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The Design of English Reading Teaching under the Guidance of Deep Learning Theory-Taking Unit 5 Race to the Pole as an Example

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Abstract: Reading teaching plays a pivotal role in English language education, aiming to nurture students' comprehension, practical application, and creative transfer abilities. Deep learning theory underscores the importance of knowledge acquired through reading being logical, structured, and systematic, rather than scattered or fragmented. It advocates for a teaching approach where, under the guidance of teachers, students associate, mobilize, and activate their prior experiences to organize learning content in a coherent manner and construct a personal knowledge structure. This paper takes a piece of senior high school English reading material as an example to illustrate the design ideas of reading teaching based on the theory of deep learning.

Keywords: Deep Learning; Reading Teaching.

1. Introduction

Reading teaching holds a significant position in English education. It serves as a vital channel for students to acquire information, refine advanced cognitive skills such as critical thinking, gain insights into the world, and shape their values. Moreover, it profoundly influences the construction of their thinking patterns. If learning remains at a superficial level, knowledge will resemble scattered pieces of a jigsaw puzzle, hindering the formation of a complete knowledge system. This often leads to rigidity in students' thinking, a lack of necessary logical coherence and breadth, and difficulty in flexibly applying diversified perspectives and innovative thinking to solve complex challenges.

In contrast, deep learning pursues the internal logic, structure, and systematicity of knowledge. It encourages students to transcend isolated knowledge points, actively mobilize past experiences to integrate with current learning tasks under the guidance of teachers, and form a personalized and coherent knowledge framework through integration and reconstruction. This process necessitates not only the basic skills of memorization and comprehension but also emphasizes the abilities of associative thinking, systematic thinking, and structured knowledge building. These abilities are simultaneously enhanced through the practice of deep learning.

Therefore, when planning and implementing teaching, teachers should adhere closely to the educational concept of deep learning. This ensures that teaching activities can stimulate students' deep cognitive engagement, promote their comprehensive and in-depth mastery of knowledge, and foster their higher-order thinking and comprehensive literacy in the process.

2. Overview of Deep Learning Theory

Deep learning, a research direction in machine learning involving complex algorithms, revolves around the core principle of automatically combining simple features into more complex ones to solve problems. Given the profound resonance between machine learning and human learning modes, the concept of deep learning has transcended boundaries and permeated into the field of education. It not only serves as a profound reflection on traditional shallow learning and mechanical memorization methods but also transcends the scope of biology and psychology, becoming an advanced concept that widely impacts social and educational activities.

In educational practice, deep learning encourages learners to explore the inner core of knowledge, gain insights into the subtle connections between knowledge, and develop the ability to learn by analogy. This process is essentially a journey of learning refinement that strips away non-core elements and accurately identifies essential features. It requires learners to deeply analyse and reconstruct what they have learnt. Unlike the superficial approach of teachers who directly teach essential concepts, deep learning emphasizes students' subjective participation in constructing deep and lasting connections with knowledge through active behaviors such as questioning, exploring, and reflecting [1]. In short, deep learning aims to establish a vivid and profound interactive relationship between students and knowledge. This allows learners to experience and understand the essence of knowledge, thereby encountering the most vivid and vibrant aspects of knowledge during their learning journey. Such a learning process not only enriches the learner's cognitive structure but also stimulates their inherent creativity and critical thinking.

3. The Need for Deep Learning

Deep learning is crucial for teachers' self-reflection on teaching and students' ability to think critically about learning. It serves as a key driver for enhancing teaching quality and fostering student growth.

From the perspective of teachers' teaching, to promote deep learning in reading programmes, teachers must first engage in a thorough, comprehensive, and multi-perspective analysis of the reading materials. This process encompasses both the breadth and depth of the content and lays a solid foundation for the design of subsequent progressive and interrelated classroom learning activities. Teachers' reading should focus

on three core dimensions: content (What), purpose (Why), and method (How). At the content level, teachers should concisely refine the theme and core content of the text. At the purpose level, they need to delve deeply into the educational value of the material and clarify the growth and enlightenment that students can gain through this learning process. At the method level, they need to carefully analyse the stylistic features and internal logic of the text, and identify the key knowledge structures and core language points that students should master. This ensures that the teaching activities are closely related to the meaning of the theme and effectively integrated into the language learning process.

The teaching objectives should be closely aligned with the theme of inquiry and emphasize the concept of student-centered education. The design of activities should adhere to the guiding principles of the English Learning Activity Concept. Through "Learning and Understanding" activities, students are introduced to the thematic context, encouraged to collect, organize, summarize, and integrate basic information, construct a knowledge structure using visual tools, and refine and learn vocabulary and expressions closely related to the theme from the text. Subsequently, students are prompted to apply their learning to real-life situations through "practical application" activities, deepening their internalization of language and culture. In addition, teachers should guide students in analyzing the underlying factors behind the success of the expedition team, realizing that success stems not only from perseverance but also from careful planning and preparation, thereby deepening and broadening their understanding of the theme.

Secondly, from the students' perspective, the theory of deep learning has provided them with a new conception of learning, making them realize that learning is not a process of superficiality or mechanical memorization, but rather a process of active exploration and construction of the subject matter. Students begin to understand the deeper meaning behind the teacher's teaching objectives and recognize that each objective is intended to promote the mastery of language knowledge, the understanding of the subject matter, or the enhancement of the ability to transfer and apply knowledge. Driven by deep learning, students are able to gain insights into the core elements of the teaching content, build a network of intrinsic connections between knowledge, and demonstrate strong transfer and innovation abilities. Specifically, they are able to analyze the "content," "purpose," and "method" of the reading materials under the guidance of the teacher and then effectively organize, summarize, and integrate the information. This process is essentially a deep exploration and understanding of the learning materials, which prompts students to gradually grasp the essence of knowledge.

Deep learning emphasizes the grasp of the essence of things, which requires students to possess not only keen insight but also profound and flexible thinking qualities. Such thinking qualities are gradually formed through the process of deepening understanding of learning objects and exploring the essence of things. Under the guidance of deep learning theory, students prioritize thorough preparation before learning, actively participate in classroom activities, closely follow the teacher's teaching rhythm, and engage in profound self-reflection and summarization after class to refine their knowledge structure and address any learning deficiencies. This process not only enhances students' learning effectiveness but also fosters their independent learning abilities and lifelong learning consciousness.

Once again, deep learning stands as a pivotal approach to stimulate students' individual potential, enhance their problem-solving abilities, and cultivate a spirit of innovation. It follows a spiral trajectory of "learning and understanding - applying and practicing - transferring and innovating," guiding students to transition from merely reading materials to the vast realm of real-life applications. In this process, students not only comprehend and internalize language knowledge but also creatively express their thoughts, insights, and discoveries using the language they have learned. Moreover, they gain a profound understanding of the deeper meaning and value embedded within the reading materials. Through continuous deepening of learning and understanding, students not only accumulate rich knowledge but also achieve comprehensive improvement and development in their abilities, thinking, and character.

4. Teaching Design of English Reading under Deep Learning Theory

Under the guidance of the Deep Learning Framework, teachers must carefully plan the four key stages of reading teaching: setting teaching objectives, pre-study preparation, classroom reading exploration, and after-school extended reading. This ensures that each stage effectively promotes the depth of students' learning. Teaching objectives should be structured as a progressive system, integrating multiple dimensions of learning and understanding, application and practice, as well as transfer and innovation. This approach aims to comprehensively cultivate students' overall abilities.

In the pre-study stage, teachers should encourage students to gather a wide array of background information pertaining to the theme, activate their prior knowledge and experience, and stimulate their independent thinking and desire for exploration by posing inspiring questions. During classroom sessions, teachers should adopt an interactive teaching mode that seamlessly combines explanation and discussion. They should also utilize diversified teaching resources such as text fragments, images, and videos to guide students in analyzing the text deeply and engaging in creative reading and detailed interpretation. This process aims to stimulate students' deep thinking and explore the deeper meaning of the text as well as the author's hidden intentions.

At the end of the lesson, teachers should design practical consolidation activities, such as thematic essay writing, article recitation, role-playing, etc., to enable students to reinforce what they have learned through practice and achieve the transfer and innovation of knowledge. Throughout the entire teaching process, precise guidance from teachers is crucial. It ensures that students complete the initial reading preparation in the pre-study stage and helps them internalize new knowledge and key language skills during the classroom and after-school stages. Simultaneously, teachers should guide students to look beyond the text's surface and explore the underlying logic and meaning, thereby promoting the overall development of students' thinking ability and character. Taking the teaching of "Race to the Pole" in Lesson 3 of Unit 5 Humans and Nature in the second book of English (Compulsory) of the Bei Shi Da version for senior high school as an example, we can illustrate the practical process of English reading teaching that aims for deep learning.

(1) Interpreting the content of the text and setting teaching objectives

Text interpretation is a crucial foundation for setting

teaching objectives, as it necessitates teachers to carefully read and analyze the teaching materials to achieve a comprehensive grasp of their meaning and main ideas, as well as a thorough understanding. Deep learning emphasizes the importance of teachers integrating meaning-linked learning content, paying attention to the connection between students' experience and classroom knowledge, guiding students to link isolated elements of knowledge, establishing a close connection between knowledge, and storing knowledge in memory in a structured and integrated manner[2] .This approach emphasizes the need for teachers to focus on the correlation and integration among knowledge, requiring them to comprehensively compile and interpret the text content, mobilize students' existing knowledge and experience in theme exploration activities, assist students in constructing and improving a new knowledge structure based on their existing knowledge, establish connections among knowledge, and deepen their comprehension and understanding of the theme through acquiring, sorting, generalizing, and integrating knowledge[3]

Teaching objectives serve as the starting point and foundation for teaching activities, exerting a guiding and standardizing effect on classroom teaching, and high school English teaching is no exception. Teachers ought to cultivate a holistic approach to lesson planning, structured teaching, linking the elements of knowledge, and enhancing the quality of teaching. "Race to the Pole" is a reading lesson that primarily recounts the heartfelt story of the expedition to Antarctica between the British explorer Captain Scott and the Norwegian explorer Amundsen. The text narrates how Captain Scott led the expedition from its inception, the horses freezing to death midway through the journey, the arduousness of traveling by hand-powered sledge, the shock of encountering the Norwegian flag upon reaching the South Pole, and the realization that they had lost the race. Despite the challenges they faced, Captain Scott and his teammates brought back stones of scientific value from the South Pole on their return journey. Encountering a blizzard, starving, and unable to return to the nearest supply base, they ultimately perished heroically. Although Scott did not emerge victorious in the Polar Expedition competition, the immense courage he and his teammates displayed made them heroes. The text is concise in language, clear in structure, illustrated, and effective in conveying relevant information. Based on the teaching content and the analysis of the learning situation, the teacher has formulated the following teaching objectives:

1. Understand the basic information about the process of leading two teams to the South Pole;
2. Compare and analyze the qualities of the two captains and their teams through comprehensive reading;
3. Develop reasoning skills;
4. Foster a sense of pride in our country and enhance motivation in English learning.

The teaching objectives outlined above initially guide students to grasp the basic information and qualitative features of the two texts through reading. Subsequently, they are required to practice their reading skills by reasoning about the events occurring within the texts, based on a deep understanding of the content. By posing problems, teachers facilitate problem-solving through cooperative learning, which not only effectively cultivates students' abilities in teamwork and effective communication but also enables them to self-monitor and regulate their learning progress and methods when communicating with other students, ultimately fostering a gradual learning process. The concepts of developing students' logical, critical, and innovative thinking through interrelated and progressive practical activities, such as learning and understanding, application and practice, transfer and innovation, while integrating language, culture, and thinking, are all in alignment with the principles of deep learning.

(2) Create relevant scenarios to introduce new lessons

Deep learning advocates for teachers to integrate intrinsically linked learning materials, emphasizing the close integration of students' personal experiences with the knowledge imparted in the classroom. It encourages students to discover and build bridges between knowledge points, transforming them from isolated fragments into a tightly interconnected, structured, and integrated network of knowledge[3]. To facilitate this, teachers can show pictures or short videos of polar landscapes to arouse students' interest in polar exploration. Pose the question: "If you had the chance to be the first person to reach the South Pole, what would you do?" This leads students to ponder the meaning of exploration, stimulating their curiosity and inquisitiveness by creating a scenario for polar exploration.

(3) Reading and exploring for in-depth processing

Deep learning is rooted in profound comprehension, emphasizing the learner's in-depth processing and detailed reflection on the content of learning. Its aim is to grasp the underlying essence and core meaning of knowledge, thereby promoting overall improvement in thinking ability. This approach involves two main steps: 1) Preliminary reading to analyze the structural framework and main idea of the article. Students are instructed to skim through the text quickly to understand the main idea of the article and attempt to answer questions such as: Who are the main characters? What are their goals? What is the final result? The teacher then checks students' understanding and provides a brief introduction to the historical background of the article. 2) Deep reading to obtain detailed information about the article and reason about hidden information. Students read different parts of the text in groups, with each group responsible for summarizing the main events and characters' performances in that part. They also analyze and reason about the message conveyed in Scott's diary. Groups then share their reading and engage in discussions about the differences between the two teams, Scott and Amundsen, as well as the challenges and solutions they each face. The teacher provides additional explanations of key vocabulary and sentence patterns to help students gain a deeper understanding of the text.

(4) Internalisation and communication, migration and creativity

Deep learning advocates that students should spontaneously and actively internalize external knowledge as part of their personal mindset, transforming it into knowledge that they can deeply understand and effectively communicate through interaction, dialogue, and other forms of output. This approach enables students to solve new challenges in real life[4]. Similarly, the New Curriculum emphasizes the importance of students internalizing their linguistic and cultural knowledge through contextualized language practice and use activities. To achieve this, teachers are required to guide students in participating in various forms of communication, such as description, illustration, analysis, and judgement, around specific themes and newly constructed knowledge frameworks. This gradual internalization of linguistic and cultural knowledge helps students achieve

natural fluency in language use and transform their knowledge into practical abilities. Deep learning also emphasizes the transfer of knowledge and problem-solving ability, encouraging learners to apply what they have learned flexibly to real social scenarios and engage in the problem-solving process. The transfer and innovation activities encompass learning practices beyond the scope of texts, such as reasoning and argumentation, critical evaluation, imagination, and creation. The ultimate goal is to enable students to fully develop their language skills, stimulate diversified thinking, creatively solve difficult problems in unknown situations, rationally express their views, emotions, and attitudes, and demonstrate correct values in new contexts and with a new body of knowledge, thereby achieving the goal of deep learning. Teachers can facilitate this process and promote the transformation of competence into comprehensive literacy by setting tasks such as evaluating Captain Scott and his team in the text. Are they losers despite losing their lives? How does the author evaluate them? Students engage in group discussions to share their viewpoints, integrate them, make a group evaluation, and provide a reasonable explanation. Next, teachers can use the language learned to encourage imagination and creativity in a new context by setting up a situation for students: imagine being Scott in space exploration, where China started late and faced difficulties in the race of space exploration many years ago. Did China give up? Years later, China's space exploration has become fruitful, with achievements such as the Jade Rabbit, Chang'e, and landing on the far side of the moon. Seeing these accomplishments, students have a multitude of feelings. They are invited to discuss their ideas and emotions in groups, utilizing the language learned in the text for expression. After the discussion, they can refine their thoughts and write a composition to further improve their language skills.

5. Conclusion

From the above teaching cases, it is evident that deep learning occupies a central position in teaching design. It places particular emphasis on in-depth analyses of the text and careful creation of thematic contexts. At the same time, it highlights the close connection between new knowledge and students' existing cognition. By designing a series of challenging learning tasks, deep learning encourages students to explore the meaning of the text in depth, promotes the gradual improvement of thinking skills, and ultimately helps them build a solid cognitive framework, affective tendency, and value system around a specific theme. Teachers play a crucial role in this process, integrating diversified teaching content, refining the essence of the theme, exploring the deeper educational value, and setting clear teaching objectives for the unit accordingly. This series of initiatives has led to a shift from fragmentation and isolation to systematisation and correlation, and from pure knowledge transfer to knowledge application and practice, leading students from shallow learning to deep learning. Under such a teaching mode, students are able to devote themselves to rich and meaningful learning activities, and their language proficiency, cultural awareness, depth of thinking and learning ability are all fully developed. The introduction of deep learning not only subverts the isolated, shallow and fragmented way of learning in traditional teaching, but also realises the related integration of knowledge, highlights the main position of students in the learning process, and pushes them towards the direction of understanding the essence of things, solving practical problems, and realising the transfer of knowledge and innovation. Therefore, in actual teaching, teachers need to continuously explore and deeply understand the concept of human development based on the English learning activity view of teaching. To effectively implement this concept in English reading teaching, teachers should adhere to its core principles, abandon traditional mechanized and procedural teaching methods, and instead design inspiring and effective learning activities. Through these activities, students can experience the joy and value of learning, thereby truly promoting the comprehensive development of their core competence in English.

References

[1] Guo Hua. 2018. five characteristics of deep learning[J]. People’s Education, (6):13.

[2] An Fuhai, 2014, Research on Classroom Teaching Strategies to Promote Deep Learning [J], Curriculum-Materials-Pedagogy (11): 57-62.

[3] Ministry of Education of the People's Republic of China . 2020. general high school English curriculum standard (2017 edition revised in 2020) [M]. Beijing: People's Education Press.

[4] Wang Q. 2021, A holistic teaching design for high school English units that points to deep learning[J]. Frontiers of Foreign Language Education Research, (4).