Education and Social Work
ISSN Print: 3079-515X
ISSN Online: 3079-5168
https://doi.org/10.63313/ESW.9142

Designing Question Chains for High School English Reading under Core Competencies and Bloom's Taxonomy

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How to cite this paper: Xiang, Y. (2026). Designing question chains for high school English reading under core competencies and Bloom's taxonomy. Education and Social Work, 4(3), 56–66. ISSN Print: 3079-515X, ISSN Online: 3079-5168.
https://doi.org/10.63313/ESW.9142
Published: 2026-06-25

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Abstract

This study addresses the tendency toward low-order thinking in the design of question chains in senior high school English reading teaching. Based on the core literacy theory and Bloom's Taxonomy of Educational Objectives, it systematically explores a double-theory-oriented design pathway for question chains. The research initially constructs five empirical strategies, including text-type adaptation, hierarchical construction, and cross-cultural comparison, aiming to transform literacy objectives into operationalizable question chain designs through theoretical integration. Although focusing on the induction of practical experience and having limitations in sample coverage and long-term effect verification, this study expects to provide preliminary references for optimizing question chains in senior high school English reading teaching and explore feasible approaches for implementing core literacy in classroom instruction.

Keywords

Core Competency; Bloom's Taxonomy; Senior High School English Reading; Question Chain Design; Thinking Quality

1. Introduction

From a pedagogical standpoint, the design of question chains in senior high school English reading instruction still requires refinement, particularly in terms of deepening the levels of thinking development. The Senior High School English Curriculum Standards (2017 Edition, Revised in 2020) (hereinafter referred to as "the Standards") explicitly require that reading instruction should "develop students' thinking quality and cultural awareness through tiered question chains." However, empirical studies indicate that low-order cognitive questions remain prevalent in classroom practice. Wang Qiang (2021), based on classroom observations in 15 high schools across China, found that "memory" and "comprehension" questions accounted for 58.7% of all reading lesson questions, while higher-order questions

such as "analysis" and "evaluation" constituted only 21.3%. This finding is consistent with Cui Gang's (2019) conclusion that "question design is primarily oriented toward knowledge reproduction." Such designs struggle to meet the Standards' requirements for cultivating critical thinking, intercultural understanding, and other core competencies. In practice, teachers often face challenges such as "insufficient expertise in designing higher-order questions" and "low efficiency in building individualized progression gradients," and thus urgently need systematic theoretical guidance and empirically grounded practical strategies.

In response, this study integrates the dual theoretical framework of Core Competencies Theory and Bloom's Taxonomy of Educational Objectives to explore pathways and practical experiences for designing question chains in senior high school English reading. Theoretically, the synergy of the two theories can provide a scientific mapping model from "competency objectives to cognitive levels" for question chain design. Practically, through theory-oriented question chain design, tiered gradient construction, and validation via teaching cases, the study aims to develop a strategy system that is both theoretically grounded and operationally feasible, thereby offering practical references for implementing the Standards' requirements.

The full paper follows a logical structure of "theoretical foundation — strategy construction — experience synthesis." It first elaborates on the dual theoretical basis, then summarizes practical strategies, and finally presents operable case templates. This study attempts to provide valuable insights for optimizing question chains in senior high school English reading instruction, with the hope of contributing useful explorations for the classroom implementation of core competencies.

2. Theoretical Foundations and Their Logical Relevance to Question Chain Design

2.1. The Goal-Oriented Mechanism of Core Literacy Theory

Core literacy theory provides a goal framework and value orientation for designing question chains in senior high school English reading instruction. The Standards explicitly define the core competencies of English as comprising four dimensions: language ability, cultural awareness, thinking quality, and learning ability. Among these, thinking quality requires students to develop logical, critical, and innovative thinking through cognitive activities such as analysis, inference, and evaluation, while cultural awareness emphasizes the formation of cultural understanding and value positions through intercultural cognition. This theoretical core requires that question chain design must transcend traditional language knowledge training and shift toward the integrated development of literacy. Zhong Qiquan (2020) points out that the essence of core literacy is "the integration of knowledge, ability, and attitude," and its implementation requires

"transforming abstract literacy objectives into operable teaching actions through structured task chains." In reading instruction, question chains, serving as cognitive scaffolding, must carry the concrete realisation of literacy objectives—that is, through systematic question design, the critical requirements of thinking quality and the comparative demands of cultural awareness are translated into observable cognitive tasks. For example, cultivating cultural awareness requires intercultural comparative questions, while enhancing thinking quality depends on analysis- and evaluation-type questions. This necessitates that question chain design strictly align with literacy objectives and avoid the repetitive piling of low-order cognition.

2.2. The Methodological Support System of Bloom's Taxonomy of Educational Objectives

Bloom's Taxonomy of Educational Objectives provides a scientific framework for constructing the cognitive levels of question chains. Bloom (1956) divided the cognitive domain into six progressively hierarchical levels: remember, understand, apply, analyse, evaluate, and create, where low-order questions (remember/understand) correspond to basic information processing, and high-order questions (analyse/evaluate/create) drive deep thinking activities. The revised version by Anderson et al. (2001) further emphasises the dynamic integration of cognitive process dimensions and knowledge types, proposing that "question design should simultaneously attend to cognitive operation dimensions (e.g., analyse, evaluate) and knowledge type dimensions (e.g., conceptual knowledge, metacognitive knowledge)."

This taxonomic system provides methodological grounds for the tiered design of question chains in three aspects. First, hierarchical progression: a question chain should follow the cognitive ladder from information retrieval (remember/understand) to textual deconstruction (analyse), value judgement (evaluate), and then to creative transfer (create). Second, proportion of higher-order thinking: to meet the Standards' requirements for thinking quality, higher-order questions (analyse/evaluate/create) should account for no less than 70% of the question chain to ensure cognitive depth. Third, integration of knowledge types: the knowledge types proposed in Anderson's revision—conceptual knowledge (e.g., cultural concepts), procedural knowledge (e.g., analytical strategies), and metacognitive knowledge (e.g., thinking monitoring)—should be matched with the cognitive levels of questions, ensuring that the question chain balances knowledge depth and thinking breadth. Empirical studies by Cui Gang (2019) show that Bloom's framework effectively diagnoses the cognitive orientation of question chains, and its hierarchical structure exactly compensates for the "vagueness of cognitive pathways" in the implementation of core literacy.

2.3. Synergistic Logic of Dual-Theory Integration and Question Chain Optimisation

The integration of core literacy and Bloom's Taxonomy forms a dialectical unity of "objectives and methods," offering a theoretical loop for question chain design. Recent research indicates that the integration of the two theories needs to further connect "value-position construction" (Wang Xiurong, 2025) and "interdisciplinary cognitive pathways" (Li Junfan et al., 2025). For instance, Wang Xiurong proposes that cultural awareness objectives should be transformed through question chains into a six-dimensional value stance encompassing "critical thinking, ecological civilisation, and patriotic sentiment"; Li et al. verified that questions involving historical-context reconstruction can reinforce analytical and evaluative cognitive tasks, providing interdisciplinary empirical support for the dual-theory framework.

A correspondence should be established between the dimensions of core literacy and Bloom's cognitive levels. For example, thinking quality relies primarily on the analyse level (deconstructing textual logic), the evaluate level (critiquing the validity of viewpoints), and the create level (innovative expression); cultural awareness is realised through the evaluate level (cross-cultural comparison) and the create level (cultural reconstruction). This mapping ensures that each node of the question chain precisely targets specific literacy objectives. Moreover, through a dynamic model of "literacy objective setting → Bloom level matching → question chain implementation → literacy outcome feedback," the question chain becomes a converter for grounding literacy. For instance, when the objective is "critical thinking," it should be matched with evaluate-level questions, following a cognitive procedure of "standard setting → evidence analysis → value judgement" to concretise the objective. This requires teachers, in designing question chains, to adhere to a knowledge-integration mechanism: the knowledge dimensions in Bloom's Taxonomy (conceptual, procedural, metacognitive) correspond to language ability (conceptual), thinking quality (procedural), and learning ability (metacognitive) in core literacy. Such integration demands that question chain design simultaneously consider "cognitive operations" and "knowledge types," avoiding the separation of thinking training from knowledge acquisition.

3. Practical Experiences in Designing Question Chains

3.1. Experience in Text-Type-Based Adaptive Design with Dual Theories

Text-type-based adaptive design with dual theories refers to dynamically matching core literacy objectives with the cognitive levels of Bloom's Taxonomy according to the genre characteristics of different text types—such as narratives, argumentative essays, and expository texts—so as to construct targeted question-chain design strategies. Reading instruction should design question

chains based on textual features to guide students in understanding the deep meaning and cultural value of texts, emphasising the relevance between text type and question-chain design. The theoretical core of Bloom's Taxonomy, which calls for "linking content with cognitive levels," provides scientific methodological support for this relevance.

Specifically, narrative texts focus on cultivating students' "thinking quality," especially literary image interpretation and critical thinking, which can be aligned with the analyse level (textual deconstruction) and the create level (plot reconstruction) in Bloom's Taxonomy. Narratives centre on storytelling, and their question-chain design should follow an interpretive path from "linguistic form" to "literary imagery" to "cultural metaphor," guiding students to progress from textual details to critical reflection on thematic ideas. Argumentative texts, on the other hand, place greater emphasis on "cultural awareness," requiring students to develop correct values and critical thinking through logical analysis and cross-cultural comparison of viewpoints—this closely matches the evaluate level (logical analysis) and the create level (innovation in perspectives). For the question-chain path of "identifying arguments → deconstructing logic → evaluating values" in argumentative texts, one may incorporate the transfer-and-innovation activity templates designed by Xu Wenlu (2023): for example, using the topic "comparing contemporary consumerism with Mathilde's vanity in The Necklace" to design an evaluate-level question such as "From a historical perspective, what are the social causes of vanity?" thereby promoting the synergistic development of cultural awareness and thinking quality.

Taking the high school English reading text The Great Gatsby as an example, the dual-theory-oriented question-chain design focuses on integrating narrative genre features with core literacy cultivation. Based on the critical interpretation requirement of "thinking quality" in core literacy, and combined with the cognitive gradients of the analyse and create levels in Bloom's Taxonomy, the following question chain is constructed. First, students are guided to analyse the symbolic meaning of the "green light" imagery in the text, with follow-up questions such as "How does the author construct the metaphorical connotation of the green light through detailed descriptions of party scenes (e.g., colour vocabulary, environmental atmosphere)?" This prompts students to deconstruct the relationship between narrative techniques and thematic expression, corresponding to the analyse level of Bloom's Taxonomy and aiming to develop students' analytical ability regarding literary imagery. Subsequently, to achieve cognitive progression from text comprehension to real-world transfer, a create-level question is designed: "If Gatsby's story of pursuing dreams were set in contemporary China's digital society, what new cultural symbols (e.g., social media, virtual consumption scenes) might the author use to reconstruct the theme of 'dream and reality'? Please write a continuation that reflects

contemporary characteristics." This question requires students to engage in innovative expression based on their understanding of the original work's symbolic techniques, corresponding to the innovative cultivation objective of thinking quality in core literacy.

3.2. Experience in Constructing "Three Tiers and Nine Dimensions" Tiered Question Chains

The "three tiers and nine dimensions" tiered question-chain construction strategy cross-integrates the four dimensions of core literacy with the six cognitive levels of Bloom's Taxonomy, forming a gradient question-design framework of "foundation tier → progression tier → innovation tier." The foundation tier covers the cognitive levels of remember and understand, focusing on language ability development; the progression tier includes analyse and evaluate, concentrating on thinking quality enhancement; and the innovation tier corresponds to the create level, embedding cultural awareness cultivation.

In concrete practice, foundation-tier questions should serve the accurate retrieval of textual information, such as vocabulary semantic discrimination and plot detail sorting; progression-tier questions should promote deep deconstruction of textual meaning, such as narrative logic analysis and evaluation of viewpoint validity; and innovation-tier questions should guide knowledge transfer and application, such as cross-cultural comparison and real-life scenario reconstruction. Liu Rude (2018), in an empirical study, points out: "Tiered question chains can effectively reduce the cognitive load of cultivating higher-order thinking, enabling students to achieve progressive thinking development through graded tasks." By clarifying the literacy orientation and cognitive requirements of each tier, this strategy avoids the blindness of question-chain design and provides an operable pathway for implementing core literacy in the classroom.

Liu Xi's (2025) in-depth reading case demonstrates that when higher-order questions (analyse/evaluate/create) account for ≥70% of the question chain, students' thinking-quality achievement rate increases by 26%. Taking the high school English reading text The Old Man and the Sea as an example, a question chain designed under the "three tiers and nine dimensions" framework is as follows. The foundation-tier questions focus on language ability, e.g., "What verbs are used to describe Santiago's fight with the sharks? How do these verbs reflect the intensity of the struggle?"—guiding students to grasp textual details through verb analysis. The progression-tier questions emphasise thinking quality, e.g., "Hemingway repeatedly describes the 'old man's fight with the sharks.' How does this narrative technique deconstruct the traditional connotation of 'tough-guy spirit'?"—prompting students to analyse the relationship between narrative strategies and thematic expression, corresponding to Bloom's analyse level. The

innovation-tier questions embed cultural awareness, e.g., "If you were to continue the story with the theme of 'marine ecological protection,' what plot designs would you use to reflect Santiago's modern spirit?"—requiring students to connect the original spirit with contemporary reality, corresponding to Bloom's create level.

3.3. Experience in Cross-Textual Comparison Oriented toward Cultural Awareness

The cross-textual comparison strategy oriented toward cultural awareness aims to transform the "cultural awareness" objective in English core literacy into cognitive tasks at the evaluate level of Bloom's Taxonomy through comparative analysis of Chinese and Western literary texts. Theoretically, this strategy aligns with Byram's (1997) "intercultural communicative competence model," which emphasises cultivating "critical cultural awareness" through cultural comparison; it also responds to Bloom's requirement that "the evaluate level entails value judgement based on criteria," turning cultural comparison into operational thinking tasks.

The specific implementation pathway consists of three dimensions. First, select Chinese and Western literary texts with similar themes (e.g., tragic fate, heroism, ethical choices) to establish a comparative basis. Second, construct a three-tier question chain of "Text A → Text B → Cultural Values": start with analyse-level questions to deconstruct the cultural connotations of a single text, then use evaluate-level questions to establish cross-cultural comparison dimensions, and finally guide students to distill the value logics underlying cultural differences. Third, design open-ended follow-up questions to prompt students to reflect on their own cultural positions, achieving a literacy progression from "cultural understanding" to "cultural comparison" to "cultural construction." Huang Guowen (2020), in discourse analysis research, points out that cross-cultural comparative question chains can effectively break students' "cultural cognitive stereotypes" and promote the synergistic development of critical thinking and cultural self-awareness. For example, in teaching Western literary works, teachers may compare the tragic love in Romeo and Juliet with that in The Butterfly Lovers, and ask, "Why do Chinese and Western tragedies present different endings—'dying for love' versus 'turning into butterflies'?"—guiding students to conduct in-depth analysis from perspectives such as social systems, religious beliefs, and ethical concepts, thereby concretely cultivating cultural awareness.

Cross-cultural comparison should incorporate a "historical-temporal framework" (Li Junfan et al., 2025). Taking the high school English reading text Hamlet as an example, the cross-cultural comparative question chain constructed under dual theories proceeds as follows. First, an analyse-level question, "What humanist contradictions does Hamlet's 'procrastination' reflect?"—guides students to focus on the character's psychological conflicts and historical background, deconstructing the

intellectual dilemmas of the Renaissance period, and completing an in-depth reading of the single text. Then, it advances to an evaluate-level question: "Compare the 'hero's end' in Records of the Grand Historian with Hamlet's 'procrastination'—what are the underlying differences in Chinese and Western philosophies of fate?" This requires students to compare Hamlet's "self-doubting struggle" with Xiang Yu's "tragic heroism" from dimensions such as "the relationship between the individual and fate," "criteria for moral choice," and "the aesthetics of tragedy." Furthermore, this question chain contrasts the Western humanist perspective on fate in Hamlet with the traditional Chinese concepts of "heavenly mandate" and "honour and disgrace" in Records of the Grand Historian. It not only fulfils the "cultural awareness" cultivation requirement of core literacy but also, through the logical analysis tasks at Bloom's evaluate level, pushes students to form critical cognition through cultural confrontation, achieving a cognitive leap from textual understanding to cultural reflection.

3.4. Experience in Revising Question Chains through Dual-Theory Verification

The "core literacy–Bloom" two-dimensional verification mechanism, oriented toward core literacy cultivation objectives and using Bloom's Taxonomy as a methodological tool, systematically reviews and optimises question chains to transform them from low-order, knowledge-oriented designs to high-order, literacy-oriented ones. The Standards emphasise that instruction should "avoid the simple accumulation of low-order questions and focus on the progressive cultivation of thinking quality and cultural awareness." Theoretically, Biggs and Collis's (1982) SOLO Taxonomy posits that learning should follow a cognitive development path from "prestructural → unistructural → multistructural → relational → extended abstract," which resonates with Bloom's Taxonomy and jointly supports the tiered revision of question chains.

This mechanism follows three main revision principles. First, the upgrading principle for low-order questions: transform memory- or comprehension-level questions (e.g., factual information retrieval) into analyse-, evaluate-, or create-level tasks, moving students from information reproduction to deep thinking. Second, the embedding principle for cultural questions: in textual analyses involving Western culture, incorporate Chinese cultural reference points to strengthen students' cultural awareness through cross-cultural comparison. Third, the principle of reserving open space: ensure that the question chain includes open-ended questions with multiple dimensions of possible thinking, stimulating students' creative thinking. As Wen Qiufang (2021) states in her theoretical research on English teaching, "A well-designed question chain should balance cognitive development patterns with subject-specific core literacy requirements, achieving the unity of knowledge learning and ability cultivation." The dual-theory verification mechanism,

through systematic checks on the question chain's objective positioning, cognitive levels, and cultural dimensions, effectively compensates for the deficiencies of "insufficient thinking depth" and "vague literacy orientation" in traditional designs.

Taking the teaching of Maupassant's short story The Necklace as an example, the traditional question "What are the manifestations of Mathilde's vanity?" merely extracts textual information, belonging to Bloom's comprehension level and corresponding to the language ability dimension of core literacy, focusing on students' recognition and reproduction of textual facts. After revision through dual-theory verification, the question is optimised to: "Compare Mathilde's vanity with the contemporary phenomenon of 'delicate poverty' and, from the perspective of consumerism, evaluate the temporal limitations of her values." This revision achieves a dual advancement: in terms of core literacy dimensions, it moves from "language ability" to "thinking quality," requiring students to apply critical thinking to analyse the connection between text and reality; in terms of Bloom's cognitive levels, it leaps from comprehension to evaluation, prompting students to make value judgements and logical arguments about the character's values based on consumerist theory. By introducing contemporary social phenomena as reference points, the revised question not only deepens students' understanding of the text but also encourages them to combine literary analysis with real-world reflection, effectively achieving the literacy-oriented teaching objectives.

4. Conclusion

This study, grounded in the dual theoretical framework of Core Competencies Theory and Bloom's Taxonomy, has systematically constructed four practical strategies for designing question chains in senior high school English reading instruction. These strategies offer operable pathways for addressing structural issues in current teaching, such as insufficient cultivation of higher-order thinking and limited penetration of cultural awareness. The proposed strategies not only respond to the Standards' requirements for developing thinking quality and cultural awareness, but also transform abstract literacy objectives into concrete teaching practices through the cognitive tools of Bloom's Taxonomy, achieving an organic integration of theoretical guidance and classroom implementation.

Nevertheless, this study has certain limitations. At present, the practical strategies are primarily derived from typical texts in the Foreign Language Teaching and Research Press (FLTRP) textbooks and specific teaching contexts. Systematic empirical data are still lacking regarding the adaptability of these strategies to different textbook editions, the depth of localisation in cross-cultural comparisons, and the application of the dual-theory framework to special text types (e.g., scientific expository texts). Moreover, the effects of question-chain design on promoting students' individualised thinking development have not yet been examined through long-term quantitative research.

Future studies could further expand interdisciplinary question-chain design, deepen the integration of information technology with the dual-theory framework (Zhang Weisu, 2025), or validate the generalisability of these strategies through large-scale empirical research. Nonetheless, the "theory-guided → practice-validated → experience-synthesised" paradigm for question-chain design proposed in this study offers frontline teachers a pathway for transitioning from "knowledge-oriented" to "literacy-oriented" teaching, and holds significant practical reference value for promoting the effective implementation of core competencies in senior high school English reading classrooms.

References

[1] Anderson, L. W., & Krathwohl, D. R. (Eds.). (2001). A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives. Addison Wesley Longman.

[2] Biggs, J. B., & Collis, K. F. (1982). Evaluating the quality of learning: The SOLO taxonomy. Academic Press.

[3] Biggs, J. B. (2003). Teaching for quality learning at university (2nd ed.). Open University Press.

[4] Bloom, B. S. (Ed.). (1956). Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain. David McKay.

[5] Byram, M. (1997). Teaching and assessing intercultural communicative competence. Multilingual Matters.

[6] Cui, G., & Liu, C. (2019). An analysis of cognitive levels of teacher questioning in senior high school English reading classes. Foreign Languages in China, 16(2), 68–75.

[7] Huang, G. W. (2020). Discourse Analysis and Foreign Language Teaching. Foreign Language Teaching and Research Press.

[8] Li, J. F., Chen, Y. S., & Yang, J. Y. (2025). Interdisciplinary English reading teaching practice in senior high schools integrating historical literacy. Foreign Language Teaching in Schools (Middle School Edition), (6), 45–52.

[9] Liu, R. D. (2018). A study on English question design in senior high schools based on Bloom's taxonomy. Journal of the Chinese Society of Education, (11), 78–82.

[10] Liu, X. (2025). Exploring deep reading teaching practice in senior high school English under the guidance of core competencies. Record of the 151st Session of Southern Teaching Research Forum. Guangdong Provincial Institute of Education Research.

[11] Ministry of Education of the People's Republic of China. (2020). Ordinary High School English Curriculum Standards (2017 Edition, Revised in 2020). People's Education Press.

[12] Wang, Q., & Hu, Y. L. (2021). A study on question design for reading teaching in senior high school English oriented by core competencies. Foreign Language World, (3), 42–49.

[13] Wang, X. R. (Research Group). (2025). Practical exploration of promoting English subject education based on core competencies (Final report). Suzhou Institute of Educational Sciences.

[14] Wen, Q. F. (2021). Theoretical construction and practical exploration of English subject core competencies. Foreign Language Teaching and Research, 53(3), 329–342.

[15] Xu, W. L. (2023). High school English reading teaching practice under the guidance of the activity-based view of English learning. Guangxi Education·Edition B, (8), 138–141.

[16] Zhang, W. S. (Research Group). (2025). Research on strategies for large-unit English teaching in senior high schools supported by information technology (Final report). Weinan Basic Education Resource Platform.

[17] Zhong, Q. Q. (2020). Core competencies and curriculum reform. Educational Research, 41(1), 5–12.