

Research on the Design of Question Chains in High School English Reading Teaching

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Abstract: The "High School English Curriculum Standards (2017 Edition, Revised in 2020)" has set forth new requirements for reading instruction, emphasizing that teachers should, on the basis of an in-depth study of reading texts, creatively select teaching methods and means to foster the development of students' core competencies in the English discipline. Question chains, as a tool to optimize the classroom questioning of English teachers, not only assist in enhancing the effectiveness of reading instruction and strengthening the two-way interaction between teachers and students but also guide students in gradually achieving deep reading and developing their thinking qualities. Currently, there are issues in the design of question chains in high school English reading instruction, such as neglecting student subjectivity, lacking hierarchical structure, and deviating from the text's topics. This research, combined with teaching examples, proposes strategies for the design of question chains from three aspects: 1. Enhancing the awareness of question chain design with a student-centered approach; 2. Enhancing the logical coherence of question chain design to achieve progressive development; 3. Enhancing the topicality of question chain design to closely align with the text's themes. The research analyzes and discusses the application of question chains in high school English reading instruction to improve its effectiveness.

Keywords: Question Chain; English Reading Teaching; Question Design.

1. Introduction

The "High School English Curriculum Standards (2017 Edition)" explicitly states that the specific objectives of English courses are to develop students' four core competencies in the English discipline, including language ability, thinking quality, cultural awareness, and learning ability, thereby realizing the educational value of the English discipline. Reading classes are one of the important types of classes in high school English teaching and are an indispensable part of the English teaching process, playing a significant role in the cultivation of students' core competencies in the English discipline. Teachers can permeate discourse knowledge in reading classes, guide students to extract information from texts and conduct sorting, induction, and integration, establish connections between new and old knowledge, summarize and refine new knowledge structures based on the thematic meaning of the text, analyze the structure and linguistic characteristics of reading discourse, enhance students' perception and understanding of discourse meaning, and help students achieve a steady development of thinking from lower-order to higher-order. Reading classes not only provide strong guarantees for improving the effectiveness of English teaching but also offer practical pathways for implementing students' core competencies in the English discipline.

Teacher questioning is an essential component of classroom teaching and an effective means to continuously deepen teacher instruction and guide students to actively participate in classroom activities. In English reading teaching, teachers can promote students to deeply explore the content of reading discourse through classroom questioning, and students can actively analyze the discourse theme, closely follow the main line of the discourse, clarify the logic of the discourse, and promote the development of their higher-order thinking quality and comprehensive English ability through participating in classroom Q&A. The design of a reading class,

whether presented in the form of tasks or activities, is essentially the design of questions. Teaching practice has proven that not all classroom questioning can achieve the expected goals; only those optimized classroom questions can yield good results (Li Chunyu, Zhang Xudong, 1996). Question posing has long been considered a crucial intellectual activity, with the value of achieving fairness and maximization of learning opportunities, promoting and reflecting students' understanding of knowledge, improving students' problem-solving abilities, stimulating students' creativity, and promoting the development of students' non-cognitive abilities (Chen Ting & Li Lan, 2024).

In the process of reading teaching, English teachers must adhere to the cultivation of students' core competencies in the English discipline as the starting point and the foothold, improve students' higher-order thinking quality, strive to build an English reading classroom with breadth and warmth, make full use of teaching tools, improve teaching methods, and enrich the educational practice of moral education (Li Mingyuan & Peng Huaqing, 2016). High school English reading teaching aimed at cultivating core competencies requires teachers to establish a sense of questioning, propose effective classroom questions around the content of reading discourse, guide English learning activities through questions, thereby stimulating students' enthusiasm for reading, and conducting in-depth reading exploration. However, in actual English teaching, the questions designed by teachers often detach from the context, real life, and have strong isolation; there is a lack of logic and a lack of hierarchy when designing questions, which neither guides students to think deeply nor meets students' real needs. As a teaching tool that runs through the reading classroom, the question chain associates the fragmented, single, and mechanized classroom questions in terms of content and structure, forming a logical and hierarchical chain of thinking about questions, guiding students to gradually analyze the deep relationships between discourse knowledge, which is conducive to the construction

of students' structured knowledge and the cultivation of higher-order thinking abilities. Therefore, when designing questions, teachers should deeply consider the connections between various questions, design questions with hierarchy, logic, and purpose, construct different types of question chains, and serve the teaching content to help achieve teaching goals, in order to improve students' core competencies in the English discipline (Liu Honggang, Gao Xianshang, 2023).

2. Related Research of Question Chain

In foreign research, Barr & Johnson (1991) were the pioneers in introducing the concept of question chains, positing that question chains consist of a series of consecutive questions posed by teachers to students regarding specific concepts. Perdikaris (1992) proposed that question chains represent a progression from comprehension questions to those that engage higher-order thinking. Zhang & Chu (2016) regarded question chains as a sequence of systematic and interconnected questions aimed at enhancing students' problem-solving abilities. Scholars such as Yu (2019) view question chains as a problem-oriented instructional design that emphasizes the construction of students' knowledge systems.

Domestically, Wang Houxiong (2010) considered question chains as a set of teaching questions that teachers convert from textbook knowledge into a series of distinct, systematic questions, based on students' existing knowledge or experience, to address potential confusions that may arise during the learning process. These questions are centered, sequential, relatively independent, yet interrelated. Pei Song (2011) emphasized that question chains typically consist of more than three questions, which exhibit a progressive and interlocking relationship. Wang Jianqiang (2015) identified question chains as a classroom questioning method that is anchored by problems and centered on the development of students' knowledge and thinking abilities.

Regarding the study of question chains in reading instruction, foreign scholar Barbara (1992) believed that question chains in text teaching guide students from shallow reading to deep reading, ultimately aiming at the students' understanding and application of specific concepts within the text. Christine Chin (2008) posits that formulating questions which stimulate students' creative thinking is not a straightforward task. Firstly, educators must possess a profound understanding of the subject matter, assisting students in integrating disparate concepts into an interrelated conceptual framework, rather than presenting them as isolated facts. Secondly, teachers must demonstrate pedagogical acumen in progressively constructing and sequencing appropriate questions based on preceding inquiries. Thirdly, instructors should employ a sequence of questions for teaching, ensuring the collaboration of students. Marzano & Simms (2014) proposed that question chains in reading instruction are composed of a series of questions that reflect the progressive cognitive levels of students and direct them to delve deeper into the text content.

In domestic research, scholar Zhao Yuling (2012) considered question chains as a strategy that transforms foundational knowledge from textbooks into specific questions to capture students' attention and stimulate their thinking, aiding in the realization of knowledge problematization in teaching design. Adhering to the three-tiered framework of the English learning activity view,

namely "learning to understand," "applying to practice," and "transferring to innovate," classroom activities centered around question chains are sequentially conducted across these three tiers, progressing step by step. This approach further refines and cultivates students' thinking qualities and practical abilities, enhances their cognitive caliber, and promotes a steady progression from lower-order to higher-order thinking, thereby achieving effective reading instruction (Xu Dan, 2020; Jiang Xia, Chen Jun, 2022). He AiJing and Zheng YiJing (2021), in their study on question chain design in junior high school English picture book teaching aimed at improving reading ability, pointed out that question chains in English reading instruction are a teaching tool that guides students to understand text content progressively from superficial to deep, constructing text meaning. Chen Qifeng (2021) regarded question chains as an effective teaching strategy and method to promote deep reading.

However, the majority of current research primarily focuses on the types, design principles, and strategies of question chains, with related disciplines mainly concentrated in the fields of mathematics, chemistry, and other science and engineering subjects. The application of question chains in English reading instruction has developed relatively late and is less common, with most studies concentrating on the junior high school English segment. Based on this, the present study addresses the design of question chains in reading instruction for the high school English segment, providing a reference for future research on question chains and their practical application in high school teaching.

In this study, question chains in English reading instruction are defined as a series of interconnected, logical, and hierarchical classroom questions designed by teachers after in-depth analysis of reading texts, aimed at facilitating deep reading and cultivating students' core competencies.

3. Existing Problems of Question Chains Design in High School English Reading Teaching

(1) Question Chain Design Not Student-Centric

When designing question chains, some educators often overlook the psychological characteristics and actual abilities of students at this age group, leading to the creation of question chains that are either overly simplistic or excessively complex, and at times, even constitute ineffective questioning. Such practices can result in students experiencing a strong sense of frustration during reading classes, ultimately leading to reduced efficiency in reading instruction (Yang Pingping, 2017). Occasionally, teachers design questions that are too simple, failing to provide students with effective cognitive exercise. Questions that are overly simplistic can foster a complacent attitude among students, while those that are overly complex can increase their anxiety (Jiang Yonggui, 2014). Questions that are too easy or pertain to already familiar knowledge content do not require thought for students to know the correct answers, which is detrimental to the development of students' thinking abilities. Although some questions may have a certain level of difficulty, due to technical factors in their design, students can reproduce the correct answers by simply copying from textbooks or mimicking examples without understanding; questions that are too difficult, straying far from students' zones of proximal development, leave students unsure of how to think and

unable to effectively participate in classroom activities. If teachers' questions exceed the cognitive level of students, it can lead to students being at a loss for words, unable to articulate their thoughts, or even resisting to answer due to a lack of relevant experience (Wu Ying, 2019).

Furthermore, when designing question chains, teachers' questions fail to effectively connect with real-life situations, being too confined to textbook content and not linking with students' life experiences, which can also lead to a lack of motivation to learn. Therefore, when designing question chains, teachers should associate them with real-life scenarios, starting from students' actual lives, which helps students connect classroom content with practical life, enhancing the practicality and interest of learning. If question chains are completely disconnected from life contexts, students may struggle to understand the significance of the learning content. For instance, when teaching about safety precautions, a teacher might ask students what to pay attention to when taking an airplane. The answers could include turning off mobile phones or not leaving one's seat during takeoff, but such questions can be difficult for students who have never flown, leading to a loss of motivation to learn.

(2) Question Chain Design Lack of Hierarchical Structure

In English reading instruction, questions should be interlinked, progressing from simple to complex, from easy to difficult, and from the known to the unknown, with gradually increasing levels of difficulty to align with the cognitive development of students. The design of question chains aims to guide students from the level of information extraction to the level of text evaluation and cognitive enhancement (Wang Qihong, 2019). However, most teachers, in the process of interpreting texts, focus only on the superficial information conveyed by the content and neglect the logical relationships and emotional threads between textual elements, resulting in questions that have no connection with each other (Zhang Huimin, 2018). This leads to students' inability to understand the deep connotations of the text, affecting their overall grasp of the material and hindering the development of their thinking from lower-order to higher-order skills. The design of question chains should be based on the text content to set questions of different levels to cultivate students' analytical, evaluative, and innovative thinking abilities. Question chains lacking in hierarchy focus only on students' basic cognition and neglect the cultivation of students' transferable and innovative thinking skills.

The depth of teachers' interpretation of the text determines the height of teaching and the depth of students' thinking (Song Jieqing, 2020). In actual teaching, some teachers often focus on the detailed analysis of the text, thereby neglecting to set up question chains from the main thread of the article. As a result, the designed question chains lack progression and clear hierarchy, making it difficult for students to think deeply in an orderly manner and preventing them from fully and comprehensively understanding the text content. The core of question chain design is to follow an order that goes from simple to complex and from easy to difficult, which can help students gradually overcome learning difficulties. If question chains lack hierarchy, students may feel confused or at a loss, affecting learning outcomes and leading to a deficiency in students' overall reading and comprehension abilities.

Xu Huijia (2024) found through current status research that teachers all indicated that they pay attention to the hierarchical progression and logical relationships between questions when designing question chains and generally

recognize the importance of hierarchy and logic in question chains. Despite this, in actual teaching practice, teachers achieve a higher degree of logic and context, consciously focusing on whether the question design is related to the thematic context of the discourse and whether there is an internal logical relationship between questions. However, the degree of achievement in terms of hierarchy is not high, with the main focus still on lower-order thinking levels. Although most teachers mentioned that questions in question chains need to progress layer by layer, when asked whether they consider the cognitive level of the questions carefully, most teachers indicated that they pay less attention. Additionally, some teachers' understanding of hierarchy and logic is still not clear enough.

(3) Question Chain Design Deviating from Text Topics

The degree of grasp of textual topic content is key to the success or failure of teachers' classroom instruction. Analyzing, summarizing, and practicing language points through paragraph and section expansion techniques centered on textual topics can achieve twice the result with half the effort in terms of developing students' solid language skills, good reading habits, and training students' thinking. Therefore, to avoid blindness in teaching, teachers must set effective question chains based on a deep understanding of the text, focusing on teaching objectives and revolving around textual topics (Yang Pingping, 2017). Clearly directed question chains designed around textual themes can make students' information sorting during reading more accurate, their thinking activities more rigorous, and their language expression more precise. However, in actual teaching, some teachers' question chains have unclear directions and deviate from the textual theme (Tang Mingxia, 2016). Some teachers, when constructing question chains, focus solely on the quantity of questions, approaching the task in a rather arbitrary manner without considering the precision required, thus deviating from the textual topic (Liu Honggang, Gao Xianshang, 2023). This can lead to phenomena such as questions straying from the main theme, loss of focus, and a lack of depth. For instance, some educators concentrate only on asking questions about factual information, neglecting the design of questions that could enhance students' cognitive abilities.

Mainline teaching promotes the integration of reading instruction. Any discourse is a whole, with sentences and paragraphs closely connected, reflecting the author's line of thought. Teachers can use this connection to design questions, making the relationship between questions closer (Pei Song, 2011). When the design of question chains deviates from the textual topics, teaching activities tend to stray from the predetermined instructional objectives. Consequently, teachers are unable to guide students in a deep comprehension and analysis of the textual content, which in turn fails to effectively hone students' thinking abilities. The design of question chains should lead students to understand the text from a superficial level to a deeper one. Designs of question chains that detach from textual topics may prevent students from forming a systematic understanding of the textual content, thereby affecting the development of their reading comprehension and thinking skills.

In actual teaching, teachers often focus on details and neglect to set up question chains from the main thread of the article, leading to a lack of overall reading and understanding of the text among students. If students do not achieve an understanding of the basic content, they cannot apply or

transfer it. Xu Huijia (2024) also found through current status research that in actual classrooms, teachers' exploration of thematic meanings is not deep enough, and question chains mostly stay at the level of obtaining and summarizing superficial information from the text. This also results in question chains being unable to further help students develop critical and creative thinking and improve the quality of thinking.

4. Strategies for Designing Question Chains in English Reading Instruction

(1) Enhancing Question Chain Design Awareness with a Student-Centered Approach

In the educational process, teachers should consistently affirm the primary status of students and fully leverage their proactivity and enthusiasm in the learning process. Students are the main subjects of classroom instruction, and it is imperative for teachers to relinquish classroom control back to the students. By taking into account the pre-existing cognition and thinking characteristics of students, and by clarifying the purpose of questioning and the cognitive complexity of the questions, teachers can design appropriate question chains. Such question chains can assist students in connecting with prior knowledge, acquiring new knowledge, actively participating in classroom activities, and fostering their own proactive development (Tang Mingxia, 2016).

During the process of discourse analysis, teachers must consistently acknowledge the centrality of the student's role, ensuring that the depth of discourse interpretation aligns with the cognitive level of the students. Moreover, teachers should effectively fulfill a scaffolding role, enabling students to achieve both shallow understanding and deep comprehension of the discourse under their guidance. Concurrently, teachers must be attentive to students of varying proficiency levels, respecting their individual differences. Consequently, the question chains designed by teachers should encompass questions targeting the superficial meanings of the discourse, as well as questions that facilitate deep understanding and inspire critical thinking. In other words, the question chains crafted by teachers should include not only straightforward factual questions but also evaluative and appreciative questions that challenge students to engage with the material on a deeper level. During the English teaching process, educators should implement the perspective of English learning activities, respecting the primary status of students and ensuring their genuine participation in learning activities. Consequently, when designing question chains, teachers must consider students' cognitive levels, acceptance capabilities, and educational objectives (Liu Honggang, Gao Xianshang, 2023). Teachers should integrate teaching objectives and take into full consideration the age characteristics and cognitive levels of students, constructing "steps" between the students' current level and the level required for the reading content. They should meticulously design question clusters that align with the students' zone of proximal development, guiding students to understand the text from the surface to the depth.

The design of question chains should not be based solely on teaching objectives; it also needs to consider students' cognitive levels. Within a class, students' cognitive levels will inevitably vary. If the question chains designed by teachers are either too difficult or too simple, they will not help students improve their thinking qualities. Teachers should

construct question chains that adhere to logical sequences and align with the cognitive patterns of students, ensuring that students at all levels can reach the "fruit" within their zone of proximal development by making a leap. In this way, students will develop a strong desire to express themselves, laying an affective foundation for the development of their thinking qualities. If teachers' questions exceed the cognitive level of students, it may lead to students being at a loss for words, unable to articulate their thoughts, or even resisting to answer due to a lack of relevant experience (Wu Ying, 2019).

Therefore, first and foremost, when designing the questions within a question chain, teachers must consider whether the cognitive levels of these questions can cater to students with different cognitive levels in the class. They should design questions purposefully, introducing more higher-order thinking questions consciously for students with higher cognitive levels to promote their thinking and creativity. Conversely, for students with lower cognitive levels, simpler questions can be provided to encourage participation and increase their opportunities to solve problems. Educators possess distinct teaching styles, and the cognitive levels and thinking abilities of the students they instruct vary widely. Merely applying theoretical frameworks in a cursory manner to one's teaching design is insufficient to craft question chains that effectively enhance students' thinking qualities. Teachers should build upon theoretical foundations, continually refine their practices, and engage in timely reflection to develop question chains that align with their teaching styles and the actual needs of their students. For instance, educators might employ mind mapping techniques to assist students in better comprehending the logical relationships within the question chain; or they could use feedback from students during instructional practice to appropriately augment the design of sub-questions within the question chain or adjust the design of higher-order thinking questions.

For instance, in the reading instruction of "People of Achievement" in Unit 1 of Book 4 of the People's Education Edition, the following reading questions are designed during the reading introduction phase:

Q1: Can you figure out who this child is? (Tu Youyou)

Q2: Do you know anything about her? (Win the Physiology or Medicine Nobel Prize)

Q3: What did she do to win the prize?

Q4: If you were a journalist, what kind of questions would you ask about?

The text utilized in this lesson, titled "Tu Youyou Awarded the Nobel Prize," is a thematic report centered on the discovery of artemisinin by Tu Youyou and her subsequent receipt of the Nobel Prize. The article delineates the outstanding contributions made by Tu Youyou as an illustrious figure of her time, marking her as a person of significant achievement. In this particular lesson, the students possess a relatively solid foundation in English, yet they have had minimal exposure to vocabulary within the domain of pharmaceutical science and research.

Through the design of this question chain, teachers can activate students' pre-existing knowledge of Tu Youyou and introduce key vocabulary for this lesson. Students are encouraged to ask questions from their own perspective and predict the content of the following text. In this way, teachers can effectively inspire and guide students, enhance their thinking, strengthen their information processing abilities, and immerse students in the text. Such design not only aligns with students' cognitive levels but also caters to students with

different thinking levels in the class, fostering their creative abilities, demonstrating the advantages of question chain design, and achieving the goals of reading instruction.

Enhancing the Logical Coherence of Question Chain Design to Achieve Progressive Development

A question chain is a series of meticulously crafted questions that require the integration of various factors, including teaching objectives, content, focal points and difficulties, students' cognitive levels, and teaching context. The structure should exhibit progressive development and logical coherence. The design of questions should not only revolve around the text's theme and main thread, identifying the entry point, but also ensure logical connections between questions. A question chain should reflect clear linkages and rigorous teaching thinking; it should be an orderly set of questions, an organic connection of a series of questions, often involving hierarchical, causal, parallel, and progressive relationships. These intrinsic connections are what make the question chain interlocking and progressively advancing. Teachers, when designing questions, must fully consider the internal connections between questions to guide students in understanding the text content in an orderly manner, thereby perceiving and using language, analyzing, and evaluating the author's writing intentions and emotional attitudes.

Therefore, to design an effective question chain, teachers need to deeply interpret the text before class, clarify teaching objectives and focal points and difficulties, and on this basis, ingeniously design a series of questions that progress from simple to complex and from easy to challenging to help cultivate students' thinking qualities. Classroom questioning should not be scattered and arbitrary but should form a logical and hierarchical question chain based on the characteristics of the text and students' thinking, cognition, and learning levels. Teachers must engage in thorough textbook development and in-depth interpretation of discourse to ensure the hierarchy, logic, and depth of the question chain (Wu Ying, 2019). This requires teachers to transform their teaching concepts when designing reading questions, not merely thinking about them or relying on experience, but strictly following the requirements of the curriculum standards, carefully writing down their question designs, and analyzing and verifying whether there is a hierarchical and internal logical connection between these questions, whether they can help students build scaffolding for answering higher-order thinking questions and completing higher-order thinking learning activities, thereby forming a series of text-based question chains that help students enhance their thinking qualities. Additionally, teachers need to pay attention to whether the questions in the question chain can cover cognitive levels from lower to higher, balancing and optimizing the distribution of questions at different cognitive levels to avoid an overabundance of questions at a single level. For older students, teachers should reduce questions about literal comprehension of the text and increase the focus and design of questions related to analysis, evaluation, and creative cognitive levels.

Furthermore, when designing question chains, teachers must also pay attention to the cognitive levels included in the questions. Although questions at the memory and comprehension levels are the foundation for higher-order thinking, the design of questions at the evaluation and creation levels should not be neglected; otherwise, students' thinking qualities will not be deeply and comprehensively cultivated. Moreover, when teachers find that most students in the class have difficulty answering higher-order thinking

questions, they should not simply reduce the number of such questions but reflect on whether the design of sub-questions in the question chain effectively helps students build scaffolding towards higher-order thinking. If not, improvements should be made. Teachers can also use classroom feedback such as follow-up questions and guidance to timely lead students' thinking deeper and aid in enhancing their thinking qualities.

For example, in the reading teaching of "People of Achievement" in Unit 1 of Book 4 of the People's Education Edition, the following reading questions are designed during the reading text phase:

Q1: Who is Tu?

Q2: What did she do to win the Prize?

Q3: Why did she try to find artemisinin?

Q4: How did she discover artemisinin?

Q5: What is the significance of finding artemisinin?

Q6: What kind of person is she?

In this part of the question chain design, students first obtain information about Tu Youyou's identity through reading the text, followed by information about her discovery of artemisinin. The first question sets the stage for the second. In the third question, students learn about Tu Youyou's initial motivation for discovering artemisinin through the text, then transition to the process of her discovery, and subsequently are guided to understand the significance of her discovery. Finally, students are asked to summarize Tu Youyou's personal qualities. The design of the first five questions paves the way for the last, gradually increasing in difficulty, from simple extraction of text information to summarization and reflection. The entire question chain design is progressive, with clear linkages between questions, interlocking at every step. In this process, teachers can guide students to understand the text orderly, acquire information, and think, giving students a clear understanding of the overall text information. While mastering the content and meaning of the article, students also cultivate their thinking qualities, guiding them step by step from lower-order thinking to higher-order thinking, and comprehensively and deeply cultivating students, demonstrating the advantages of question chain design.

(2) Enhancing the Topicality of Question Chain Design to Closely Align with Text Themes

The degree of grasp of textual thematic content is crucial to the success or failure of classroom teaching. The design of questions that explicitly target text themes and highlight the key points and difficulties of the text plays a vital role in reading instruction. Only by accurately understanding the text theme can the main contradictions in teaching be grasped, leading to the design of clearly targeted question chains that enable students to understand text content by drawing analogies and deeply excavate the connotations of the text. Discourse serves as the vehicle for implementing reading instruction, and the in-depth study of discourse is a prerequisite for conducting reading lessons, as well as an essential component in achieving the goal of cultivating students' core competencies. Furthermore, the close examination of discourse can assist students in comprehending the overall structure of a text and draw their attention to significant vocabulary, phrases, and complex sentences within the text, thereby enhancing their language proficiency and learning capabilities. When engaging in the study of discourse, teachers can preemptively investigate relevant background knowledge and understand the origins of

the discourse. They should then grasp the internal logical relationships of the discourse holistically to render the content more organized, followed by constructing a framework system for the discourse to master the techniques of article composition.

Teachers should base their teaching objectives on a deep interpretation of the text, accurately grasping the article's intent and structure, to design a set of targeted and heuristic questions that explicitly point to the text theme, avoiding the aimlessness in teaching (Tang Mingxia, 2016). Analyzing, summarizing, and practicing language points through paragraph and section expansion techniques centered on textual topics can achieve twice the result with half the effort in terms of developing students' solid language skills, good reading habits, and training students' thinking. It is evident that teachers must set effective question chains based on a deep understanding of the text and in line with teaching objectives, revolving around textual topics (Yang Pingping, 2017). Teachers should delve into the discourse during lesson preparation, discuss the introductory materials, key texts, and post-class exercises provided in the discourse, and selectively utilize them to explore the deep meanings of the discourse, making the most of the textbook content to carefully design question chains with various characteristics such as introductory, exploratory, and transferable, aiding students in achieving a deep understanding of the text (Liu Honggang, Gao Xianshang, 2023).

When designing question chains, teachers can employ various means to closely align the chains with the topic. First, before designing question chains, teachers need to conduct an in-depth analysis of the text, identifying the text's themes, main ideas, key information, and deep meanings, and determining the core viewpoints and author's intentions, as well as key vocabulary and concepts within the text. Only after teachers have a profound understanding of the text information and themes can they design question chains that are closely related to the theme. Moreover, teachers should clarify teaching objectives based on curriculum standards and students' actual levels, ensuring that the design of question chains can achieve these objectives. Teaching objectives should also match the text's theme, ensuring that question chains revolve around these core points. After establishing teaching objectives, construct a question framework based on the text's theme, ensuring that each question is directly related to these core points. In addition, teachers can design various types of questions, including factual, interpretive, analytical, evaluative, and creative questions, to cover the text's core points and ensure that these questions can stimulate students to think about the text from different perspectives, promoting a deep understanding of the text. Anticipating possible student responses and reactions is also an excellent measure; teachers can prepare in advance, devising corresponding guidance and feedback to help students maintain focus on the text theme during discussions, ensuring that questions guide students to delve into the text theme.

In actual teaching, teachers need to adjust the question chain in a timely manner according to student feedback and performance, ensuring the close relevance of questions to the text theme. Since various situations may arise in the classroom, teaching may deviate from the text theme if not careful. Therefore, if teachers find that certain questions have deviated from the text theme, they should promptly correct or redesign the questions to bring students' attention and overall teaching content back to the text. Teachers can also encourage

students to participate in the question design process, allowing them to propose questions related to the text theme, as mentioned earlier with "If you were a journalist, what kind of questions would you ask about?" Such questions not only increase student participation and understanding of the text theme but also expand students' thinking and cultivate their creativity.

For example, in the reading instruction of "People of Achievement" in Unit 1 of Book 4 of the People's Education Edition, the following reading questions are designed during the reading transfer and innovation phase:

Q1: Can you point out some of the other qualities that she has?

Q2: What role did she play in the team?

Q3: From your perspective, what kind of person is Tu?

Q4: What is your understanding of achievement, value, and success?

These four questions are designed for the classroom's transfer and innovation phase, which is also the phase where it is easiest to deviate from the theme during question chain design. It can be seen that questions one and two are still designed based on the text content and lay the groundwork for question three. Students first understand some of Tu Youyou's personal characteristics and her influence in the team, which leads to their own contemplation, narrating what kind of person Tu Youyou is from their own understanding. After these three questions, the theme is sublimated by asking students about their understanding of personal achievement. Here, the teacher's understanding of the core viewpoints and the author's intentions is very thorough, achieving a deep understanding of the text while going beyond it, exploring the deep meanings of the text, and making the most of discourse knowledge. This not only allows students to have a deep understanding and reflection on the text content but also enhances their reading and thinking skills, demonstrating the advantages of question chain design.

5. Conclusion

Question chain design, as one of the methods in English reading instruction, plays an amplified role in classroom teaching design. It not only enhances classroom efficiency but also fosters a deep understanding of the reading materials among students. Teachers should be fully aware of the importance of question chains and elevate their consciousness in designing question chains within reading classrooms. This implies that teachers need to recognize the central role of question chains in guiding student thinking, stimulating student interest, and increasing student engagement.

When designing question chains, teachers should base their approach on the actual situation of students, meticulously crafting question chains that align with students' cognitive patterns, with students as the main subjects. This requires teachers to have an in-depth understanding of students' prior knowledge, cognitive levels, and learning styles to ensure that the question chains can effectively stimulate students' thinking and participation. Teachers should avoid a one-size-fits-all approach and instead adjust question chains individually to meet the needs of different students. The design of question chains should aim to guide students from superficial reading to deep reading, encouraging them to ask questions, explore answers, and develop critical and creative thinking in the process. Concurrently, teachers should enhance the logical coherence of question chain design, ensuring that each question is logically connected, forming a

coherent pathway of thought that helps students gradually construct their knowledge systems. Lastly, teachers need to enhance the topicality of question chain design, deeply interpreting the text and closely adhering to the text's themes. Question design should be closely related to the core content and themes of the text, not straying from the text for the sake of asking questions. Teachers should delve into the deeper meanings of the text when designing questions to ensure that the question chain remains consistent with the text's themes and core ideas.

Of course, question chains are not solely predetermined by teachers. Although the importance of pre-class question design cannot be overlooked, valuable questions that emerge during teaching are also an effective supplement to question chains. Teachers should handle these flexibly according to the actual classroom situation to make classroom teaching more effective. Teachers need to possess keen observational skills and adaptability, being able to adjust the question chain in a timely manner based on student feedback and classroom dynamics to maintain the relevance and appeal of teaching.

Furthermore, teachers should note that in the design of question chains for English reading classes, it is not simply about having students answer and solve a series of questions, but rather about cultivating students' reading and thinking skills on this basis. We must fully leverage the effectiveness of question chains to comprehensively develop students' abilities. Through carefully designed question chains, teachers can guide students to delve into the text, developing their analytical, evaluative, and innovative capabilities, thereby achieving more comprehensive teaching objectives in English reading instruction.

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