

ТЕОРЕТИЧЕСКАЯ, ПРИКЛАДНАЯ И СРАВНИТЕЛЬНО-СОПОСТАВИТЕЛЬНАЯ ЛИНГВИСТИКА/THEORETICAL, APPLIED AND COMPARATIVE LINGUISTICS

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CONFIGURATION OF THE MICROFIELD "PARTICIPANTS IN IT PRODUCTION" IN THE ENGLISH-LANGUAGE THEMATIC SPHERE "COMPUTER TECHNOLOGIES"

Research article

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Abstract

The article presents a systematic description of the structural and semantic characteristics of the microfield “Participants in IT Production” in the English-language thematic sphere "Computer technologies". The study identifies the core and peripheral zones of the microfield, describes its lexical and semantic organization, and shows how its constituents interact with neighboring microfields connected with IT production processes, managerial roles, and technical support. Special attention is paid to the dominant units of the microfield (developer, programmer, software engineer), productive word-formation patterns (compound structures, abbreviations), and the intersection of this microfield with related semantic domains in professional IT communication. The research demonstrates that the microfield is dynamic, open, and sensitive to changes in the modern IT industry, reflecting the functional differentiation of professional roles and the interdisciplinary nature of software development.

Keywords: lexical-semantic field, microfield, core, near periphery, far periphery, dominant, IT discourse, professional vocabulary.

КОНФИГУРАЦИЯ МИКРОПОЛЯ «УЧАСТНИКИ IT-ПРОИЗВОДСТВА» В АНГЛОЯЗЫЧНОЙ ТЕМАТИЧЕСКОЙ СФЕРЕ «КОМПЬЮТЕРНЫЕ ТЕХНОЛОГИИ»

Научная статья

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Аннотация

В статье представлено систематическое описание структурных и семантических характеристик микрополя «Участники IT-производства» в англоязычном англоязычной тематической сфере «Компьютерные технологии». В ходе исследования определены ядерная и периферийная зоны данного микрополя, описана его лексико-семантическая организация, а также показано, как его составляющие взаимодействуют со смежными микрополями, связанными с процессами IT-производства, управленческими ролями и технической поддержкой. Особое внимание уделяется доминантным единицам микрополя (developer, programmer, software engineer), продуктивным словообразовательным моделям (сложным словам, аббревиатурам), а также пересечению данного микрополя со смежными семантическими доменами в сфере профессиональной IT-коммуникации. Исследование демонстрирует, что данное микрополе является динамичным, открытым и чутко реагирующим на изменения в современной IT-индустрии, отражая функциональную дифференциацию профессиональных ролей и междисциплинарный характер разработки программного обеспечения.

Ключевые слова: лексико-семантическое поле, микрополе, ядро, ближняя периферия, дальняя периферия, доминанта, IT-дискурс, профессиональная лексика.

Introduction

The notion of a lexical-semantic field remains one of the most productive tools in modern linguistics because it allows researchers to describe vocabulary as a structured system rather than a random set of lexical items. Within this approach, a microfield is understood as a «smaller semantic subsystem united by a common meaning and organized around a central dominant lexeme» [4, P. 79]. Such an approach is especially effective for the analysis of professional vocabulary, where each lexical unit is determined not only by meaning, but also by functional role and communicative context.

The IT sphere is one of the most dynamic domains of contemporary English professional discourse. It is characterized by rapid terminological renewal, international communication, and a high degree of standardization in naming professional roles. For this reason, the microfield «Participants in IT Production» deserves special attention as a semantic subsystem that reflects the internal structure of the IT industry and the distribution of professional functions within it.

Research methods and principles

The research is based on the principles of systematicity, structural-semantic analysis, and interdisciplinarity. The studied microfield is treated as a hierarchical lexical subsystem in which the meaning of each constituent is defined by its relation to the whole. The principle of center-periphery organization made it possible to distinguish the dominant lexeme and peripheral role names, while the principle of functional differentiation helped to classify the units according to their professional tasks.

The empirical material includes English-language professional texts on IT topics, including job advertisements, corporate websites, technical documentation, and professional articles. The main methods used are component analysis, semantic classification, field analysis, contextual interpretation, and lexical-statistical observation. These methods made it possible to identify core and peripheral constituents, determine semantic subgroups, and analyze their usage in authentic professional contexts.

Main results

The lexical-semantic field of IT production includes nominations connected with software development, testing, deployment, maintenance, and project coordination. Within this field, the microfield «Participants in IT Production» comprises the names of specialists involved in these processes: developer, programmer, coder, software engineer, tester, QA engineer, analyst, designer, project manager, product owner, Scrum master, DevOps engineer, support specialist.

The core of the microfield is formed by the most general and most frequent units, which directly nominate the main participants in IT production. The dominant of the microfield is the lexeme developer, since it most clearly expresses the central semantic feature of the field: a person who creates digital products [1, P. 45]. Close to the core are the lexemes programmer, software engineer, and coder, which overlap semantically but differ in stylistic coloring and degree of specialization [1, P. 92].

The near periphery includes more specialized names of participants whose functions are narrower and more clearly defined. These are front-end developer, back-end developer, full-stack developer, QA tester, business analyst, UI/UX designer, team lead, product manager [2], [5], [6], [7]. Such units indicate not only participation in IT production but also a specific role within the production chain.

The far periphery is represented by less frequent and more context-dependent nominations, such as release manager, technical writer, site reliability engineer, incident responder, solution architect [9]. These lexemes belong to narrower professional environments and are therefore more peripheral from the semantic point of view.

A characteristic feature of this microfield is its openness and dynamism. The IT industry constantly generates new professional roles, and new names quickly enter professional discourse. For example, the spread of Agile and DevOps practices has made such nominations as Scrum master, DevOps engineer, and product owner highly productive and widely used [1], [2], [5]. This shows that the microfield is not fixed but evolves together with professional practices.

The internal organization of the microfield may also be represented through several semantic subgroups. One subgroup includes names of creators of digital products: developer, programmer, engineer, coder. Another subgroup includes quality-control specialists: tester, QA engineer, QA analyst. A third subgroup comprises coordination and management roles: project manager, product owner, Scrum master, team lead. A fourth subgroup covers analytical and design functions: business analyst, system analyst, UI/UX designer, architect [9, P. 61], [10, P. 94].

The field also reveals productive word-formation patterns. English often uses compound structures and attributive combinations to name IT participants: software engineer, front-end developer, support specialist, release manager [7]. Abbreviations are also common in professional communication: QA, PM, UX, DevOps. These formations reflect the general tendency of IT discourse toward brevity, precision, and functional labeling.

The microfield interacts with adjacent semantic domains. Firstly, it overlaps with the microfield of IT production processes, since many role names are defined through the functions performed in development, testing, and deployment. Secondly, it intersects with the microfield of management and organization because some participants, such as project managers and product owners, combine technical and administrative functions [2, P. 65]. Thirdly, it is linked with the microfield of tools and technologies, since many role names are connected with specific frameworks or technical environments [7].

From a semantic perspective, the microfield has a clear gradient structure. Lexemes located near the center are more general and inclusive, while peripheral units are more specialized and context-sensitive [11, P. 81]. Thus, developer is the central unit, software engineer and programmer occupy a near-central position, and QA automation engineer or release train engineer are peripheral due to their functional specificity.

The microfield also shows sociolinguistic variation. In English professional discourse, some nominations are preferred in corporate communication, while others are more common in informal professional interaction. For example, coder may sound more informal and identity-marking, whereas software engineer is more institutional and prestigious [1, P. 43]. This demonstrates that the same semantic domain may be represented by units with different pragmatic values.

An important feature of the microfield «Participants in IT Production» is its internal differentiation according to the degree of specialization and the type of professional activity. The constituent units of the microfield do not merely name people working in the IT sphere; they also encode information about their role in the production cycle, the stage of the project in which they are involved, and the communicative context in which they function. In this respect, the microfield reflects the structural complexity of modern software development, where the division of labor is highly detailed and dynamically changing.

One of the most productive semantic oppositions within the microfield is the opposition between development and quality control. The first group is represented by nominations such as developer, programmer, coder, software engineer, while the second group includes tester, QA engineer, QA analyst, automation engineer. Although both groups belong to the same production process, they differ in the pragmatic orientation of their tasks. Developers are associated with the creation and

implementation of products, whereas testers are associated with verification, correction, and validation. This opposition is important because it shows that the microfield is organized not only by lexical similarity but also by functional complementarity.

Another significant subgroup is connected with coordination and project governance. The units project manager, product owner, Scrum master, team lead denote participants whose main role is not direct coding but the organization of work, communication between team members, and control over deadlines and priorities. These lexemes occupy a middle position in the microfield: they are not as general as developer, but they are more central than highly specialized peripheral units.

The microfield also includes nominations of specialists engaged in analysis and design. Units such as business analyst, system analyst, UI/UX designer, solution architect occupy a significant place in professional discourse because they connect user needs, technical possibilities, and business goals. Their function is interpretative and mediating: they do not simply create software or manage processes, but structure requirements, design interfaces, and coordinate system logic. Such lexemes are especially important in contemporary IT discourse, where the success of a product depends not only on programming, but also on usability, scalability, and user experience. In this way, the microfield reflects the interdisciplinary character of modern IT production.

The peripheral part of the microfield is formed by names of less frequent or more narrowly specialized participants. For example, release manager, technical writer, site reliability engineer, incident responder, DevOps specialist are units whose use depends on the organization type, project scale, and technological profile of the company.

The microfield «Participants in IT Production» is notable for the high productivity of compound and multiword nominations. English professional discourse tends to create role names through combination models that are semantically transparent and functionally precise. The most common patterns include noun + noun (team lead, product owner), adjective + noun (software engineer, technical writer), and noun + adjective + noun (site reliability engineer). These structures make it possible to identify a specialist's professional function with a high degree of accuracy.

Abbreviations and shortened forms are also widespread. In everyday IT communication, professionals often use QA for quality assurance, PM for project manager, UX for user experience, and DevOps for development and operations. Such reductions are not merely convenient forms of expression; they also function as markers of group identity and in-group belonging.

Another characteristic feature of the microfield is the coexistence of full forms and partial synonyms. For instance, programmer and software engineer may overlap semantically, but the first word is often associated with a more traditional view of coding, whereas the second one implies a broader and more technically advanced profile.

Conclusion

The analysis shows that the microfield «Participants in IT Production» in English professional discourse has a hierarchical structure with a dominant core and peripheral zones. The lexeme developer represents its center, while the near and far peripheries include more specialized role names that reflect the functional differentiation of IT work. The microfield intersects with adjacent semantic domains, especially those connected with production processes, management, and technologies, which confirms its systemic and open character.

Конфликт интересов

Не указан.

Рецензия

Все статьи проходят рецензирование. Но рецензент или автор статьи предпочли не публиковать рецензию к этой статье в открытом доступе. Рецензия может быть предоставлена компетентным органам по запросу.

Conflict of Interest

None declared.

Review

All articles are peer-reviewed. But the reviewer or the author of the article chose not to publish a review of this article in the public domain. The review can be provided to the competent authorities upon request.

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