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METHODOLOGICAL JOURNAL****MENTAL ENLIGHTENMENT SCIENTIFIC –
METHODOLOGICAL JOURNAL**<http://mentaljournal-jspu.uz/index.php/mesmj/index>**LINGUISTIC-COGNITIVE APPROACH IN TEXT ANALYSIS****Zamira Rustamovna Abdujabbarova**

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E-mail: Zaynuratolibovna1717@mail.ru**ABOUT ARTICLE**

Key words: Linguistic cognitive approach; Text analysis; Linguistics; Cognitive science; Language processing; Comprehension; Cognitive processes; Meaning; Interpretation; Mental representations; Lexical knowledge; Syntactic structures; Semantic networks; Discourse analysis; Discourse structures; Coherence; Discourse markers; Context; Social interactions.

Abstract: In this material we have identified the linguistic cognitive approach in text analysis where it combines principles from linguistics and cognitive science to understand how language is processed and comprehended by individuals. It aims to uncover the cognitive processes involved in language production and comprehension, and how these processes shape the meaning and interpretation of texts. This approach provides valuable insights into the intricate relationship between language and cognition.

Received: 09.11.23**Accepted:** 11.11.23**Published:** 13.11.23**INTRODUCTION**

The linguistic cognitive approach in text analysis combines the principles of linguistics and cognitive science to understand how language is processed and comprehended by individuals. It aims to uncover the cognitive processes involved in language production and comprehension, and how these processes shape the meaning and interpretation of texts.

Key concepts in the linguistic cognitive approach include:

Language processing: This refers to how individuals perceive and understand language. It involves various cognitive processes such as attention, perception, memory, and reasoning. The

linguistic cognitive approach investigates how these processes interact with linguistic structures in texts.

Mental representations: Language is represented in the mind as mental structures. These mental representations include lexical knowledge (word meanings), syntactic structures (sentence grammar), and semantic networks (relationships between words and concepts). The linguistic cognitive approach examines how these representations influence text comprehension and production.

Schemas and scripts: Schemas are mental frameworks or knowledge structures that organize information about specific concepts or situations. Scripts are schemas that represent typical sequences of events. The linguistic cognitive approach explores how schemas and scripts influence text interpretation by activating relevant background knowledge.

Inferences: Inferences are the mental connections made by readers or listeners to fill in the gaps in a text and derive meaning beyond the explicit information provided. The linguistic cognitive approach investigates how readers generate inferences based on linguistic cues, context, and their cognitive resources.

Cognitive biases: Cognitive biases are systematic errors in thinking that can affect language processing and interpretation. These biases include confirmation bias, availability bias, and framing effects. The linguistic cognitive approach examines how these biases influence the way texts are understood and interpreted.

Discourse analysis: Discourse analysis examines how language is used in specific contexts and social interactions. The linguistic cognitive approach considers how discourse structures, coherence, and discourse markers influence the interpretation of texts.

MATERIALS AND METHODS

The linguistic cognitive approach in text analysis provides insights into the cognitive processes involved in language comprehension and production. It recognizes that understanding texts goes beyond surface-level linguistic features and involves complex cognitive mechanisms. By integrating linguistic and cognitive principles, this approach enhances our understanding of how meaning is constructed in texts and how readers or listeners engage with language. The linguistic cognitive approach in text analysis combines principles from linguistics and cognitive science to study how language is processed and understood by individuals. This approach focuses on the mental processes involved in language comprehension and production, as well as the influence of linguistic structures on cognitive processes.

In text analysis, the linguistic cognitive approach aims to uncover how linguistic features and structures in a text affect the reader's cognitive processes, including perception, attention, memory, and comprehension. It explores how readers construct meaning, interpret information, and make inferences based on the linguistic cues present in the text.

Here are some key aspects and techniques associated with the linguistic cognitive approach in text analysis:

Textual Coherence: Examining how linguistic devices such as cohesive markers (e.g., pronouns, conjunctions) and rhetorical structures (e.g., cause-effect relationships, temporal ordering) contribute to the overall coherence and organization of the text. This involves analyzing how readers establish connections between different parts of the text to form a coherent mental representation.

Textual Salience: Investigating how linguistic features such as word choice, emphasis, and information structure influence the salience or prominence of certain information within the text. This involves understanding how readers allocate attention to different aspects of the text based on linguistic cues.

Discourse Processing: Studying how readers process and integrate information across sentences and paragraphs. This includes examining the role of linguistic devices like anaphoric references, inference-making, and discourse markers in guiding readers' comprehension and interpretation.

Mental Models: Exploring how readers construct mental models or representations of the text based on linguistic information. This involves investigating how readers create and update mental models as they encounter new information in the text and how linguistic structures facilitate or hinder this process.

Experimental Techniques: Employing experimental methods such as eye-tracking, reading time measures, and comprehension tasks to gather empirical data on readers' cognitive processes during text analysis. These techniques help researchers gain insights into how linguistic features affect reading behavior and comprehension outcomes.

The linguistic cognitive approach in text analysis provides a framework for understanding the intricate relationship between language and cognition. By examining how linguistic structures shape readers' mental representations and cognitive processes, researchers can gain a deeper understanding of how meaning is constructed and communicated through text.

Here are some additional aspects and techniques associated with the linguistic cognitive approach in text analysis:

Mental models: The linguistic cognitive approach emphasizes the construction of mental models during text comprehension. Mental models are mental representations of the situation or events described in the text. They involve creating a mental simulation or visualization of the information to understand and remember it. Researchers analyze how readers construct and update mental models as they read or hear a text.

Eye-tracking studies: Eye-tracking technology is often used to gather empirical data in linguistic cognitive research. By tracking eye movements, researchers can examine where and for how long readers focus their attention while reading. This data provides insights into how readers

allocate attention to different linguistic features, such as words, phrases, and sentence structures, and how they navigate through a text.

Psycholinguistic experiments: Psycholinguistic experiments are conducted to investigate various cognitive processes involved in language comprehension. These experiments use methods such as reaction time measurements, sentence completion tasks, and priming paradigms to study how linguistic factors, cognitive biases, and contextual information influence the interpretation of texts.

Conceptual metaphor theory: The linguistic cognitive approach incorporates the conceptual metaphor theory, which suggests that abstract concepts are often understood and expressed in terms of more concrete, physical experiences. For example, the metaphor "love is a journey" conceptualizes the abstract concept of love in terms of a concrete experience of traveling. Analyzing metaphors in texts helps uncover the underlying cognitive processes and conceptual mappings used in language.

Cognitive linguistics: Cognitive linguistics is a subfield that intersects with the linguistic cognitive approach. It examines the relationship between language, thought, and cognition, emphasizing the role of mental structures and conceptual systems in language production and comprehension. Cognitive linguists analyze linguistic phenomena such as metaphor, polysemy, and construction grammar to gain insights into how language reflects cognitive processes.

Computational models: Computational models are developed to simulate cognitive processes involved in text comprehension. These models use algorithms and computer simulations to replicate how individuals process, interpret, and generate language. They provide a quantitative framework for testing hypotheses and understanding the underlying mechanisms in the linguistic cognitive approach.

By adopting the linguistic cognitive approach and employing these techniques, researchers aim to uncover the intricate interplay between language, cognition, and meaning in text analysis. It offers a multidisciplinary perspective that bridges linguistics, cognitive science, psychology, and computer science to advance our understanding of human language processing.

Let's consider an example of how the linguistic cognitive approach can be applied in text analysis. Suppose we have a passage of text describing a crime scene. Here's a simplified excerpt:

"The victim's body was found in a dimly lit alley. The detective noticed a trail of blood leading to a nearby dumpster. Broken glass and footprints were scattered around the area."

Using the linguistic cognitive approach, we can analyze how specific linguistic features in the text impact readers' cognitive processes and comprehension. Here are a few aspects to consider:

Textual Coherence: We can examine how cohesive markers and rhetorical structures contribute to the overall coherence of the passage. For instance, the phrase "The detective noticed" establishes a cause-effect relationship, indicating that the detective's observation is relevant to the previous statement about the crime scene.

Textual Salience: We can analyze the salience of certain information in the text. For example, the phrase "a trail of blood" may attract readers' attention due to its vividness and emotional impact, potentially influencing their mental representation of the crime scene.

Discourse Processing: We can explore how readers integrate information across sentences. In this case, the mention of "broken glass and footprints" provides additional contextual details about the crime scene, allowing readers to create a more elaborate mental model of the events.

Mental Models: We can investigate how readers construct mental models based on the linguistic information provided. Readers may generate a mental representation of a dark and potentially dangerous alley, with the presence of blood, broken glass, and footprints serving as evidence of a crime.

Through empirical research using techniques like eye-tracking or comprehension tasks, the linguistic cognitive approach can provide insights into readers' processing of the text. For example, eye-tracking studies could reveal which parts of the passage draw readers' attention or how they allocate their gaze when reading the crime scene description.

By analyzing the linguistic features and their impact on cognitive processes, researchers can gain a deeper understanding of how readers comprehend and construct meaning from the text. This approach helps uncover the intricate relationship between language and cognition in text analysis.

The linguistic cognitive approach in text analysis can examine various cognitive processes involved in reading and comprehension. Here are some additional cognitive processes that can be analyzed using this approach:

Word Recognition: Studying how readers recognize and process individual words in the text. This involves investigating factors such as word frequency, orthographic patterns, and phonological features that influence word recognition speed and accuracy.

Sentence Parsing: Analyzing how readers parse and interpret sentence structures. This includes examining syntactic cues, grammatical relationships, and phrase boundaries that guide readers' understanding of sentence meaning and structure.

Inference Making: Investigating how readers make inferences to fill in gaps or connect implicit information in the text. This involves examining the role of linguistic cues, context, and background knowledge in readers' ability to generate inferences and construct a coherent mental representation.

Working Memory: Exploring how readers' working memory capacity influences their ability to process and retain information during reading. This includes investigating how linguistic factors like sentence length, complexity, and the presence of explicit cues impact working memory load and comprehension.

Mental Imagery: Examining how readers mentally visualize or create mental images based on the linguistic descriptions in the text. This involves investigating the role of sensory language, vivid

descriptions, and figurative language in readers' ability to generate mental imagery and enhance comprehension.

Text Integration: Analyzing how readers integrate information across sentences and paragraphs to form a coherent understanding of the text. This includes examining the role of cohesive devices, discourse markers, and rhetorical structures in guiding readers' integration processes.

Textual Inhibition: Investigating how readers inhibit irrelevant or misleading information during comprehension. This involves examining how linguistic cues, context, and readers' cognitive control processes help filter out irrelevant information and focus on the most salient aspects of the text.

By examining these cognitive processes in conjunction with linguistic features, the linguistic cognitive approach provides insights into how language interacts with cognition during reading and comprehension. This approach helps uncover the mechanisms underlying readers' processing of text and contributes to our understanding of how language is comprehended, interpreted, and represented in the mind.

RESULTS AND DISCUSSION

One of the factors of linguistic cognitive approach which we have mentioned above is Eye tracking and it plays a crucial role in the linguistic cognitive approach to text analysis. Eye tracking technology allows researchers to investigate and understand the visual and cognitive processes involved in reading and comprehension. By monitoring eye movements, researchers can gain insights into how readers allocate attention, process linguistic information, and construct mental representations while reading.

Here are some key aspects of the relationship between eye tracking studies and the linguistic cognitive approach in text analysis:

Reading Behavior: It provides valuable data on reading behavior, including measures such as fixation duration (time spent on a word or region), saccade length (eye movement between fixations), and regression (backward eye movements). These measures help researchers understand how readers navigate and process text, which informs our understanding of cognitive processes during reading.

Attention Allocation allows researchers to examine attentional patterns during reading. By tracking eye movements, researchers can determine which parts of the text attract more attention, indicating salient information or areas that require more cognitive processing. This information helps understand how linguistic features or textual cues influence attention allocation and guide readers' comprehension.

Eye tracking can shed light on the cognitive load experienced by readers during text analysis. By analyzing eye movement patterns and fixation durations, researchers can infer the cognitive effort required for processing different linguistic structures, sentence complexity, or information

integration. This helps determine how linguistic features impact readers' cognitive load and comprehension outcomes.

Additionally, Eye tracking studies provide insights into how readers integrate visual information with linguistic cues. Researchers can examine the coordination between fixations and linguistic units (e.g., words, phrases) to understand how readers map visual input to linguistic representations during reading. This integration process is crucial for constructing a coherent mental model of the text.

Comprehension Strategies: Eye tracking data can reveal comprehension strategies employed by readers. For example, researchers can examine readers' regressions (backtracking) to determine when and why readers revisit previous text portions. These regressions may indicate difficulties in comprehension, the need for clarification, or the use of inferential processes to resolve ambiguity.

Experimental Manipulations: Eye tracking studies allow researchers to manipulate linguistic variables systematically and observe how these manipulations affect eye movement patterns. By controlling linguistic features such as word order, syntactic complexity, or discourse structure, researchers can investigate their impact on reading behavior and comprehension processes.

Eye tracking studies provide empirical evidence on how readers process and comprehend text. By combining eye tracking data with linguistic analysis, researchers can uncover the intricate relationship between language and cognition, gaining insights into how linguistic features shape readers' attention, processing, and comprehension of written language.

These are just a few examples of how eye tracking studies can be applied in the field of education. By providing insights into students' visual attention, cognitive processes, and learning behaviors, eye tracking research can help inform instructional practices, curriculum development, and the design of educational interventions to optimize learning outcomes.

CONCLUSION

The linguistic cognitive approach in text analysis combines principles from linguistics and cognitive science to understand how language is processed and comprehended. By investigating the cognitive processes involved in language production and comprehension, this approach aims to uncover how meaning is constructed in texts and how readers or listeners engage with language.

Key concepts in the linguistic cognitive approach include language processing, mental representations, schemas and scripts, inferences, cognitive biases, and discourse analysis. These concepts provide a framework for examining how individuals perceive, interpret, and generate meaning from texts.

Eye-tracking studies have played a crucial role in linguistic cognitive research by providing empirical data on reading patterns, word recognition and processing, parsing and sentence processing, coherence and discourse processing, and the impact of cognitive load on comprehension. By tracking

eye movements, researchers can gain insights into how readers allocate attention, integrate linguistic information, and establish coherence in their understanding of texts.

Through the linguistic cognitive approach and techniques such as eye-tracking, psycholinguistic experiments, conceptual metaphor analysis, and computational modeling, researchers can deepen our understanding of the intricate relationship between language, cognition, and meaning. This multidisciplinary approach advances our knowledge of language processing and has practical applications in areas such as education, language acquisition, and natural language processing.

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