

Application of Discourse Analysis based on Schema Theory in High School English Reading Teaching

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Abstract: The *English Curriculum Standards for General High Schools (Revised 2017 Edition 2020)* emphasize the cultivation of students' core competencies in English teaching and advocate the use of diverse teaching methods to enhance students' language comprehension and application abilities. Schema Theory, as a cognitive theory, provides significant theoretical support for discourse analysis, helping students activate prior knowledge and construct meaningful connections during the reading process, thereby fostering deeper comprehension. This paper aims to explore the application pathways and practical value of discourse analysis guided by Schema Theory in high school English reading teaching. By analyzing the connotations of Schema Theory and its integration mechanism with discourse analysis, along with specific teaching cases, it elucidates how this method helps students improve their discourse comprehension ability, logical thinking, and cultural awareness, thereby optimizing reading teaching effectiveness and promoting the implementation of core competencies in the English subject.

Keywords: Schema Theory, Discourse Analysis, High School English, Reading Teaching, Cognitive Structure.

1. Introduction

Schema Theory, as a significant branch of cognitive psychology, emphasizes that individuals rely on existing knowledge structures-known as schemata-to integrate, interpret, and store new information. This theory posits that reading is not a passive process of receiving written symbols but a cognitive activity where the reader's prior knowledge interacts with textual information to actively construct meaning. The discourse analysis method focuses on deconstructing texts from multiple dimensions such as textual structure, logical coherence, and contextual meaning, helping students grasp the structure of passages, understand the author's intent, and appreciate cultural connotations. Combining Schema Theory with discourse analysis provides a new perspective and methodology for high school English reading teaching.[1]

In recent years, with the deepening of English curriculum reform, reading teaching has gradually shifted from mere language knowledge transmission to the cultivation of students' comprehensive discourse ability and thinking quality. However, in actual teaching, students often face issues such as superficial discourse comprehension, inadequate grasp of logical connections, and lack of cultural background knowledge. Therefore, exploring discourse analysis methods based on Schema Theory to guide students in activating relevant schemata at the cognitive level and conducting hierarchical, logical discourse interpretation holds significant theoretical and practical importance for improving the quality of reading teaching and promoting the development of students' core competencies.

2. Theoretical Basis of Schema Theory and Discourse Analysis

2.1. Development and Core Concepts of Schema Theory

Schema Theory was initially proposed by the psychologist Bartlett and later refined by scholars such as Rumelhart,

becoming an important theory for explaining human cognitive processes. This theory posits that schemata are organizational structures of past experiences and knowledge, serving as cognitive frameworks for individuals to understand new things and information. During the reading process, readers assimilate or accommodate new information by activating language schemata, content schemata, and formal schemata related to the text, thereby completing meaning construction.[2]

2.2. Basic Framework of Discourse Analysis

Discourse analysis focuses on linguistic units beyond the sentence level, emphasizing the integrity, coherence, and communicative function of texts. Its analytical dimensions include macro-structure (e.g., text type, thematic progression), micro-cohesion (e.g., reference, conjunctions), and contextual factors (e.g., cultural background, communicative intent). In English reading teaching, the discourse analysis method guides students to gradually deepen their interpretation of texts from the whole to the parts and from form to meaning, cultivating their logical thinking and critical reading abilities.

2.3. Integration Mechanism of Schema Theory and Discourse Analysis

Schema Theory provides a cognitive psychological basis for discourse analysis, and the two can mutually reinforce each other in teaching. On the one hand, discourse analysis helps students identify textual structure and meaning clues, activating and expanding relevant schemata. On the other hand, the activation of existing schemata enables students to understand discourse content more quickly and deeply, forming a virtuous cycle. This integration facilitates the transition from reading words and sentences to reading discourse and from learning language to using language in teaching.

3. Application Pathways of Discourse Analysis Based on Schema Theory in Reading Teaching

3.1. Teaching Principles

1) Activate Prior Schemata and Build a Comprehension Scaffold

In the pre-reading stage, teachers should activate students' prior knowledge related to the text theme through topic discussions, visual materials, and background introductions, providing cognitive preparation for subsequent reading.

2) Guide Discourse Deconstruction to Promote Schema Integration

During the reading process, teachers guide students to analyze textual structure, logical coherence, and linguistic features, helping them establish connections between content schemata and formal schemata, thereby forming a systematic understanding.

3) Create Transfer Contexts to Facilitate Schema Reconstruction

In the post-reading stage, design transfer tasks that closely align with real-world contexts, encouraging students to apply learned schemata to analyze new texts and solve new problems, thereby achieving knowledge application and innovation.

3.2. Example of Teaching Activity Design

Taking the reading passage "Like Father, Like Son" from Unit 3 "Family Matters" in the compulsory high school English textbook (People's Education Press) as an example, the teaching process based on Schema Theory-guided discourse analysis is demonstrated as follows:

Pre-reading: Activate Content Schemata and Predict Discourse Content

Focus on the theme of "family conflicts," guide students to share their own experiences, activating their content schemata related to family relationships and generation gaps. Use the title "Like Father, Like Son" to predict the text content, stimulating reading interest.

While-reading: Deconstruct Discourse Form and Construct Language and Structural Schemata

Skimming and Scanning: Quickly identify the text genre (drama) and main idea, establishing formal schemata.

Close Reading and Analysis: Guide students to analyze discourse features such as character dialogue, conflict development, and plot twists, sort out information logic, and create plot structure diagrams or mind maps to integrate language knowledge and textual structure.

Post-reading: Transfer and Innovation, Expanding Schema Application

Role-playing and Discussion: Students perform conflict scenarios based on the text content and discuss ways to resolve family conflicts, promoting the integration of content schemata and values.[3]

Comparative Reading and Writing: Provide another article on family relationships, guide students to use established schemata for comparative analysis, and write short essays expressing their views, achieving schema transfer and reconstruction.

The effective integration of Schema Theory and discourse analysis in high school English reading instruction necessitates a structured pedagogical approach that translates theoretical principles into actionable classroom practices.

This expanded section delves deeper into the operationalization of the aforementioned teaching principles, elucidates the cognitive processes involved, and provides further rationale for the design sequence, thereby offering a more comprehensive guide for educators.

1) Elaboration on Teaching Principles with Cognitive Underpinnings

The first principle, activating prior schemata, is rooted in the constructivist view of learning, where new knowledge is built upon existing cognitive frameworks. In the context of reading, a learner's schemata-encompassing linguistic knowledge (vocabulary, grammar), content knowledge (world knowledge about a topic), and formal knowledge (text structure, genre conventions)-serve as the interpretive lens. Failure to activate relevant schemata can lead to comprehension breakdowns, as students lack the necessary framework to assimilate new information.[4] Therefore, pre-reading activities are not merely motivational "warm-ups" but essential cognitive preparation. Techniques such as brainstorming, K-W-L charts (What I Know, What I Want to know, What I Learned), visual prompts, or short discussions on the thematic topic serve to consciously retrieve and organize students' existing knowledge. This process lowers the cognitive load during initial reading, provides anticipatory context, and creates a "mental slot" for incoming information, making the text more accessible and personally relevant.

The second principle, guiding discourse deconstruction, moves students from a passive reception of content to an active analysis of how meaning is constructed. Schema Theory posits that comprehension involves both "bottom-up" processing (decoding words, parsing sentences) and "top-down" processing (using existing schemata to predict and infer meaning). Effective discourse analysis teaching strategically bridges these processes. Teachers guide students to identify macro-level discourse features-such as the thesis statement in an argumentative essay, the problem-solution pattern in an expository text, or the narrative arc in a story-which helps build or reinforce formal schemata.[5] Simultaneously, micro-level analysis of cohesive devices (pronouns, conjunctions, lexical chains) and logical connectors reveals how ideas are interwoven. This deconstructive practice does more than aid understanding of a single text; it equips students with analytical strategic schemata. By repeatedly engaging in such analysis, students internalize patterns of different discourse types, forming transferable skills that enable them to approach unfamiliar texts of similar genres with greater confidence and efficiency.

The third principle, creating contexts for transfer and reconstruction, targets the highest level of learning as defined by Schema Theory: the modification and creation of new schemata. Deep learning occurs when students can apply restructured knowledge in novel situations. Post-reading activities must therefore transcend simple content recall. Tasks should be designed to compel students to use the integrated linguistic, content, and formal schemata from the text to perform a new function. This could involve transferring the learned discourse structure to organize their own writing on a related topic, applying the analyzed conflict-resolution strategies to a different social scenario, or evaluating a new text using the critical lenses developed. Through such application, students test the boundaries and adaptability of their newly formed schemata, leading to either consolidation or further refinement. This phase embodies the ultimate goal of core literacy development: the ability to

mobilize integrated knowledge and skills to solve real-world problems.

2) Detailed Rationale for the Instructional Sequence

The proposed three-stage sequence (Pre-While-Post) aligns with the natural cognitive flow of reading comprehension and schema development. The pre-reading stage primes the cognitive system. By activating existing schemata, teachers create a state of "cognitive readiness." Predictions made based on titles or images generate specific expectations, turning reading into a confirmatory or corrective process, which is more engaging and strategic than reading with no expectations.[6]

The while-reading stage is where the core interaction between text and reader occurs. Here, guided discourse analysis serves as the scaffold that supports schema integration. The teacher's role shifts from activator to facilitator and modeler. For instance, when teaching a persuasive essay, the teacher might first model how to identify the author's claim and supporting evidence (building a formal schema for argumentation). Then, students might work in pairs to trace the logical connectors, seeing how the argument progresses. This guided practice helps students connect the new textual information (bottom-up data) with their activated prior knowledge and the emerging formal structure (top-down schemata), leading to a coherent and structured mental representation of the text.

Finally, the post-reading stage is dedicated to schema consolidation and extension. Having deconstructed and understood the text, students now need to manipulate its elements. The transfer tasks are deliberately designed to be "divergent"-requiring answers or outputs not found in the original text. For example, after analyzing a news report on an environmental issue, students might be tasked with writing a formal proposal letter to the school principal advocating for a green initiative, using the report's factual schemata and the formal schemata of a proposal. This requires not just memory but synthesis, adaptation, and creation, forcing the reconstruction of schemata into a new, functional form. This sequence ensures that learning progresses from activation and input, through processing and integration, to ultimate output and application, fostering a complete cycle of schema development.

3) Addressing Differentiation and Scaffolding

A crucial consideration in applying this method is the heterogeneity of students' schema reservoirs. Teachers must employ differentiated scaffolding. For students with limited prior knowledge on a topic, pre-reading activities may need to be more direct and informative, such as providing a mini-lecture or a curated set of background readings to build essential content schemata. During discourse deconstruction, graphic organizers (like comparison tables or flowcharts) can provide visual frameworks that compensate for underdeveloped formal schemata. In the transfer stage, tasks can be tiered; for example, some students might summarize the text's perspective, while others debate it from an alternative viewpoint. The consistent thread is the focus on the schema-driven process-activating, integrating, and reconstructing-with varying levels of support tailored to ensure all students can engage meaningfully with the discourse.

In summary, the application of Schema Theory through discourse analysis is a dynamic and recursive pedagogical process. It transforms the reading classroom from a site of information transmission to a workshop for cognitive toolkit

development. By meticulously designing activities that follow the principles of activation, deconstruction, and transfer, teachers can systematically enhance students' reading comprehension, critical thinking, and autonomous learning capabilities, laying a solid foundation for their core English literacy. The integration of Schema Theory with discourse analysis represents a paradigm shift in high school English reading pedagogy, moving beyond traditional, text-centric approaches towards a more holistic, student-centered, and cognitively engaged model of learning. As discussed, the practical significance of this methodology is profound, directly addressing the core objectives of contemporary English education by fostering deeper comprehension, critical thinking, and intercultural competence. However, its successful implementation is contingent upon a systemic and reflective approach to the inherent challenges. To truly harness its potential, educators and curriculum developers must view these challenges not as impediments but as catalysts for professional growth and instructional innovation.[7] For instance, the issue of uneven schema reserves among students underscores the necessity of differentiated instruction and diagnostic assessment at the outset of a learning unit. Teachers can employ quick surveys, concept maps, or introductory discussions not only to activate existing knowledge but also to gauge its depth and distribution within the class, thereby informing subsequent scaffolding strategies. The high demand on teachers' professional capacity calls for sustained professional development communities where educators can collaboratively design discourse analysis activities, share case studies, and refine their skills in modeling cognitive processes. Furthermore, teacher education programs must place greater emphasis on the theoretical foundations of reading comprehension and practical training in metacognitive strategy instruction.

The evolution of assessment methods is equally critical. To align with this approach, evaluation must transcend summative tests focusing on discrete language points. It should incorporate performance-based assessments, portfolios, and reflective journals that capture students' evolving ability to activate, integrate, and reconstruct schemata. For example, assessing a student's mind map created during the deconstruction phase or evaluating the creativity and logical coherence of their output in a transfer task provides richer, more meaningful data on their cognitive and linguistic development than a multiple-choice question on a detail from the text. Ultimately, the journey of implementing this method is iterative and reflective. It requires teachers to become classroom researchers-constantly observing, adjusting, and evaluating the impact of their designed activities on students' schema development. Future directions for this field include longitudinal studies tracking the long-term impact of such instruction on reading proficiency and critical thinking, as well as action research exploring its adaptation for digital texts and multimodal discourses. By embracing the theoretical synergy between Schema Theory and discourse analysis, and by proactively addressing the practical challenges through collaboration, professional learning, and assessment reform, high school English reading instruction can be transformed into a dynamic engine for developing autonomous, thoughtful, and culturally adept learners, fully equipped for the complexities of the modern world.

4. Practical Significance and Challenges in Teaching

4.1. Practical Significance

1) Enhance Reading Depth and Efficiency: Help students transition from passively receiving information to actively constructing meaning, improving overall discourse comprehension and detail grasping abilities.

2) Promote the Development of Thinking Quality: Cultivate students' logical, critical, and innovative thinking through discourse activities such as analysis, comparison, and evaluation.

3) Strengthen Cultural Awareness and Emotional Identification: Understand cultural differences in context, form correct values, and enhance cross-cultural communication willingness and ability.

4.2. Challenges Faced

1) Uneven Schema Reserves Among Students: Differences in students' background knowledge may affect the effectiveness of schema activation, requiring teachers to provide differentiated support.

2) High Demand for Teachers' Professional Ability: Teachers need strong discourse analysis skills and the ability to apply Schema Theory, integrating both organically in instructional design.

3) Need for Updated Teaching Evaluation Methods: Establish an evaluation system that combines process and comprehensive assessment, focusing on students' progress in schema construction and discourse comprehension.

5. Summary

Schema Theory provides an important cognitive perspective for high school English reading teaching. Its integration with discourse analysis can effectively guide

students from surface-level understanding to deep construction, and from language learning to competency development. In teaching, teachers should consciously activate, expand, and reconstruct students' knowledge schemata, designing hierarchical and logically coherent discourse activities to make the reading process a journey of active participation, critical thinking, and cultural immersion for students. Future empirical research could further explore the applicability of this method across different lesson types and student contexts, promoting high school English reading teaching toward a more scientific and humanistic direction.

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