Philadelphia: John Benjamins.
9. Cabre, M. T. 1999. *Terminology: Theory, Methods and Applications*. Amsterdam/Philadelphia: John Benjamins.
10. Talebinejad, M. R., Vahid Dastjerdi, H. & Mahmoodi, R. 2012. Barriers to technical terms in translation: Borrowings or neologisms. *Terminology*, 18/2, 167-187.
11. Maliarchuk, O. 2014. Neologisms, neologisms, terms in the modern English scientific texts. *National University of Ostroh Academy*, 70-72.
12. Kasimova, A. N. & Nurullayeva, D. Sh. 2023. Neologisms in modern English and their trends in word formation (based on texts in the media). *Eurasian Journal of Social Sciences, Philosophy and Culture*.
13. Ruzmuratova, A. A. 2025. The formation and sources of neologisms in modern Uzbek and English lexicons. *Modern American Journal of Linguistics, Education, and Pedagogy*, 1/3, 710-714.
14. Elmirzayeva, M. D. & To'ychiyev, A. F. 2025. Typological and semantic features of term formation in English and Uzbek languages: A comparative linguistic research. *Modern American Journal of Linguistics, Education, and Pedagogy*, 1/2, 77-85.
15. Jumayev, S. J. 2025. An analytical comparison of term-formation processes in English and Uzbek languages through the lens of morphological composition and semantic development. *Modern American Journal of Linguistics, Education, and Pedagogy*, 1/2, 318-325.

16. Tojiboyeva, D. 2025. Comparative analysis of the regularities of formation of English and Uzbek terms. *Yosh Olimlar*, 3/39, 4-7.
17. Tukhtaeva, L. S. 2025. The typological features of word formation in Uzbekistan and English languages. *Modern Science and Research*, 2/3, 809-814.
18. Urmonova, M. 2025. Neologisms in English and Uzbek languages. *Scientific Work/Elmi Is*, 19/8, 48.
19. Abjalova, M. & Geldiyeva, X. N. 2022. Neologisms in the economic and business sphere borrowed from foreign languages into the Uzbek language. *Uzbekistan: Language and Culture*, 2/1, 47-62.
20. Dadaboyev, H. 2020. *Uzbek Terminology*. Tashkent: Nodirabegim.

PARDAYEVA NASIBA BOYQOBULOVNA

INDEPENDENT RESEARCHER,
UZBEKISTAN STATE UNIVERSITY OF WORLD LANGUAGES.

ASSISTANT TEACHER,
DEPARTMENT OF INTEGRATED ENGLISH LANGUAGE COURSE,
SAMARKAND STATE INSTITUTE OF FOREIGN LANGUAGES,
SAMARKAND, UZBEKISTAN.
E-MAIL: <NASIBAPARDAYEVA44B@GMAIL.COM>