

DCCD 2020**Dialogue of Cultures - Culture of Dialogue: from Conflicting to Understanding****THE MODELS OF THE READER'S COGNITIVE DIALOGUE
WITH THE TEXT AND THEIR LEARNING POTENTIAL**

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Abstract

The article explores how the communicative and stylistic features of educational texts influence text interpretation by a reader. The study is based on the concept that the process of text interpretation represents a cognitive dialogue, featuring two main reader's intentions: 1) acquiring the method of analyzing empirical data, 2) understanding concepts described in text. The authors claim that the course of cognitive communication that occurs while reading is determined by both the subject content of speech, and by the structural and semantic features of metatext components. These components mark the reader's intentions and create the framework for two principal models of cognitive dialogue: dialogue with a methodological semantic dominant and dialogue with a conceptual semantic dominant. The article describes the marker systems that reflect the both models. The markers of the first model (vocabulary of a mental action, vocabulary of intellectual stimuli, vocabulary of specific analytical actions) express the potential limitlessness of reader's mental moves and do not necessarily include indicators denoting exhaustion of a topic. The markers of the second model (question and answer structures representing commentaries on the text content) include indicators that mark the end of a topic by mental vocabulary, and generate a finite number of reader's inner remarks. The obtained results ensure a more precise prediction of effects of cognitive communication between a reader and a text, and can be used to develop efficient academic and popular science texts, and lesson scripts.

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1. Introduction

Dialogue is an integrative and universal category for such modern human sciences as cultural studies, linguistics, and education science. Dialogue, that is functionally relevant for any activity, reflects strong forms of expression, learning about the world and discovering one's own place in it. (Bakhtin, 1986; Bibler, 2018; Ruthven et al., 2017; Schwarz & Baker, 2016). Dialogue is regarded as a basis for human existence in the frame of contemporary culture, while cognitive dialogue is considered as a condition for accepting a culture. Education science illustrates this approach in the most consistent way (Belova, 2006; Brindley, Juzwik, & Whitehurst, 2016; Ivanova, 2002; Kopylova, 2011; Pilsworth, 2018; Van de Pol, Brindley, & Higham, 2017), viewing dialogue as a means of person-centered education, sense-making in the process of training; as a socially motivated activity that represents communicative interaction of the subjects of a learning process (teacher, students) while inculcating the learning content (Kopylova, 2011, p. 9). It is clear that the effectiveness of this activity is largely determined by the aspect of verbal communication, although it is implemented in all aspects of interpersonal interactions: psychological, social, etc (cf.: “Where there are no words or language, there are no dialogic relations” - Bakhtin, 1986, p. 117.).

“Introduction to the different” in cognitive dialogue takes various communication situations: interpersonal communication, public (e.g. academic) communication, as well as interaction with texts as source of knowledge. Thus, it may be assumed that there are three types of cognitive dialogue with texts: external interpersonal, external public, and cognitive-verbal. It should be noted that the first two types have been subjected to study by language stylistics (Troshcheva, 2011) and education science (Belova, 2006; Vostrikova, 2010). As for the third type, the current research is focused on the modes of interaction between a reader and a text (Belova, 2006; Bolotnova, 2018; Kolokoltseva, 2019). Among them, there are two key forms of interaction: a) reader’s immersion into the author’s thinking (the reader following the development of the author’s thinking); b) mental dialogue between the author and the reader. There is another type of mental-verbal dialogue to be mentioned. This type results in text interpretation defined by dialogic moves and specific structure of produced speech. This particular aspect of text that defines the direction, the process and the result of cognitive dialogue (which is, in fact, not a dialogue between a reader and a text, but a dialogue between a reader and a text as a structure that triggers reader’s thinking) has not been examined systematically. However, the significance of the “informational and cognitive interaction” (Ivanova, 2002, p. 16) between a writer and a reader has been repeatedly mentioned in scientific literature.

The changes of intellectual state of communicants (as the main cognitive result of communication) are determined by their personal and psychological properties, by the nature of their interaction, the way the content of communication is organized, as well as by the verbal and textual representation of the subject of speech (Bolotnova, 2018; Kopylova, 2011; Wilkinson et al., 2017; Vostrikova, 2010). The verbal and textual representation of the subject of speech must be considered as the key factor since the final phase of cognition is the embodiment of its outcomes in communicant's speech, their articulation in words (Kopylova, 2011; Kuhn et al., 2016; Phillipson & Wegerif, 2016; Vostrikova, 2010). Therefore, it is relevant to consider cognitive dialogue as an interaction of different texts/phrases, representing the process of intellectual verbal cooperation between communicants. This requires addressing the communicative and stylistic features of dialogue and interpreting it from a learning perspective.

2. Problem Statement

A Stylistic approach to analyzing dialogue implies focus on a communicative situation as an array of nonlinguistic factors of speech production. A number of studies (Mercer & Littleton, 2017; Vostrikova, 2010) point to the problem of differentiation of cognitive communication types and their correlation with the learning effects and outcomes. However, such studies are usually based on the theories of communication psychology (mainly for differentiating interpersonal and public communication). These studies do not consider the data obtained by communicative stylistics despite the currently well established “systematic and activity-based approach to text as a form of communication” (Bolotnova, 2018, p. 32). This approach determines that understanding of a text depends on its stylistic properties, which affect reader and act as a guide for understanding the meaning of a text. It should be noted that cognitive potential of speech genres, such as discussion, commentary, exploratory talk (Mercer et al., 2019), popular science and academic texts, have been elaborately analyzed by linguistics. In addition, according to some studies of dialogic speech (Trosheva, 2011; Yakubinskiy, 1986), the result (mental, expressive, phatic, etc.) directly correlates with the structural-semantic features of the dialogic unities and the “dialogic moves” (Vrikki et al., 2019, p. 85). Therefore, the problem statement of this research is based on the relation between the types of cognitive communication and learning outcomes, the mental intention of certain stylistic and genre speech types as a resource for cognitive dialogue. The research is aimed at answering the following questions: which communicative and stylistic features of educational (popular science and academic) texts define the properties of cognitive dialogue and speech product; what are the causes of communicative failures in interpretation of speech products.

3. Research Questions

The study is focused on the following questions:

1. What nonlinguistic factors define the text structure which is purposefully directed at actuating a cognitive dialogue with a reader?
2. What dialogue models are defined by the text structure?
3. How do the intention variations affect the selection of structural and semantic components of a speech product?
4. What factors lead to communicative failures when implementing the cognitive dialogue models?

4. Purpose of the Study

The purpose of the study is to define the cognitive dialogue models enacted between a reader and a text based on the relation of the models to the communicative and stylistic features of a text; to define possible communicative failures as a consequence of violating the rules of textual cognitive communication.

5. Research Methods

The research employs the methods of content analysis, communicative and structural-semantic text analysis, the method of analyzing the linguistic markers that characterize the communicative interaction

between a text and a reader. These methods enabled to connect the structural-semantic organization of a text with a communicative situation and develop the basis for a typology of dialogic models anticipated when producing a text.

6. Findings

The baseline of the research is the definition of dialogue as a form of cognition since “each act of thinking is an action in furtherance of a subject, as well as an action in furtherance of a person, ... the process of self-understanding, the introduction to 'the different', and a form of dialogue” (Bibler, 1969). The cognitive communication that occurs while reading an educational text is a process resulting in acquiring new knowledge by the reader (addressee). Such an effect might also result from an instant intuitive understanding, an insight. However, we are interested in the consistent and systematic immersion of the reader in the text content during the dialogue supported by the specific organization of a speech product. The study analyzes academic, popular science and reference texts that are aimed at providing understanding of various knowledge-based structures.

The results of the communicative and structural-semantic analysis provide a more precise explanation of the author’s intentions and the process of cognitive communication between a reader and a text.

The analysis shows that the intention, the communicative objective embodied in the text aimed to create a space for cognitive dialogue, cannot be reduced to an immediate task of knowledge transfer. To define the phenomenon of knowledge transfer using the elementary units of meaning (minimal comprehensive categories), one can use the word “to explain” which has the meaning of to give information making something clear or easy to understand. Understanding in dialogue is manifested by “interplay of actions and reactions” (Yakubinskiy, 1986, p. 25). Understanding at the linguistic level is expressed by the grammatical and semantic connectivity of dialogue components that shape the language space of a dialogue. Obviously, the clarity and apprehensibility of text in a cognitive dialogue with a reader depends largely on the reader’s efforts, as well as the structural and semantic organization of the text. Regarding popular science and academic texts, their structural and semantic organization comprises two components: mental and verbal.

The reactions occurring within the dialogue between a reader and a text are manifested by indirect signals, namely the understanding of a text. The actions are reflected in a text, and guide the internal speech of a reader, as in the following example:

*We’ll now **conduct an experiment**. **Let’s take** the first phrase of any text and **think**: what can be the next phrase? For sure, **we cannot guess** its exact form. However, it is **within our ability** to **predict** its meaning. To do it, we need to **contemplate** on the first phrase, to **analyze** it. Let’s start.*

In the beginning the weather was fine and calm.

*It is the first line of the story titled “A student” by Anton Chekhov. What can he next phrase **be about**?*

...

This example highlights the author’s actions expressed by metatextual markers: *conduct an experiment, think, within our ability to predict, contemplate, be about*. These markers guide the reader’s thinking, emphasize each action that is necessary to understand the text, and, at a first glance, do not require speech responses. However, every marker that expresses the author’s dialogical initiative impels a reader to a cognitive reaction that is articulated in inner speech. Informing, requesting information, and prompting to

act are speech acts represented in a dialogue in the form of utterances-stimuli. Cognitive reaction is affirmation or denial of what have been said, an expression of attitude towards the reported information, a request for additional information, an illustration to the acquired information based on one's own cognitive and speaking experience, a commentary to obtained information, etc. Without such stimuli and reactions, it is impossible to create a speech product within a cognitive dialogue corresponding to the reader's intentions. In the drawn example, the product of speech includes both the description of an experiment and the framing of the algorithm to predict the next phrase of the text. This product is easily reproduced in outer speech and becomes a mainstay for any interpretative textual activity that is possible only in case the text has been articulated (cf.: "The effectiveness of a piece of knowledge is based on a student's ability to articulate it in outer speech and explain the definition" - Vostrikova, 2010, p. 112). The consistency of the algorithm is based on a certain thinking and speech framework constructed by metatextual components.

We will define the described type of communication as cognitive dialogue with a methodological semantic dominant. Such interaction can be traced in popular science and academic texts characterized by potential limitlessness of cognitive moves involving the analysis of data by means of specific algorithms. This type of texts does not necessarily include the indicators of exhausting a topic. The intentions of these texts are expressed in two dimensions: the reader acquires the empirical experience of analyzing facts and the algorithm for such analysis (the method). It is acquiring the algorithm that is the key objective of the reader's activity, and understanding of the algorithm is the main reader's intention.

The texts representing cognitive dialogue with a methodological semantic dominant contain special markers that include mental vocabulary: the vocabulary of a mental action (*review, discover, analyze, define, understand, confirm, etc.*), the vocabulary of intellectual stimuli (*explain, confuse, convince, etc.*), and the vocabulary of specific analytical actions (*select, compare, distribute, etc.*). These markers are the key words that indicate the current informational status of the author and the reader. The absence of this lexical field in popular science and academic texts may be one of the causes for communicative failures within the course of cognitive dialogue.

The cognitive dialogue between a reader and a text is developed in a different way for popular science and academic texts that include a certain concept as a key component of the content to be acquired by a reader, which represents the reader's intention. Such texts represent a cognitive dialogue space with a conceptual semantic dominant. The markers of a cognitive dialogue in such texts include question and answer structures (cf.: *Modality is the reader's attitude to an event expressed by grammatical, lexical, or any other way. What kind of attitude can it be? It is quite clear.*

Firstly, it is the degree of reliability of the described event: Peter has left (What does the speaker demonstrate? He categorically claims, everything is clear). They say, Peter has left (Why is they say included? In order to show that the speaker does not take responsibility for what he has said).

Secondly, ... it is the evaluation of a situation: Peter has left! (The speaker is excited or angry. What indicates his feelings? Punctuation) ...

From these examples it is clear that modality is expressed by special words, intonations, forms of the verb)

The highlighted answer and question structures represent the dialogical unities (DU) that do not include mental lexical markers except the final phrase. However, the DU represented in the commentary to

the text content are included in the metatext, as well as the markers in cognitive dialogues with a methodological semantic dominant.

It should be noted that the texts representing a cognitive dialogue with a conceptual semantic dominant trigger a finite number of inner reader's remarks because a concept as the key text content has a finite number of significant features. It is characteristic of such texts to include components with markers of completeness or exhaustion of a topic. These markers comprise terminological and certain mental nominations, generalizations of special features of discussed concepts.

The semantic dominant (of both types) of a text representing cognitive dialogue with a reader correlates with the theoretical level of knowledge. Absence in academic texts of the markers aimed at explaining a concept, a pattern, or a method leads to communicative failures. A cognitive dialogue with an empirical semantic dominant cannot serve as an autonomous cognitive and speech structure within the learning context. This type of dominant can be expressed in individual fragments of speech products that represent an integral space of a cognitive dialogue (including the empirical and theoretical levels).

7. Conclusion

The development of cognitive dialogue between a reader and a text is determined not only by the subject content of a speech product, but by the meanings of metatextual components included in dialogue. The metatext structure primarily reflects the cognitive intentions of a reader: to acquire an analysis method or to understand the concept. The markers of these intentions establish a framework for two major models of cognitive dialogue: dialogue with a methodological semantic dominant and dialogue with a conceptual semantic dominant. The metatextual marker systems that reflect these models include language units of different levels: mental vocabulary defines the first model, while commentary dialogical unities define the second model. Any disturbances in the metatextual structure lead to communicative failures within the cognitive dialogue.

The obtained results ensure a more precise prediction of effects of cognitive communication between a reader and a text, and can be used to develop academic and popular science texts, and lesson scripts.

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