

Frequency of Linguistico-communicative Features in Scientific Language of Geology

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Abstract

Language of science, as a tool for transferring knowledge, experiences and exploring news concepts and scientific innovations, is interconnected with word formation, terminologisation and academic writing. Since the representation of scientific language is highly different from general language, knowing the specific characteristics and linguistico-communicative features of this language deems necessary for maintaining an unequivocal and accurate scientific communication. Thus, the paper investigates quantitatively & qualitatively the frequency of these features in scientific language of geology. Hence, a corpora of 36 geological texts published randomly taken from peer reviewed journals is analyzed according to two distinctive features: “textual organization” and “linguistic structures”. The results illustrate a fully-fledged representation of scientific language in geology affirming that the abundant usage of repetition, encapsulation, hyponymical classification ensure the gradual semantic development. Simultaneously, the effervescence of modal verbs, linking verbs accompanied by nominalization and passive statements reinforce the transmission of scientific message in an objective and economical language. Moreover, our statistical analysis over 13805 linguistico-communicative statements illustrates that the most frequency belongs to textual cohesion (morphological and syntactical), and in the second run, to what corresponds to linguistic economy (nominalization, resumed statements), while the modal verbs and instances have scarcely configured in the studies corpora

Keywords: language of science, textual organization, linguistic features, repetition, nominalization, passive statements

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1. Introduction

Language of science, as a tool for transferring knowledge, experiences and exploring new concepts and scientific innovations, is interconnected with word formation, terminologisation and academic writing. Since the representation of scientific language is highly different from general language, keeping track of the specific characteristics and linguistico-communicative features of this language deems necessary for maintaining an unequivocal and accurate scientific communication. Accordingly, we may raise this question that how the “Language of Science” (LS) is represented in scientific texts of specialized disciplines? A possible hypothesis is that among pragmatico-communicative, morphosyntactical and terminological features of the language of science, those related to linguistico-communicative features, i.e. textual organization and linguistic structures, are organized in such way that they differentiate the pragmatico-communicative features of language of science from what is commonly known as General Language (GL). It deems that this differentiation is subsequence of the high frequency of linguistico-communicatives components of the language of science; i.e. high percentage of linking verbs, doing verbs, modal verbs, metatextual statements, and smart usage of some principles such as repetition, nominalization, encapsulation, etc.

Thus, the paper investigates quantitatively & qualitatively the frequency of these features and components in scientific language of Geology throughout a corpora of 36 geological scientific texts taken randomly from peer reviewed journals. The methodology is driven on the “textual organization” and “linguistic structures” that Scarpa (2010) and Rossini Favretti (1988) have presented. We have therefore excluded any morphosyntactical and terminological features that may appear in a scientific language.

Firstly, the results illustrate that the linguistic features of geological scientific language (technical and/or academic language, passive statements, linking-doing verbs, modal verbs) are more accentuated than textual organization (linguistic catalyzers, predicative statements, metatextual statements and those related to textual cohesions); that is 50.83% of linguistic features vs 39.1% of textual organisations which form the pramatico-

communicative feature of Language of Geology, Interestingly, merely 10.07% is allocated to other components of a scientific language. This may indicate that a scientific text is not only different from the General Language by its terminological and morphosyntactical features, but considerably because of the high frequency of linguistico-communicative features that differ dramatically from GLs pragmatic-communicative aspects.

Secondly, in the macrocategory A (linguistic features) the “lexical cohesion” is the most frequent component; whereas in the macrocategory B (textual organization) the nominalization with value of 15.47% is the most remarkable and the most recurrent linguistico-communicative component. Amid these two macrocategories, the modal verbs and instances are the least recurrent (only 2.99%).

Thirdly and more generally speaking, a fully-fledged representation of scientific language in Geology is ensured by the gradual semantic development that is brought about thanks to the abundant usage of repetition (6.90%), encapsulation (6.10%), and hyponymical classification (6.10%). Interestingly the abundance of these three features is meaningfully close to each other. Simultaneously, the effervescence of linking verbs (4.74%) accompanied by nominalization (15.47%) and passive statements (13.21%) reinforce the transmission of scientific message in an objective, univocal and economical language.

Moreover, our statistical analysis over 13805 linguistico-communicative statements within our geological corpora illustrates that the most frequency belongs to textual cohesion (in sum 21.17%) regardless of logical-cohesional connectors (4.74%), and in the second run, to what corresponds to linguistic economy (nominalization, compressed statements; i.e.15.47%). This is true while the modal verbs and instances have scarcely configured in the studied corpora (2.99%).

The results also indicate that the linguistico-communicative features of the geological language are such that every user with any level of knowledge may

easily communicate with it (characterization of General Language), but at the same time and quite paradoxically, the very specific textual organization and the specialized representations of linguistic structures denounce its specificity, reaffirming that this is not a general language but a specialized language accustomed to specific usage of some professionals or specific language users. The dialectic of Specialized Language vs General Language is maintained where the abundance of nominalization and passive statements in Specialized Language is very pronounced, but this is not the case in General Language. In contrary, the high frequency of modal verbs and the verb conjugation system in General Language justifies the non-economicity and univocity of this type of communication. Ultimately, it seems that more investigations should be implemented to investigate more profoundly the blurred frontiers of GL vs SL throughout the morphosyntactical, terminological and linguistico-communicative features of all language types, covering not only GL and SL(s), but also including Artificial Languages (ALs).