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LEXICAL AND GRAMMATICAL FEATURES OF SCIENTIFIC STYLE

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Annotation:
Currently, there is a significant emphasis placed on an individual's ability to effectively communicate in various domains, which, alongside upbringing and education, is one of the determining factors of a person's culture. In the era of rapid scientific and technological advancements, the continuous exchange of relevant information is crucial. The success of this process depends not only on possessing a proficient knowledge of the subject matter and the ability to construct grammatically correct sentences but also on the level of competence in scientific language. This article aims to explore the interplay between discourse and vocabulary, as well as the different cognitive phenomena that influence the real-time use of language and its role in storing and organizing information. By analyzing and categorizing key elements of the scientific discourse lexicon, valuable insights can be gained for the fields of lexicology, functional stylistics, cognitive linguistics, and terminology. The findings of this analysis have the potential to benefit both the field of linguistics and the teaching of language for specific purposes.

Keywords: terminological, integrate, theoretical, pragmatic, socio-cultural aspects, significant emphasis, vocabulary, language.

The modern society is commonly referred to as an information society, as it places great importance on theoretical knowledge. This knowledge serves as the foundation for new technologies, economic growth, and the organization of social stratification[1ъ. In this society, science not only contributes to our understanding of the world but also plays a crucial role in innovation, socio-cultural development, and practical applications. As science continues to integrate with information and computer technology, it becomes increasingly necessary to view science as a form

of public discourse. The interconnectedness of theoretical, pragmatic, and socio-cultural aspects within modern scientific discourse forms the basis for innovation in the information society.

In the post-modern society, human language serves as the fundamental tool for transformation. This necessitates a broader scope of linguistic research and its integration with other disciplines within the humanities. Modern linguistics recognizes the importance of studying language and communication issues from the perspective of various scientific fields. This approach involves reevaluating traditional language concepts and exploring different aspects of verbal and cognitive activities. By combining traditional linguistic analysis with methods from other sciences, linguistics has advanced to a new level of understanding and research through the cognitive discourse approach. This approach emphasizes the study of language in action, where language serves as an instrument, tool, and mechanism for achieving specific goals and intentions in both understanding and describing reality, as well as in communication and interaction [2,3].

Scientific discourse vocabulary can be categorized into terms and non-terms. Non-term vocabulary can be further classified into common use, general scientific, and general technical vocabulary. The optimization of scientific communication primarily involves analyzing non-term vocabulary, as terms make up only a small portion (less than 20%) of the overall lexical content[4].

The ability to associate a lexical unit with a precise scientific definition allows for differentiation between terms, which are specialized professional lexical units, and common literary words. This distinction is particularly important when dealing with consubstantial terms, which are words that have the same form as common literary language words. Consubstantial terms account for one-third of all terms. The boundary between terminological and general vocabulary is not fixed and historical, but rather functional. The process of terms transforming into commonly used words and vice versa is ongoing. The transition of common lexical items into terminological ones began with their usage in specific contexts.

The heterogeneous nature of scientific discourse terminology can be attributed to the fact that research and technological knowledge have primarily been developed based on experimental natural science[5].

Scientific writing, be it in the form of research articles, academic papers, or dissertations, is a unique and specialized means of communication. It is distinguished by its precision, objectivity, and clarity, aiming primarily to convey intricate information concisely and lucidly[6,7]. The lexical and grammatical aspects of scientific style are pivotal in attaining this objective. This article delves into the distinctive lexical and grammatical features of scientific writing, highlighting their significance and elucidating how they enhance the effectiveness of scientific communication.

1. Lexical Characteristics of Scientific Style

Scientific writing is renowned for its utilization of specialized terminology and jargon, which are unique to specific scientific domains. These terms serve the purpose of conveying precise meanings and concepts within a given discipline. For instance, within the realm of biology, terms like "photosynthesis," "genome," and "mitochondria" possess specific and well-defined definitions, enabling scientists to effectively communicate intricate ideas.

2. Formal Lexicon

The lexicon employed in scientific writing is typically formal, exact, and devoid of any ambiguity. Authors frequently refrain from using colloquial expressions, slang, or emotive language, instead opting for objective and neutral terminology. This formal lexicon ensures that the content is conveyed with accuracy and clarity, leaving no room for misinterpretation.

3. Nominalization

Scientific writing frequently employs the technique of nominalization, which involves transforming verbs or adjectives into nouns. This technique allows for the condensation of complex actions or concepts into concise and precise terms. For instance, the verb "to analyze" is transformed into the noun "analysis," and the verb "to demonstrate" becomes the noun "demonstration." This feature contributes to the economy of expression and enhances the logical progression of scientific discourse. The utilization of the passive voice is a prominent characteristic observed in scientific writing. By shifting the emphasis from the agent of action to the result or process itself, the passive voice enables a concise and focused presentation of research findings, contributing to the establishment of objectivity. For example,

instead of stating "We experimented," scientific writing may express it as "The experiment was conducted."

In scientific writing, extensive referencing is often necessary to substantiate claims and establish the author's credibility. This entails adhering to standardized citation styles such as APA, MLA, or Chicago, which ensure accurate referencing of sources and provide readers with a clear path to access the cited works.

1. Utilization of the Third Person Singular

The utilization of the third person singular (e.g., he, she, it) is a common practice in scientific writing, as opposed to the use of first-person or second-person pronouns (e.g., I, you). This deliberate distancing from personal pronouns serves to enhance the perception of objectivity and impartiality within the scientific discourse.

2. Verb Tense Selection

The selection of appropriate verb tenses is a critical grammatical aspect of scientific writing. Present tense is frequently employed to express general principles, facts, and theories (e.g., "The sun rises in the east"). On the other hand, past tense is utilized to describe specific research methods, results, and conclusions (e.g., "The experiment yielded significant results"). This deliberate and consistent use of verb tense aids in distinguishing between established knowledge and the specific findings of a study.

Scientific writers often utilize modal verbs and hedging devices to express the level of certainty or probability in their claims. Terms like "may," "might," "could," and "likely" are employed to indicate that the results or interpretations are based on evidence and are subject to validation or revision. This cautious and qualified language reflects the objective and evidence-based nature of scientific inquiry[8].

Conciseness and precision are crucial grammatical aspects of scientific writing. Sentences are constructed in a manner that conveys information succinctly and accurately, avoiding wordiness and unnecessary elaboration. This ensures that complex concepts can be understood efficiently and without confusion by the reader. The lexical and grammatical features in the scientific style play a significant role in conveying information effectively and accurately.

The lexical and grammatical characteristics of scientific style serve various significant purposes:

1. Clarity and Precision: The utilization of precise terminology, formal vocabulary, and standardized grammatical structures guarantees that scientific writing effectively and unambiguously conveys intricate information.
2. Objectivity and Neutrality: The implementation of passive voice, third person singular, and hedging devices assists in maintaining an objective and neutral tone, which is crucial for the meticulous and unbiased presentation of scientific discoveries.
3. Credibility and Trust: The clear and consistent use of language, coupled with appropriate referencing, enhances the credibility of scientific writing and fosters trust among readers. This allows them to trace the sources and verify the assertions made in the text.
4. Accessibility and Comprehension: The lexical and grammatical features of scientific style facilitate the accessibility and comprehension of scientific content, enabling a broader audience to engage with and comprehend the research findings.

The effective communication of scientific knowledge and research heavily relies on the utilization of lexical and grammatical features in a scientific style[9]. By employing precise terminology, formal vocabulary, passive voice, standardized citations, and grammatical structures, scientific writing can achieve clarity, objectivity, and credibility. These features are crucial in ensuring that information is conveyed accurately, comprehensively, and with maximum impact. Therefore, researchers, academics, and students must master these features to actively participate in and contribute to the scientific discourse[10].

Scientific writing is characterized by its distinct language, which is marked by specific lexical and grammatical features. The purpose of the scientific style is to effectively communicate complex information in a clear and precise manner within the scientific community. One notable aspect of scientific style is the utilization of specialized vocabulary. Technical terms and jargon that are unique to a particular field of study are frequently employed in scientific writing to convey precise meanings and avoid any potential ambiguity. Furthermore, scientific writing tends to adopt a formal and objective tone, avoiding the use of colloquialisms, emotional language, or biased expressions. Additionally, scientific style heavily relies on the use of passive voice and impersonal constructions. This choice of language serves

to highlight the actions and processes being described, rather than focusing on the individuals or entities performing them. For instance, instead of stating "I experimented," a scientist would write "The experiment was conducted." This approach ensures that the emphasis remains on the research itself, rather than on the researcher[11].

Moreover, scientific writing frequently employs a consistent and structured approach to organizing information. This can involve the utilization of headings, subheadings, and bullet points to break down intricate information into more manageable units [12,13]. Furthermore, scientific writing typically follows a logical and coherent progression of ideas, often utilizing transitional words and phrases to guide the reader through the text. In terms of grammar, scientific writing places a significant emphasis on precision and accuracy. Sentences are usually constructed with meticulousness, often incorporating complex clauses and technical terminology[18]. Additionally, scientific writing tends to eschew the use of contractions and informal language, instead opting for a more formal and scholarly tone. Lastly, scientific writing also places great importance on the citation and referencing of sources[14,15,16]. This serves to acknowledge the contributions of other researchers and provides a clear path for readers to verify the information presented. Citations are typically included within the text and in a separate bibliography or reference list after the document.

To summarize, the scientific style is distinguished by distinct lexical and grammatical elements that aim to ensure clarity, precision, and organization. Employing specialized terminology, passive voice, formal language, and meticulous adherence to grammar and citation are indispensable for successful communication within the scientific community. Acquiring a deep understanding of the intricacies of scientific style is imperative for researchers and experts in the field to effectively convey their discoveries and contribute to the progress of knowledge.

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