

International Conference on Communication in Multicultural Society, CMSC 2015, 6-8 December  
2015, Moscow, Russian Federation

## Teaching textual analysis of contemporary popular scientific texts

Larisa Ilinska, Oksana Ivanova, Zane Senko\*

*Riga Technical University, Faculty of E-Learning Technologies and Humanities, 1 Kalku Str., LV-1658, Latvia*

---

### Abstract

Nowadays, studies on communication within professional discourse have become topical; the changes in the contemporary professional texts under the influence of multimedia and information technologies demand introduction of relevant methods of textual analysis. The article addresses such issues as information structure of popular scientific and technical texts, their hierarchical organization, and the problems of decoding of meaning at different levels during information processing. To establish the theoretical framework of the research, cognitive, semantic and pragmatic analyses of lexical units were performed to examine how new methods of encoding, transferring and decoding of meaning at different levels affect contemporary professional communication.

© 2016 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of the National Research Nuclear University MEPhI (Moscow Engineering Physics Institute).

*Keywords:* Communicative competence; professional communication; information structure; interdisciplinarity; multimodality

---

### 1. Introduction

Communicative competence is a central concept of the communicative approach to language teaching. At present, growing degree of information density in contemporary professional texts requires reconsidering the existing and proposing new approaches to their analysis in order to understand the ways in which meaning is encoded, transmitted and interpreted in the process of professional communication.

The paper examines some of the most significant issues relating to textual analysis of contemporary popular scientific texts in the context of learning LSP. The new paradigm of teaching and classroom organization is no longer based on either learners, challenges or methods, but is rather aimed at adopting the combination of student-

---

\* Corresponding author. Tel.: +3-712-654-1429; fax: +3-716-708-9539.

*E-mail address:* [zane.senko@rtu.lv](mailto:zane.senko@rtu.lv)

centered, task-based and IT enriched learning environments (Herrington, 2006). The shift towards this paradigm has been stimulated by the increasing use of multimedia and information technology and consequently resulted in the changes in contemporary text structure promoting its multidisciplinary, multimodality and expressivity.

The on-going improvement of the existing strategies and constant search for novel approaches to textual analysis are necessary to develop learners' ability to effectively decode and convey meaning within a required context. Thus, they have to be able to apply all types of textual analysis, including rhetorical, content and semiotic approaches.

The main aim of the present paper is to investigate the most successful methods and techniques required to develop learners' ability to fully understand and productively use language at the level appropriate to efficiently communicate in the changing professional setting. The design of the authentic learning environment may promote formation, processing and transfer of meaning rooted in real-life situations.

## 2. Theoretical background

Communication may take different forms, which depend on the purpose of communication and the abilities of the participants. Models of communication are conceptual models used to explain the human communication process. From the historical perspective, a communication model is usually described considering a few major dimensions: sender, channel and receiver. The first communication model was proposed by Shannon and Weaver in 1949 (Shannon and Weaver, 1949/1998). Although it has been developed and adapted to the needs of contemporary reality, it is still the universal model of communication.

The concept of communication is closely related to such notions as perception, comprehension, knowledge, meaning, and information. A major contribution to the study of information was made by Shannon, who established a new discipline "Information Theory" by publishing a paper "A Mathematical Theory of Communication" (1948).

Shannon was also the first to mention the significance of Information Theory for linguistics, but being a mathematician, Shannon first defined information as to be equal to uncertainty (Hayles, 1990, p. 59). Opposite to him, MacKay (MacKay, 1969) proposed to define information as "a distinction which makes a difference," and Bateson (Bateson, 1972, p. 315) followed him by defining information as "a difference which makes a difference...for a later event". Bateson-type information is an informative, "meaningful information". If data are meaningful, the result should be described as semantic content (Bar-Hillel and Carnap, 1953).

Weaver also proposed to analyze information considering the semantic problems of information relating to meaning and the influence of information on human behavior. Basic principles of modern digital information transfer, such applications as data and image compression, estimation, prediction, modulation, and networking all depend on the Information Theory. Modern researchers approach the philosophy of information from the perspectives of logic and epistemology, computer science, IT and Humanities Computing (Floridi, 2011). At present, data mining as the computational process is used to extract information from a dataset and transform it into a meaningful structure for further use (Scarfe and Shortland, 1995).

Considering the nature of communication, Sperber and Wilson (Sperber and Wilson, 1986) have formulated the principle of relevance that focuses on contextual effect and processing effort. They argue that interpreting the text, attention should be paid only to information that seems relevant for a particular receiver in a particular situation. Establishing a conceptual model for communication, "the author takes into account the context of the communication, and the mutual cognitive environment between the author and the reader" (Zhonggang, 2006, p. 44). In case of mutual cognitive environment, some implications may be conveyed by the author of the text relying on the reader, who must fill in the details that are not explicitly communicated. According to the theory of relevance, the author/speaker only conveys as much information as needed in any given context. In reality, a significant amount of relevant information might be implicit, and a considerable background knowledge is needed to infer the meaning conveyed by a non-restricted natural language.

It should be noted that at present under the influence of constantly growing volume of information, the nature of professional texts is changing. Contemporary text structure is so complicated that its interpretation is often determined not only by the main function of the text, but rather by the major thematic focus, i.e., learners must extract information that is relevant to the investigated topic (content-centered approach) as well as to the communicative purpose of the text. They may also use a range of computer-aided information extraction tools in

Download English Version:

<https://daneshyari.com/en/article/5125837>

Download Persian Version:

<https://daneshyari.com/article/5125837>

[Daneshyari.com](https://daneshyari.com)