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MEASURING PRODUCTIVITY AND THE SIGNIFICANCE OF NEOLOGISMS IN ENGLISH WORD FORMATION THROUGH MODERN EDUCATIONAL TECHNOLOGIES

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Annotation: This article examines the productivity of English word-formation and the role of neologisms in modern language. It highlights how digital technologies, such as corpora and AI tools, support the analysis and creation of new lexical items, enhancing learners’ engagement and independent study.

Keywords: *English morphology, word formation, neologisms, productivity, corpus analysis, AI learning*

Annotatsiya: Ushbu maqola ingliz tilida so‘z yasash jarayonlarining mahsuldorligi va neologizmlarning ahamiyatini tahlil qiladi. Unda korpuslar va sun’iy intellekt yordamida yangi so‘zlarni o‘rganish va yaratish imkoniyatlari yoritiladi.

Kalit so‘zlar: ingliz morfologiyasi, so‘z yasash, neologizmlar, mahsuldorlik, korpus tahlili, sun’iy intellekt

Аннотация: В статье рассматривается продуктивность словообразования в английском языке и значение неологизмов. Подчеркивается роль цифровых технологий и ИИ-инструментов в анализе и создании новых лексических единиц.

Ключевые слова: *английская морфология, словообразование, неологизмы, продуктивность, корпусный анализ, искусственный интеллект*

English word formation has undergone continuous development, shaped by historical layers such as Old English inheritance, extensive borrowing from Latin and French, and, in recent decades, rapid innovation driven by technological and cultural change. Morphological productivity refers to the capacity of certain word-formation patterns—such as affixation, compounding, and conversion—to actively generate new lexical items in present-day usage.[1] Neologisms is a result of this productivity, reflect emerging concepts, social trends, and communicative needs. For instance, recent lexical items like “eco-anxiety” (environmental concern), “doomscrolling” (excessive consumption of negative online news), and “finfluencer” (financial influencer) demonstrate how new meanings are encoded through familiar morphological structures. Similarly, compounding remains highly productive, as seen in words like “smartwatch” and “data-driven”.

Modern educational technologies significantly enhance the study of these processes. Digital corpora allow learners to trace the frequency and evolution of new words, while AI-assisted tools provide real-time examples and pattern recognition. Interactive platforms further enable students to experiment with word creation, for example by forming derivatives such as “digitalize → digitalization” or “connect → connectivity”, thereby deepening their understanding of morphological rules.[2] The integration of technological resources not only supports historical analysis of word formation but also promotes active engagement with ongoing lexical innovation, bridging theoretical knowledge and practical language use.

The development of English word formation is deeply rooted in its diverse historical sources, which have significantly contributed to the richness and flexibility of its lexical system. Each historical layer has introduced specific morphological patterns that remain productive in contemporary English. Old English roots form the core vocabulary and continue to generate new words through compounding and affixation. For example, the base word “house” has produced derivatives such as “household”, “housekeeper”, and more recent formations like “housemate”. [3] This demonstrates the ongoing productivity of native elements in forming semantically transparent lexical units.

Latin borrowings have enriched English with a wide range of abstract and technical vocabulary, often associated with derivational affixes. Words such as “manual” have developed into “manipulate”, “manipulation”, and “manipulative”, illustrating how Latin-based morphemes like -ate, -tion, and -ive support the expansion of lexical families, especially in academic and professional discourse.[4] French influence, particularly after the Norman Conquest, introduced administrative, legal, and cultural terminology. For instance, “bureau” has evolved into “bureaucrat” and “bureaucracy”, where the suffix -cracy contributes to the formation of abstract nouns related to systems of governance. Similarly, words like “government” and “agreement” show the continued productivity of French-derived suffixes such as -ment.[5] Germanic elements, closely related to Old English, also remain highly productive. The word “king” generates forms like “kingdom”, “kingship”, and even metaphorical extensions such as “king-size”. These examples highlight how suffixes like -dom and -ship contribute to both concrete and abstract meanings.

Modern educational technologies, particularly digital corpora, allow learners to observe how these historical elements function in real language use. By analyzing large datasets, students can track the frequency and distribution of affixes such as -ness “happiness”, “awareness”, -ity “productivity”, “creativity”, and -ship “leadership”, “friendship”. Moreover, corpus-based tools reveal that these affixes are not only historically significant but also actively used in forming contemporary neologisms, such as “digital readiness” or “global citizenship”.

Thus, the integration of historical linguistic knowledge with modern technological tools enables a deeper understanding of both the origins and ongoing productivity of English word formation processes.[6] The measurement of morphological productivity in English has become increasingly precise with the integration of modern technological tools. Among these, corpus-based analysis plays a central role in identifying how frequently and effectively specific word-formation patterns generate new lexical items in authentic language use.

Through the use of digital corpora, learners can examine large collections of real-world texts to detect recurring morphological structures and evaluate their level of productivity. Instead of relying solely on theoretical descriptions, this approach enables empirical observation of how words are actually formed and used across different contexts and registers. For example, analyzing the distribution of words such as “friendship” and “friendliness” demonstrates that different suffixes contribute to distinct semantic categories: -ship typically forms abstract nouns denoting relationships or states “leadership”,

“partnership”, whereas -ness produces nouns expressing qualities or conditions “kindness”, “awareness”. By comparing their frequency and contextual usage, learners can better understand which patterns are more productive in specific communicative domains.

Additionally, corpus tools allow users to trace emerging formations in contemporary English. For instance, suffixes like -er and -or remain highly productive in labeling agents, as seen in newer terms such as “content creator”, “influencer”, and “moderator”. Similarly, the suffix -able continues to generate evaluative adjectives like “searchable”, “downloadable”, and “customizable”, especially in digital and technological contexts. Another advantage of corpus-based methods is the ability to compare historical and modern usage patterns. Learners can observe how certain affixes, such as -ity and -ness, compete or coexist in forming abstract nouns “complexity” vs. “complexness”, thereby gaining insight into stylistic preferences and productivity constraints.

In this way, technology-supported corpus analysis transforms the study of word formation into an interactive and data-driven process, enabling learners to explore morphological productivity with greater accuracy and independence. Interactive morphological tools represent an important component of modern language learning technologies, enabling students to actively engage with the internal structure of words. These tools allow learners to segment lexical items into morphemes, identify roots and affixes, and experiment with the application of derivational rules in a dynamic and exploratory environment.[7] Through such platforms, students move beyond passive recognition and develop analytical skills by constructing new word forms. For instance, the base form “eco” can be extended into “eco-friendly” and further into “ecofriendliness”, illustrating how compounding and suffixation operate together to produce semantically complex units.

Similarly, learners can explore other productive patterns, such as “create → creative → creativity” or “digit → digital → digitalization”, which demonstrate how suffixes like -ive, -ity, and -ization contribute to lexical expansion. Another example includes “use → reusable → reusability”, where both prefixation re- and suffixation -able, -ity are combined to form new meanings. These tools also provide immediate feedback, allowing users to test whether newly formed words conform to accepted morphological rules and usage norms. As a result, students gain a deeper understanding of both the structural and functional aspects of word formation. Overall, interactive morphological technologies foster creativity, reinforce theoretical knowledge, and support the development of independent learning strategies by enabling learners to experiment with language in a controlled yet flexible digital environment.

Artificial intelligence–assisted learning has become an essential element in the study of English word formation, offering personalized and adaptive support for learners. Intelligent systems are capable of generating customized exercises, tracking individual progress, and identifying typical errors, particularly those related to overgeneralization of morphological rules. One of the key advantages of AI-based platforms is their ability to provide immediate and context-sensitive feedback. When learners attempt to form new words, the system evaluates whether the applied derivational patterns are linguistically acceptable and suggests corrections where necessary. This process helps students refine their understanding of morphological constraints and avoid incorrect formations.[9] For example, when a learner produces a form such as “googlize”, the system may guide them toward more conventional alternatives like “google” as a verb or “Google search”, explaining that not all bases naturally combine with the suffix -ize. Similarly, attempts such as “informations” or “advices” can be corrected by highlighting irregular pluralization patterns and uncountable noun usage.

AI tools also encourage productive experimentation by suggesting valid derivations. For instance, learners may explore patterns like “modern → modernize → modernization” or “simple → simplify → simplification”, gaining insight into how suffixes such as -ize and -ation function within broader word-formation systems. In digital contexts, new formations like “virtualize”, “monetization”, and “personalization” further demonstrate the ongoing productivity of these patterns.[10] Moreover, AI-driven environments simulate real-life language use by integrating authentic data and usage frequency, ensuring that learners are exposed to both standard forms and emerging lexical innovations. As a result, AI-assisted learning not only improves accuracy in word formation but also enhances learners’ ability to apply morphological knowledge in practical communication.

The analysis of productivity and neologisms in English word formation demonstrates that contemporary linguistic development is closely interconnected with technological advancement. Modern educational technologies significantly expand the methodological possibilities of studying morphology by transforming abstract theoretical concepts into observable and measurable phenomena. Digital corpora, for instance, provide empirical evidence of how derivational patterns function in authentic contexts. By examining large-scale language data, learners can identify the increasing frequency of forms such as “sustainability”, “connectivity”, and “adaptability”, which confirm the ongoing productivity of suffixes like -ity and -ability in academic and professional discourse. At the same time, corpus analysis enables the

observation of emerging neologisms such as “metaverse”, “cryptoasset”, and “biohacking”, reflecting rapid changes in technology and society. AI-assisted platforms further enhance this process by offering adaptive learning environments where students can test hypotheses about word formation. For example, when learners construct forms like “globalize → globalization” or experiment with innovative combinations such as “green-tech” and “datafication”, intelligent systems provide immediate feedback on their structural validity and usage. This interaction not only reduces common morphological errors but also deepens understanding of derivational constraints and semantic transparency.

Interactive tools complement these approaches by encouraging active participation in word creation. Through morphological segmentation and pattern recognition, learners can analyze structures such as “interconnectedness” or “decentralization”, thereby gaining insight into the layered nature of English lexical construction. Such tools promote exploratory learning and reinforce the relationship between form and meaning. Overall, the integration of digital corpora, artificial intelligence, and interactive technologies fosters a comprehensive and practice-oriented approach to word formation. It develops critical analytical skills, supports learner autonomy, and ensures that linguistic knowledge remains relevant in the context of ongoing lexical innovation. Consequently, technology-enhanced learning serves as an effective bridge between traditional morphological theory and the dynamic evolution of modern English vocabulary.

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Annotatsiya: Mazkur maqolada kompyuter lingvistikasi doirasida allomorflarni aniqlashda yuzaga keladigan nazariy va amaliy muammolar tahlil qilinadi. Unda allomorfiya hodisasining fonologik va morfologik xususiyatlari hamda avtomatlashtirilgan matnni qayta ishlash tizimlaridagi murakkabliklar yoritiladi. Shuningdek, kontekstga asoslangan yondashuvlar, mashinaviy o‘rganish usullari va lingvistik qoidalarni birlashtirish zarurligi asoslab beriladi.

Kalit so‘zlar: *allomorfiya, morfologiya, kompyuter lingvistikasi, NLP, fonetik muhit, sun’iy intellekt, algoritmlar*

Abstract: This article analyzes theoretical and practical challenges in identifying allomorphs within computational linguistics. It examines phonological and morphological aspects of allomorphy and highlights difficulties in automated text processing systems. The study emphasizes the importance of combining context-based approaches, machine learning methods, and linguistic rules to improve morphological analysis and model accuracy.

Keywords: *allomorphy, morphology, computational linguistics, NLP, phonetic environment, artificial intelligence, algorithms*

Аннотация: В статье рассматриваются теоретические и практические проблемы определения алломорфов в компьютерной лингвистике. Анализируются фонологические и морфологические