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The Professional Linguistic Worldview of IT Specialists as a Component of Linguistic Culture

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ABSTRACT

In the context of globalization and informatization, studying the professional linguistic worldview (PLW) of specialists in information and communication technologies (IT specialists) has become a relevant issue. Contemporary linguistics lacks studies devoted to the analysis of the PLW of IT specialists, making this research novel in its approach. This study addresses the importance of examining professionalisms, transformed idiomatic expressions, aphorisms, proverbs, and sayings from the IT domain to develop the professional linguistic and cultural matrix (PLCM) of IT specialists. The authors emphasize how these linguistic units shape the professional linguistic identity of individuals in the information technology sphere. This study applies the three-level concept of linguistic personality proposed by Yu.N. Karaulov. The authors conducted an analysis of the professional linguistic personality to identify the features of forming the PLCM of IT specialists. The aim of this article is to investigate the influence of professional jargon, adapted idioms, aphorisms, proverbs, and sayings on the development of the professional linguistic worldview of IT specialists, which may contribute

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to a deeper understanding of the professional linguistic identity in the information technology domain. To achieve this goal, the authors set the following tasks: review relevant literature, materials, and methodologies, conduct a survey among respondents, and analyze the collected data. The research employs methods such as analysis and synthesis, statistical analysis, verbal-semantic analysis, linguo-cognitive analysis, and pragmatic analysis.

Keywords: Professional Linguistic Identity; IT Specialist; Linguistic Worldview; Professional Jargon; Cognitive-Discursive Aspect

1. Introduction

In modern society, IT specialists play a crucial role as information technologies permeate every area of life, supporting the development of the economy, education, healthcare, science, and other sectors. They are an integral part of contemporary society, influencing the functionality of digital infrastructure and the advancement of new technologies.

The relevance of this research lies in the fact that the language of IT specialists is in a constant state of transformation, continually enriched with terminology, professional jargon, idioms, and aphorisms. Examining the linguistic units used by information technology specialists offers a deeper insight into their professional environment and reveals distinctive features of their professional thinking, as well as their perception of the world through the lens of language. Analyzing the linguistic characteristics of specialists in this field is also essential for identifying the linguistic forms unique to their professional language. Professional jargon shapes the linguistic worldview of specialists, aligning with specific domains of knowledge. Thus, the professional linguistic worldview is formed through the accumulation and systematization of knowledge, where the specialized language plays a pivotal role.

The professional linguistic worldview is a key component of culture, influencing adaptation to the surrounding environment while also impacting integration into the communicative space. A cultural code overlays the perception of this world, with each culture having its unique systematization of experiential elements^[1]. A significant element of professional communication among IT specialists includes professional jargon, transformed idioms, aphorisms, proverbs, and sayings. These linguistic tools not only facilitate the exchange of information but also serve as a means to express complex concepts in a more accessible form.

The issues of studying the linguistic worldview and

the professional linguistic worldview are multifaceted and multi-aspect, being the focus of research by scholars such as N.V. Ufimtseva, O.V. Felde, A.E. Mezhet, V.V. Krasnykh, L.A. Chernyshova, V.F. Novodranova, T.L. Masich, L.V. Kushmar, A.O. Vornachev, I.O. Korobova, N.O. Kaida, N.N. Sergeeva, S.N. Tayurskaya, A.K. Suleimenova, E.N. Serdobintseva, E.S. Kubryakova, Z.D. Popova, and I.A. Sternin. These researchers have analyzed the professional linguistic worldview of specialists in fields such as medicine, oil industry, hydropower engineering, law enforcement, rail transport, and human activities. However, a gap remains in the study of the professional linguistic worldview of specialists in the field of information technology.

2. Literature Review

2.1. The Professional Linguistic Worldview

The study of the professional linguistic worldview of IT specialists, including the use of professional jargon, idioms, and aphorisms, is a relevant field in linguistics and professional communication. Researchers such as D. Tolusbayeva, I. Grigorieva, and others argue that the study of morphology and syntax within the language system is essential to understanding the structure and function of linguistic units. They also highlight that the multi-paradigmatic and universal features of linguistic characteristics are key in linguistic studies, as the use of various methods and connections to other scientific disciplines allows for a thorough analysis of the language system^[2]. This area of research incorporates interdisciplinary approaches, including cognitive linguistics, sociolinguistics, and psycholinguistics related to professional activity.

The new linguistic paradigm of “anthropocentrism” foregrounds the concept of linguistic personality, placing the individual at the center of all scientific research. Many

researchers acknowledge the importance of the cognitive-discursive approach in studying human relationships, information exchange, knowledge acquisition, and more. In this context, language is seen as vital to shaping an individual's internal world^[3].

Research on linguistic worldview originates in the works of scholars such as Humboldt, Potebnia, and others. Language reflects the differentiated components of social life, thus capturing mental attitudes and national identity, while simultaneously shaping individual consciousness. Consequently, each language embodies a unique societal perspective on the world and its understanding. The term "linguistic worldview" was introduced into linguistics by L. Weisgerber^[4], who argued that education, culture, history, and external factors influence language, thereby shaping the worldview. As a result, depending on linguistic characteristics, speakers of different languages may perceive and interpret information differently.

There is no consensus in contemporary linguistics regarding the nature of the professional worldview and the professional linguistic worldview. Researchers such as O.V. Felde and A.E. Mezit^[5] propose that the professional worldview is a variation of the general worldview, while the professional linguistic worldview can be regarded as a version of the national linguistic worldview. In this context, both the professional and professional linguistic worldviews exhibit all the characteristics of fundamental scientific concepts, yet they possess distinctive features shaped by social and professional factors.

It is important to note that the professional linguistic worldview is a specific type of linguistic worldview that develops within a particular professional environment. In the case of IT specialists, this worldview is enriched with terms and expressions associated with the high-tech field. Krasnykh^[6] points out that the professional linguistic worldview reflects unique ways of perceiving and categorizing reality in a specific professional domain, where linguistic units serve as cognitive markers of acquired skills.

Every professional field has its own specific terminology and professionalisms that help its practitioners structure and describe professional realities, reflecting the individual linguistic characteristics of specialists in that domain. It is important to note that these individual linguistic features form the structure of a professional linguistic personality.

According to the research of Yu.N. Karaulov, the structure of a linguistic personality is represented as a three-level concept. Language proficiency corresponds to the verbal-semantic level. This level encompasses the original use of language by the author, the degree of utilization of various worldviews, the novelty of linguistic approaches, and the use of metaphors, proverbs, aphorisms, and idiomatic expressions.

At the cognitive level, the linguistic personality demonstrates cognitive abilities, where thinking, semantic structures, and the professional linguistic worldview are formed. The pragmatic level is characterized by speech activity motives and interaction principles^[7].

2.2. Professional Jargon, Idioms, and Aphorisms

Professional jargon, as a specific layer of vocabulary, is extensively described in the works of Serdobintseva^[8] and Revyakina^[9]. Professional jargon consists of specialized terms that emerge and function within a specific professional environment to facilitate precise and efficient communication^[9]. In the IT community, terms like "deploy," "bug," and "feature" are essential for describing software development and functionality processes. Such jargon simplifies communication among specialists because it conveys concise and exact meanings that are often understood only within a specific professional context. This terminology enables the swift and effective transmission of complex information without the need for extensive explanations^[8].

Idioms play a key role in language development, as they are semantically complex structures. Idioms used in a particular field may only be understood by specialists within that area, showcasing the richness of language and culture as well as historical connections^[10]. In professional discourse, idioms serve to create metaphorical and figurative constructs that simplify complex technical concepts. For instance, the expression "to kill a bug" metaphorically represents the process of debugging in software code. Vertanova^[11] argues that idioms function within the lexical system alongside other autosemantic units, possessing specific linguistic traits. Idioms span different dialects and professional sociolects, participating in word formation and undergoing archaisation while reflecting modern linguistic trends. The emergence of new idioms is unpredictable.

“Aphorisms that incorporate computer slang enrich and develop language, reflecting modern reality and providing insight into the world of computer and information technologies in the 21st century”^[12]. Aphorisms expand knowledge, convey accumulated experience through memorable expressions, and strengthen teamwork by standardizing interaction among IT professionals. Examples include aphorisms such as “If it works, don’t touch it” and “Code is written for people, not for machines.”

The rapid advancement of information technology contributes to the evolution of IT professionals’ language by simplifying it, introducing new terms, increasing intercultural communication, and incorporating artificial intelligence tools^[13]. Artificial intelligence plays a significant role in shaping the professional linguistic worldview of IT specialists. This creates a multifunctional language for the field, utilizing precise and concise terms and modifying multilingual and intercultural communication in the professional environment^[14].

The intercultural aspects of the professional linguistic worldview for IT specialists are reflected in the active use of Anglicisms, borrowings, and professional jargon, creating a unique intercultural society and making communication more universal^[15].

IT discourse is characterized by a high degree of interdiscursivity, implying an inherent openness of discourse and the integration of different discourse types into a unified discursive space. This interdiscursivity is shaped by specific cognitive processes^[16]. The use of professional jargon, idioms, aphorisms, proverbs, and adapted sayings among IT specialists can be attributed to interdiscursivity, as it represents the fusion of various elements within discourse.

The professional worldview of a specialist is formed through cognitive mastery and the systematic accumulation of knowledge within a specific professional field. This process defines the uniqueness of their linguistic consciousness, which reflects and structures professional concepts and terminology, enabling specialists to communicate and understand information effectively within their professional context. Thus, linguistic consciousness functions not only as a means of expressing an individual’s understanding of professional reality but also as a tool for conceptualizing and verbalizing that reality, contributing to the development of a professional linguistic identity. For instance, “Grokking Al-

gorithms” — “to grok” means to understand so fully that the observer becomes part of the observed object, as in Robert Heinlein’s works^[17].

2.3. Professional Linguistic Consciousness

The study of linguistic consciousness helps form the linguistic worldview of individuals within a specific linguistic culture, while also playing a crucial role in explaining thoughts and modes of thinking. Today, researchers of linguistic consciousness and linguistic worldview employ a comprehensive approach aimed at identifying the specifics of linguistic consciousness within various communities^[18].

It is essential to note that language serves as the primary aspect of this research, as it is the principal tool for transmitting and assimilating information within society. A professional linguistic worldview, mediated by the language of a particular group, represents linguistic consciousness. “A linguistic worldview is a projection of the world created by consciousness. The concept of ‘linguistic consciousness’ includes: 1) linguistic realities that capture the semantic results of consciousness’s reflection on various objects and relationships; 2) these realities are inherently a common-sense view of the world; 3) they are formed at the collective subconscious level”^[19]. Each language categorizes the world in its own way, defining a method of conceptualizing reality unique to that linguistic culture. Language and its verbal expressions convey meaning and reflect the state of linguistic consciousness, revealing the content of an individual’s inner worldview. The relationship between language and thought comprises the practical core of linguistics.

Consciousness has long been a central subject in psychological, cognitive, and linguistic studies. Higher forms of mental activity, such as thinking, reasoning, creativity, and reflection, are associated with consciousness. The term “linguistic consciousness” unites two distinct entities: consciousness as an intangible mental phenomenon and as the tangible phenomenon of spoken language, along with the physiological process of forming verbal connections. Speech is a communicative process that conveys information. The existence of linguistic consciousness is evident in daily life, where it is constantly influenced by verbal interactions—whether in daily interactions, educational environments, or professional settings. These diverse contexts of linguistic consciousness function as dynamic expressions of it^[20].

Based on the findings, it can be concluded that “consciousness” remains one of the most ambiguous terms in contemporary science. Codifying this concept is challenging, and scholars generally agree that consciousness cannot be reduced to other phenomena. It is considered one of the fundamental and ultimate abstractions, and any attempt to define it inevitably leads to a loss of its essential characteristics and a dilution of its meaning.

Professional linguistic consciousness is a specialist’s cognitive ability to use language as a tool for solving professional tasks. For IT professionals, this includes using both general terms and complex expressions. The ability to rapidly interpret data during analytical processes and adapt terminology according to context is a key aspect of professional thinking. Professional language often features complex structures, highlighting the need to study mechanisms of perception and usage among specialists.

Thus, a literature review on the professional linguistic worldview of IT specialists emphasizes the importance of jargon, idioms, aphorisms, proverbs, and sayings in fostering effective professional communication and knowledge-sharing. These linguistic elements facilitate not only the simplification of technical processes but also the development of a distinct professional culture within the IT field. Furthermore, they contribute to the formation of a professional linguistic identity and worldview.

3. Materials and Methods

The objective of this study is to analyze the professional linguistic worldview of IT specialists, focusing on jargon, idioms, and aphorisms. To achieve this goal, a survey was conducted among students in the IT field and IT professionals actively engaged in programming. The main direction of the research is to determine the range of expressions used, their variations, and the frequency of their use in the context of specialized linguistic units in professional and educational activities.

3.1. Research Materials

The research was conducted using data collected from a questionnaire, which included questions about the use of jargon, idioms, and aphorisms in daily communication. The questionnaire contained both closed and open-ended ques-

tions, allowing for both quantitative and qualitative data collection.

3.2. Research Procedure

The survey was conducted among first- to fourth-year students at the International University of Information Technology. The questionnaire was presented in an online format (Google Forms), facilitating data collection. Additionally, IT specialists working in the profession were surveyed through online chats, forums, and internet platforms, where data collection was done in spaces where these professionals regularly communicate. The survey aimed to gather and analyze data on the real usage of jargon, aphorisms, and idioms in the participants’ speech.

3.3. Respondents

3.3.1. Criteria for Respondent Selection

The study included first- to fourth-year students in IT specialties and IT professionals with foundational programming skills and project experience. This choice was based on the assumption that at these stages, a professional linguistic worldview begins to actively develop under the influence of real tasks and projects.

3.3.2. Number of Respondents

The collection of empirical data was carried out through a survey of students at the International University of Information Technology and IT specialists. A total of 122 students participated in this survey: 60 first-year students, 29 second-year students, 14 third-year students, and 19 fourth-year students. The survey of IT specialists took place in online chats, where professionals discuss current topics in their field, with 20 IT specialists participating.

3.4. Research Methods

The survey method was chosen to collect quantitative data on the frequency of use of various types of professional linguistic units. Additionally, open-ended questions in the survey helped identify idioms, aphorisms, proverbs, and sayings used within the IT field. The survey included the following sections:

- *Idioms Usage*: Respondents were asked about the idioms they use, for example, “to sew it into the code” or

“sink the server.”

- *Frequency of Professional Jargon*: Respondents were asked how often they use jargon like “bug,” “feature,” and “deploy.”

- *Perception and Use of Aphorisms and Quotes from the IT Sphere*: Examples include “It’s not a bug, it’s a feature” and “Trust, but verify.”

The collected survey data was then analyzed using the following methods:

- *Statistical Analysis*: The data from the questionnaires were processed using descriptive statistical methods. The frequency of jargon, idioms, aphorisms, proverbs, and sayings was analyzed, taking into account factors such as the year of study and work experience in IT. This allowed for identifying correlations between students’ experience and their linguistic repertoire.

- *Verbal-Semantic Analysis*: This approach focuses on the meaning and content of linguistic units in communication. In verbal-semantic analysis, aspects such as lexical meaning, semantic field, structure, dynamics, and origins of IT-related idioms, proverbs, and sayings were studied.

- *Linguo-Cognitive Analysis*: This method examines cognitive schemas and expressions conveyed through IT professionals’ language. Idioms, aphorisms, proverbs, and sayings in the IT sphere are considered tools for transmitting cultural and professional knowledge. This analysis provides insight into how language shapes understanding and perception and the cognitive processes behind linguistic expression.

- *Pragmatic Analysis*: This approach studies the interaction between professionals and their environment during communication. It involves analyzing speech acts of various pragmatic content, such as narrative, description, information sharing, imperative, and questions. Pragmatic analysis takes into account context, speaker intentions, relationships between participants, and the overall communication situation.

These methods provide a comprehensive analysis of the linguistic characteristics of the professional worldview of IT specialists. Additionally, they help identify the usage patterns of idioms, aphorisms, proverbs, and sayings, as well as their role in professional communication and cognitive processes.

4. Results and Discussion

4.1. Respondent Data

In the context of the study on the professional linguistic worldview of IT specialists, a sociological survey was conducted to identify the key characteristics and aspects of the use of jargon, idioms, aphorisms, proverbs, and sayings within the IT sphere. The professional linguistic worldview of an IT specialist is shaped by a specific professional environment, rich in idioms, jargon, and aphorisms, which help effectively convey information and create a collective identity within the field. Let’s take a closer look at each of these linguistic categories.

A total of 142 respondents participated in the survey, all of whom are involved in fields related to information technology. Of these, 122 students were enrolled in various IT-related educational programs: 56 students in the “Information Technology” program, 62 students in the “Information Security” program, and 6 students in the “Digital Journalism” program. Additionally, 20 respondents who work in the field of information security and IT participated in the survey.

From a gender perspective, it was found that the majority of respondents were male, making up 83.1%, while female participants constituted 16.9%. The survey respondents were distributed across different academic years: 42.3% were first-year students, 13% were third-year students, 20% were second-year students, and 14% were fourth-year students and IT professionals. Based on these data, a clear profile of the target audience can be created. This profile will help provide a more detailed interpretation of the data obtained from the survey (**Figure 1**).

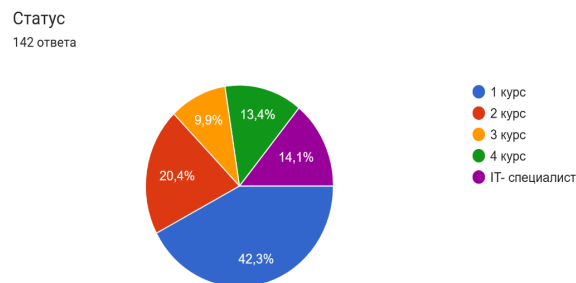


Figure 1. Number of respondents by categories.

4.2. Survey Results

4.2.1. IT Community Jargon

Initially, an assessment was made regarding the frequency of jargon usage among the respondents, which revealed that such terms, belonging to the category of professional vocabulary, were used frequently by a majority of respondents: 45.8% reported frequent use, 50.7% used them rarely, and 3.5% hardly ever used jargon. Therefore, frequent use of specialized professional terms was characteristic of only 65 respondents (45.8%). This result suggests that the frequent use of jargon is mostly observed among IT specialists and senior students, which can be attributed to their higher involvement in the field.

According to the survey data, the most frequently used professionalisms by respondents were: code (30 mentions), bug (35 mentions), algorithm (15 mentions), prog/program (15 mentions), data (14 mentions), framework (11 mentions), API (11 mentions), backup (10 mentions), deploy (9 mentions), script (8 mentions), refactoring (7 mentions), interface (6 mentions), encryption (6 mentions), update (5 mentions), and compiler (4 mentions).

Among students, professionalisms such as phishing (5 mentions), backend (15 mentions), frontend (14 mentions), feature (9 mentions), and debug (12 mentions) were common. Additionally, professionalisms with the root word “code,” such as coding, code-writing, and encoding, were mentioned 24 times. Similarly, words with the root “program” were noted 11 times.

First-year students demonstrated the use of professionalisms like Windows (referred to as “vinda”), ID, IP, rosin (“kanifol”), monitor (“monik”), and hardware (“zhelezo”). These terms reflect basic IT knowledge and are more characteristic of conversational style.

Second-year students identified professionalisms such as encapsulation, sharding, cross-platform compatibility, firewall, DNS, ETL, cloud computing, and virtual machine. This vocabulary indicates their exposure to professional tools and specialized courses.

Third-year students commonly used professionalisms like regedit, zip file (“zipka”), pirated software (“piratka”), crack (“kryak”), Steam, torrent, snake (“zmeya,” referring to Python), and C++ (“plyusy”). These terms are tied to technical support and more specialized fields.

Fourth-year students frequently used professionalisms such as CI/CD, NLP, Agile, dashboard, BI, SOC, code

refactoring, API, and cloud technologies. Their vocabulary demonstrates a high level of expertise and readiness for professional IT activities.

Among IT professionals, the most commonly noted professionalisms included bug, fix, feature, sprint, script, task, back, front, deploy, request, and code. Additionally, some terms were unique to IT specialists, such as attachment (“attach”), workaround (“kostyl”), fix, Python, server (“servak”), team lead (“timlid”), workshop, API (“apishka”), nerf, buff, captcha, and Indian code.

This analysis indicates that professionals use professionalisms essential for effective communication within their field. Beginning specialists tend to use general terms, while experienced professionals and senior students prefer more specialized expressions related to specific tasks and software.

4.2.2. Proverbs and Sayings from the World of IT

In the field of information and communication technologies, as in any professional domain, the use of certain self-created proverbs and sayings is characteristic. Most of these are interpreted specifically for the domain in which they are applied. According to the conducted survey, such proverbs and sayings, in their specific interpretation, are characteristic of the speech of only 15.5% of respondents, who are mostly not beginners in the field. In addition, it should be noted that 33.8% of respondents never used transformed proverbs and sayings in their speech. However, with periodic frequency, these expressions are used by 50.7% of respondents. This indicates that this category of expressions does not fully resonate in the speech of IT professionals and students. Some of the most interesting of them include the following: “Не делай ошибку дважды – исправляй её сразу” (“Don’t make the same mistake twice – fix it immediately”), “Код, как вино, с годами лишь лучше” (“Code is like wine, it only gets better with age”), “Сначала думай, потом кодируй” (“Think first, then code”).

4.2.3. Aphorisms from the World of IT

At the next stage of the study, the frequency of aphorism usage by respondents in their speech was assessed. According to the results of the analysis, it was found that 8.5% never use aphorisms, 26.8% of respondents frequently use aphorisms in their speech, half of whom are experienced IT professionals or students from the 2nd and 3rd years.

Nearly one-third of the remaining respondents use aphorisms quite rarely (64.8%) (**Figure 2**). Among them, the most frequently used aphorisms in practice include the following: “Чем больше кода – тем больше багов” (“The more code, the more bugs”), “Думай дважды, пиши один раз” (“Think twice, write once”), “Нет кода – нет проблем” (“No code, no problems”), “Если что-то работает – то не трогай это” (“If something works, don’t touch it”).

Как часто вы используете афоризмы в своей речи?
142 ответа

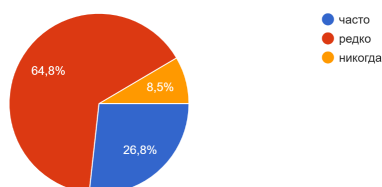


Figure 2. Frequency of aphorism usage.

4.2.4. Idiomatic Expressions from the World of IT

A similar pattern was observed regarding the distribution of votes for idiomatic expressions, as was the case with aphorisms. The results of the study showed that approximately a third of the respondents (31%) frequently use set expressions in their speech. 14.8% never use idiomatic expressions, while over half of the remaining respondents (54.2%) use them very rarely. Among the most common idiomatic expressions, the following stand out: “Съесть всю память” (“Eat all the memory”), “Утопить сервер” (“Sink the server”), “Ломиться в сеть” (“Breaking into the network”). All of these idiomatic expressions are subjective interpretations of familiar concepts typical for the professional sphere of IT workers.

4.3. Three-Level Concept of Yu.N. Karasulov

Using Karasulov’s^[7] three-level concept, we can analyze the obtained results^[21]. The first level, the verbal-semantic level, considers vocabulary, semantics, and structural relationships. At the lexical level, imperative verbs and nouns related to the profession, such as “code,” “bug,” “server,” “crash,” and “program,” are commonly used. Additionally, transliterated words and verbs that are declined and conjugated as needed are frequently used. For example: “кодить” (“to code”), “апдейтить” (“to update”), “дебажить” (“to debug”), “пушить” (“to push”), etc. It is

also worth noting the use of unification of words. Unification is a relatively recent linguistic process that describes the formation of new words through semantic compression^[22]. For example: “прога” (“program”), “локалка” (“local network”), “сайт” (“site”), “сеть” (“network”), “браузер” (“browser”), etc. At the verbal-semantic level, these terms convey the professional atmosphere and often describe typical actions of developers, focusing on their complexity, risks, or time constraints.

When analyzing modified idioms, aphorisms, proverbs, and sayings in the IT field, the word with the root “code” is frequently encountered. The root word “код” (“code”) serves as a metaphorical basis, giving new life to paremiological units and fixed expressions in the IT sphere. This word expresses the core principles and values of programming through linguistic expressions in the IT world. As a result, the word “code” acquires a specialized meaning associated with the field of information technology. Its usage creates a semantic field, expanding the word’s meaning. The semantic field of the concept “Code” is presented as follows (see below) (**Table 1**).

The above presents the results of the semantic structure of the concept “Code”, classified into synonyms, antonyms, transformed aphorisms, idiomatic expressions, proverbs, and sayings. The synonyms of the word “Code” reflect its various interpretations in the professional sphere. For example, it can signify the output of the code, the process of transformation, an interaction interface, a code block, and more. Antonyms highlight opposing states of code or issues related to its operation. For instance, malicious code refers to a virus, error correction processes, or data verification, emphasizing vulnerabilities and potential failures in the functionality of code. Aphorisms from the IT world illustrate the professional wisdom and experience of IT specialists. For example, they emphasize that code is never completely secure and stress the importance of understanding and readability. Special attention is given to the complexity and increased risks associated with code. Transformed proverbs and sayings form a kind of professional folklore, reflecting the practical significance of the field. For example, such proverbs highlight the importance of documentation, responsibility for one’s work, and the role of code for specialists. Transformed idiomatic expressions convey the emotional tone and imagery of “code”. IT-related idioms provide a metaphorical representation of

code, illustrating the abstract world of programming through vivid metaphors and imagery.

Table 1. Semantic field of the concept “code”.

Semantic Field of the Concept “Code”	Translation
Synonyms	
Программа	Program
Криптография	Cryptography
Скрипт	The script
Функция	Function
Логи	Logs
Библиотека	Library
Хеширование	Hashing
API	the API
Antonyms	
Ошибка	Mistake
Вирус	Virus
Дебаггинг	Debugging
Баг	Bug
Аутентификация	Authentication
Декомпиляция	Decompilation
Aphorisms from the world of IT	
Уязвимость найдется везде, где есть код.	The vulnerability will be found wherever there is code.
Чем больше кода, тем больше багов	The more code there is, the more bugs there are
Код, который работает быстро, лучше, чем идеальный код, который не работает.	Code that works fast is better than perfect code that doesn't work.
Код пишется один раз, а читается сто раз.	The code is written once and read a hundred times.
Никогда не говори, что баг пофикшен, пока код не продакшене.	Never say that the bug is fixed while the code is in production.
Нет кода, нет проблем.	No code, no problem.
Код – это поэзия.	Code is poetry.
Код пишут для людей, а не для машин.	The code is written for people, not for machines.
Proverbs and sayings from the IT world	
Код не горит, но нервы плавит.	The code doesn't burn, but it melts the nerves.
Встречают по железу, провожают по коду.	They meet you by the iron, they escort you by the code.
Код - не стена, допишешь.	The code is not a wall, you will finish it.
Не знал кода, не пиши коммита.	I didn't know the code, don't write a commit.
Не кодишь, не багуешь.	You don't go, you don't spoil. If you love writing code, love fixing bugs.
Любишь код писать, люби и баги исправлять.	Code without comments is like a book without a cover.
Код без комментариев, как книга без обложки.	Even a mouse won't dance without a code.
Без кода и мышка не потанцует.	Without a code, it's like without hands.
Без кода - как без рук.	No code is written without tests.
Без тестов код не пишется	
Transformed phraseological units	
Забить гвоздь в код.	Hammer a nail into the code.
Ломать код.	Breaking the code.
Качать код.	Download the code.
Зависнуть в коде.	Hang in the code.
Грязный код.	Dirty code.
Чистый код.	Clean code.
Кодить на коленке.	Coding on the knee.
Код с запашком.	A code with a smell.
Трассировать код.	Trace the code.

The second level is the linguo-cognitive analysis, which provides a deeper understanding of how language and thought interact and influence each other, as well as how vocabulary, grammar, and language structure are connected to cognitive processes and cultural models. IT expressions often focus on concepts such as “code,” “error,” “solution,”

“program,” “automation,” and “security.” For example, the concept “code” appears 55 times in 350 expression units, concepts “bug” and “error” appear 58 times, and “program” appears 7 times. Concepts related to the meaning of “solution” occur 65 times, “automation” 58 times, and “security” 35 times.

The analysis of modified idiomatic expressions, aphorisms, proverbs, and sayings from the world of information technology allows us to examine the professional worldview of specialists in this field^[23, 24]. Transformed linguistic units help IT specialists simplify communication, interpret professional realities, and add imagery to their language. These

linguistic units reflect the individual professional traits of IT specialists and the cognitive processes actively employed in their daily lives. For example, the table below illustrates the cognitive processes of IT specialists using examples of transformed idiomatic expressions, proverbs, and sayings (Table 2).

Table 2. Cognitive processes.

Cognitive Processes	Examples
Heuristic thinking	“Поспешишь с кодом людей насмешишь” (“Hurry with the code, and you will make people laugh”) – the original version of this proverb is “Поспешишь – людей насмешишь” (“Haste makes waste”), which emphasizes the importance of thoughtful coding to avoid ridicule.
Automation and creation of task lists	In the proverb “Сначала думай, потом кодируй” (“Think first, then code”), special attention is given to the need for planning: the structure and architecture of the code must be considered first. The original version of this saying is “семь раз отмерь, один раз отрежь” (“Measure seven times, cut once”).
Associative thinking	The phrase «Синий экран смерти» (“Blue Screen of Death”) evokes an association with the term “death”, which intensifies the emotional perception of a system crash.
Feedback and reflection	“Любишь код писать, люби и баги править” (“Love writing code, love fixing bugs”) points to the need not only to write code but also to fix it, accepting this as part of the process. The original saying is: “Любишь кататься, люби и саночки возить” (“If you love to ride, love to carry the sled”).
Identification of patterns	“Провалился в вкладку” (“Fell into a tab”) refers to getting deeply focused on one tab while forgetting other tasks. A similar figurative expression in modern usage is “провалиться в сон” (“fall into sleep”).
Modeling and classification	“Сложный код баги плодит” (“Complex code breeds bugs”) – complex code increases the risk of errors, as stated in the original version of the proverb “Беда не приходит одна” (“Misfortunes never come singly”).
Metaphorization	“Ломиться в сеть” (“Breaking into the network”) refers to intense network access that may lead to overload. The original expression is “Ломиться в открытую дверь” (“Breaking into an open door”).
Parallel thinking	“Кодить на коленке” (“Coding on the knee”) means writing code in unsuitable conditions, with a lack of resources, hurriedly, and without following standards. The original idiomatic expression is “сделать на коленке” (“do it on the knee”), meaning to do something quickly and carelessly.
Efficiency	“Не делай ошибку сразу – исправляй её сразу” (“Don’t make a mistake right away – fix it immediately”) – this proverb emphasizes the need for prompt error correction. The original is: “Не ошибается тот, кто ничего не делает” (“He who does nothing makes no mistakes”).
Analogy	“Идеальный код не пишется с первого раза” (“The perfect code is not written on the first try”), “Код не стена допишешь” (“Code is not a wall you can finish”) – these proverbs mean that code requires constant improvement. These sayings originate from the proverb “Москва не сразу строилась” (“Rome wasn’t built in a day”).

The communicative behavior of IT specialists is determined by their professional linguistic worldview and reflects their professional activity. Cognitive-communicative processes and concepts in the professional consciousness shape

the communicative behavior of specialists in this field.

The third level is pragmatic analysis, which studies statements in terms of their intentions, goals, hidden meanings, and evaluative vocabulary. In the IT field, it is common

to use imperative sentences to explain instructions, problems, errors, assign tasks, give recommendations, and justify reasons, etc. In addition, evaluative and feedback sentences with evaluative vocabulary are often encountered. For example: “Code is written for people, not for machines,” “If you fix one bug, you will create more,” “If the code is correct but gives an error, check your punctuation,” “Improving a working product leads to its deterioration,” “First think, then code.”

It should also be noted that in each modified IT expression, professionalisms and verbal metaphors are used, in which verbal constructions are employed in a figurative sense. Examples of such verbal metaphors include: “утопить” (“to sink”), “резать” (“to cut”), “тормозить” (“to brake”), “сносить” (“to demolish”), “убить” (“to kill”), “плодить” (“to breed”), etc.

IT expressions reflect a mindset where precision, logic, and control over processes are essential. This is evident in the following transformed idioms, proverbs, and sayings: “If it works, don’t touch it,” “Security through obscurity is not security,” “The strongest link is the human,” “A password is not a wall, it’s just a lock,” “Patch today – peaceful sleep tomorrow,” “Encryption is not a luxury, it’s a necessity.”

The pragmatic aspect, according to Yu.N. Karaulov, also includes the communicative and activity-related needs of an individual, which are defined in communicative situations. These communicative situations occur in the professional environment, between employees, colleagues, clients, etc. The goals may include establishing and maintaining communicative contact, debating, automation, planning, expressing gratitude, modifying the interlocutor’s behavior, clarifying details, exchanging information, influencing the interlocutor, persuading, pointing out mistakes, warning, and sharing experiences and advice.

For example:

- Establishing communicative contact: «Hello, world!»

- Maintaining communicative contact: «Работает — не трогай» (If it works, don’t touch it), «Спроси у GPT, в Гит или в Стеке поищи» (Ask GPT, check Git or Stack), «Костыль тоже решение» (A workaround is a solution too)

- Debating: «Делай хорошо или не делай вовсе» (Do it right or don’t do it at all), «Работает у меня — значит,

работает везде» (If it works for me, it works everywhere)

- Automation: «Автоматизируй всё, что делаешь дважды» (Automate everything you do twice), «Есть два способа создания дизайна программы. Один из них — сделать его настолько простым, что в нём, очевидно, не будет недостатков. Другой способ — сделать его настолько запутанным, что в нём не будет очевидных недостатков» (There are two ways to design a program. One is to make it so simple that there are clearly no flaws. The other is to make it so complex that no flaws are obvious), «Делегирование — самый эффективный способ удержать партнёров вместе» (Delegation is the most effective way to keep partners together)

- Modifying the interlocutor’s behavior: «Захочешь исправить одну ошибку — сделаешь больше» (If you try to fix one mistake, you’ll create more), «Если код правильный, но выдаёт ошибку, проверь знаки препинания» (If the code is correct but still throws an error, check your punctuation), «Если в субботу хочешь провести время с семьёй, то не релиз в пятницу» (If you want to spend time with your family on Saturday, don’t do the release on Friday)

- Pointing out mistakes: «В любой программе есть хотя бы одна ошибка» (Every program has at least one bug), «Это не баг, это фича» (It’s not a bug, it’s a feature)

- Persuasion: «Хочешь сделать хорошо — сделай сам» (If you want it done right, do it yourself), «Нет данных — нет проблем» (No data, no problem)

- Sharing experience and advice: «Код пишется один раз, а читается много» (Code is written once, but read many times)

- Warning: «Баг — это не ошибка, это фича» (A bug is not an error, it’s a feature), «Сломать легче, чем починить» (It’s easier to break than to fix), «Чем больше кода — тем больше багов» (The more code, the more bugs).

The study revealed that the professional linguistic consciousness of IT specialists is shaped by academic education and practical work. University students studying information technology use a relatively limited set of professional terms, aphorisms, idioms, proverbs, and sayings from the IT world, with their perception of the professional linguistic worldview based on theoretical knowledge. Specialists working in IT companies, on the other hand, frequently use professional terms, idioms, proverbs, and aphorisms from the IT world.

However, when communicating with beginners and clients, they simplify the language and explain specialized terms in more detail.

Thus, the professional linguistic worldview of an IT specialist is a combination of metaphors, specialized terms, and philosophical aphorisms that shape their worldview and facilitate interaction in a complex technical environment.

The linguistic consciousness of an IT specialist represents a unique blend of professional competence, cultural characteristics, and cognitive processes, where IT specialists face the need to communicate effectively in multiple languages.

Cognitive processes involved in linguistic consciousness play a key role in learning and professional development. IT specialists must be able to analyze, synthesize, and think critically, which allows them to effectively solve complex problems and make informed decisions. In an era of rapid technological development and globalization, the ability to communicate effectively in different languages becomes a significant advantage.

5. Conclusions

Thus, the professional linguistic worldview of an IT specialist is a multifaceted phenomenon that includes lexical, cultural, and cognitive components. In the context of rapid technological development, the professional linguistic consciousness of specialists in the IT field is shaped by cultural factors and professional requirements, such as:

- *Specialized Language*: IT specialists use specialized terminology, professionalisms, idioms, aphorisms, proverbs, and sayings from the IT sphere, which allow them to exchange information. Additionally, proficiency in the language of the profession helps solve problems and communicate with colleagues and clients. Specialists in this field can adapt the language of the profession depending on the audience.

- *Intercultural Communication*: One of the most important aspects of linguistic consciousness is intercultural communication. IT specialists often work in international companies, which enables them to interact effectively with people from different countries and cultures.

- *Cognitive Processes*: The linguistic consciousness of an IT specialist involves critical and analytical thinking,

which are core elements of the professional's linguistic awareness. IT specialists must be able to quickly process and analyze information and make logical decisions. These cognitive skills enhance their ability to effectively use the professional language.

Based on the above, it can be argued that the linguistic consciousness of an IT specialist is a complex and multifaceted system that combines the language of the profession, communicative skills, and cognitive processes. The ability to effectively use the language of the profession and adapt to different social aspects of the environment is a key factor for success in the field of information technology.

The professional linguistic picture not only includes knowledge of terminology and specialized vocabulary but also the ability to adapt to different communication contexts. For example, a programmer may use one set of words and phrases in technical discussions and another when interacting with clients or during training. This requires the specialist to have flexible thinking and the ability to switch between different linguistic systems. Moreover, the linguistic consciousness of an IT specialist includes an awareness of cultural aspects related to language.

Thus, according to the systematized data, it was found that in today's dynamic world, professional vocabulary in the IT sphere is widespread, as many specialists use such expressions in their speech. One of the reasons for this, within the scope of this study, maybe the fact that more than half of the respondents use words typical of professional vocabulary. However, the results, due to the combined evaluation of specialists with varying levels of experience in the IT field, do not allow for an objective assessment of the exact level of prevalence of professional vocabulary specifically in the field of information and communication technologies. Nevertheless, this result provides an overall evaluation of the general application of IT-related professionalisms in a broad context.

This study provided data on how the professional linguistic identity of future IT specialists is formed through the use of professional terms, idioms, and aphorisms. The results of the research will be useful for further studies on the specifics of professional communication in the IT sphere and the development of teaching methods focused on the use of professional language.

Author Contributions

Conceptualization, D.K. and I.G.; methodology, K.M.; software, O.B.; validation, D.K., V.Y. and A.T.; formal analysis, I.G.; investigation, A.T.; resources, K.M.; data curation, D.K.; writing—original draft preparation, D.K.; writing—review and editing, D.K.; visualization, V.Y.; supervision, A.T.; project administration, I.G.; funding acquisition, O.B. All authors have read and agreed to the published version of the manuscript.

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Data Availability Statement

The research was conducted using data collected from a questionnaire, which included questions about the use of jargon, idioms, and aphorisms in daily communication. The questionnaire contained both closed and open-ended questions, allowing for both quantitative and qualitative data collection. The survey was conducted among first- to fourth-year students at the International University of Information Technology. The questionnaire was presented in an online format (Google Forms), facilitating data collection. Additionally, IT specialists working in the profession were surveyed through online chats, forums, and internet platforms, where data collection was done in spaces where these professionals regularly communicate. The survey aimed to gather and analyze data on the real usage of jargon, aphorisms, and idioms in the participants' speech.

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Conflicts of Interest

The authors stated that there are no conflicts of interest.

References

- [1] Ufimceva, N.V., 2014. Yazykovoe Soznanie – Obraz Mira – Yazykovaya Kartina Mira [Language Consciousness – Image of the World – Linguistic Picture of the World]. *Issues of Psycholinguistics*, Izdatel'stvo Moscow International Academy, No. 2, 115–119.
- [2] Toluspayeva, D., Shukan, A., Aratayeva, A., et al., 2024. Contrastive Analysis of Clitic Morphemes in English and Kazakh. *International Journal of Society, Culture, & Language*. 12(2), 62–73. DOI: <https://doi.org/10.22034/ijsc.2024.2022461.3382>
- [3] Kushkimbayeva, A., Tymbolova, A., Murzinova, A., et al., 2023. Formation of Students' Language Competence Based on Linguistic Personality's Verbal-Semantic Level A. *International Journal of Society, Culture & Language*. 11(3), 213–225. DOI: <https://doi.org/10.22034/ijsc.2023.704994>
- [4] Vaysgerber, L., 2004. *Rodnoy Yazyk i Formirovanie Dukha* [Mother Tongue and the Formation of Spirit], 2nd ed. URSS: Moscow, Russia. p. 232.
- [5] Felde, O.V., Mezt, A.E., 2023. Professional Linguistic Picture of the World as an Object of Study in Terminology Science and LSP Linguistics. *Vestnik Tomskogo Gosudarstvennogo Universiteta*. 488(1), 120–126.
- [6] Krasnykh, V.V., 2013. Grammar of Linguistic Culture, or What Holds the Linguistic Picture of the World? *Ekologiya Yazyka i Kommunikativnaya Praktika*. 1(4), 133–141.
- [7] Karaulov, Y.N., 2010. *Russkiy Yazyk i Yazykovaya Lichnost* [Russian Language and Linguistic Personality], 7th ed. Izdatel'stvo LKI: Moscow, Russia. p. 264.
- [8] Serdobintseva, E.N., 2012. Professionalisms in the System of Special Vocabulary and National Language System. *Izvestiya PGPU im. V.G. Belinskogo*. 27(4), 396–401.
- [9] Revyakina, T.L., 2017. Terms, Professionalisms, and Professional Jargonisms in Special Nominations. *Izvestiya VGPU*. 1(274), 143–146.
- [10] Maslov, Yu.S., 1987. *Vvedenie v Yazykoznanie: Uchebnoe Izdanie* [Introduction to Linguistics: Textbook], 2nd ed. Vysshaya Shkola: Moscow, Russia. p. 272.
- [11] Vertanova, S., 2023. The Idiom as a Linguistic Sign and a Linguistically Creative Element. *Časopis pro Moderní Filologii*. 105(2), 221–238. DOI: <https://doi.org/10.14712/23366591.2023.2.4>
- [12] Lukina, M.S., 2014. *Internet-Skazka i Komp'yuternye Aforizmy v Komp'yuternom Slenge* [Internet Fairy Tales and Computer Aphorisms in Computer Slang].

- Humanities, socio-economic and social sciences. 7(1), 1–6.
- [13] Bhatia, V.K., 2010. Interdiscursivity in Professional Communication. *Discourse and Communication*. 21, 32–50. DOI: <https://doi.org/10.1177/1750481309351208>
- [14] Kushmar, L.V., Vornachev, A.O., Korobova, I.O., et al., 2022. Artificial Intelligence in Language Learning: What Are We Afraid of? *Arab World English Journal (AWEJ) Special Issue on CALL*. (8), 262–273. DOI: <https://dx.doi.org/10.24093/awej/call8.18>
- [15] Sergeeva, N.N., Tayurskaya, S.N., 2023. Formation of Intercultural Communicative Competence of Law Students Based on the Composition of Multicultural Texts. *Pedagogicheskoe Obrazovanie v Rossii*. 5(1), 146–156.
- [16] Panteeva, K.V., 2020. Interdiscursivity and its Manifestations in Sports Discourse. *Voprosy Zhurnalistiki, Pedagogiki, Yazykovedeniya*. 39(2), 289–298. DOI: <https://doi.org/10.18413/2712-7451-2020-39-2-289-298>
- [17] Bhargava, A., 2024. Grokaem Algoritmy [Grokking Algorithms: An Illustrated Guide for Programmers and Curious Minds]. Piter: St. Petersburg, Russia. p. 288.
- [18] Kysylbaikova, M.I., 2022. Language Consciousness of the Yakut Language Speakers. *Journal of Siberian Federal University*. 15(3), 324–328. DOI: <https://doi.org/10.17516/1997-1370-0356>
- [19] Kravchenko, M.A., Kravchenko, O.V., 2015. On the Correlation of the Concepts of “Language Consciousness” and “Metalanguage Consciousness”. *Filologicheskie Nauki. Voprosy Teorii i Praktiki*. 9(51), 105–108.
- [20] Klyuchnikova, L.V., 2022. Language Consciousness and the Principles of its Study. *Epokha Nauki*. 30(2), 283–285.
- [21] Zhakulayev, A., Takirov, S., Khassenov, B., 2024. Literary Text and Historical Discourse: A Questionnaire Study. *International Journal of Innovative Research and Scientific Studies*. 7(3), 1174–1181.
- [22] Van, Y., 2015. Univerbatsiya Kak Produktivnyy Sposob Slovoobrazovaniya [Univerbation as a Productive Way of Word Formation]. *Istochniy, Filologicheskie Nauki. Voprosy Teorii i Praktiki*. 11(53), 51–56.
- [23] Abisheva, V., Mazhitayeva, S., Khairova, G., et al., 2017. Phenomenon of Tolerance in the Information Society. *European Journal of Science and Theology*, 13(4), 111–121.
- [24] Adilova, A., Balabekova, M., Tuite, Y., et al., 2023. Lexico-Semantic Change in the Kazakh Language of the COVID Era. *Theory and Practice in Language Studies*, 13(5), 1172–1181.