

A Study of Representation of Chinese Cultural Elements in Textbooks Based on Multi-modal Discourse Analysis

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ABSTRACT : *Against the background of the core competence of "cultural awareness" proposed in the English Curriculum Standards, this study takes the "Reading and Thinking" sections of the 2019 PEP senior high school compulsory English textbooks as its research object. Drawing on multimodal discourse analysis and integrating analytical frameworks for the content and form of cultural representation, the study uses the corpus analysis tool AntConc to systematically examine how Chinese cultural elements are represented. The findings show that, in terms of cultural content, traditional culture is dominant, whereas modern culture and revolutionary culture are relatively underrepresented. In terms of modes of representation, explicit representation far exceeds implicit representation, and single-culture texts serve as the major vehicle. At the multimodal level, images and texts form an integrated relationship combining referential, pedagogical, and linguistic functions. Through visual grammar, including representational, interactive, and compositional meanings, images effectively supplement and deepen the cultural meanings conveyed by the texts. The study indicates that the textbooks tend to emphasize traditional culture over modern and contemporary culture, and explicit representation over implicit representation.*

KEYWORDS - *multimodal discourse analysis; senior high school English; textbook analysis; cultural elements; cultural representation*

I. INTRODUCTION

With the development of economic globalization, cultivating students' cultural awareness and intercultural communicative awareness has become one of the important goals of educational development. The General High School English Curriculum Standards (2017 Edition, 2025 Revision) (hereafter referred to as the Curriculum Standards) explicitly identify "cultural awareness" as one of the four key components of English disciplinary core competencies. They emphasize that English teaching should help students "deepen their understanding and identification with Chinese culture, cultivate a sense of family-country sentiment, strengthen cultural confidence,

and broaden their international vision" [1]. Cultural confidence is the spiritual foundation of national rejuvenation. In the context of deepening globalization, English education, as an important medium for intercultural communication, should not only cultivate students' international vision but also strengthen their identification with and inheritance of their own national culture[2]. China's senior high school English curriculum reform has consistently kept pace with educational modernization. From *the General High School English Curriculum Standards*, which list cultural awareness as a core competence of the English subject, to the *Compulsory Education English Curriculum Standards (2022 Edition)*[3], which further emphasize the dual cultivation of understanding Chinese and foreign cultures and identifying with excellent cultures, English teaching has undergone a profound transformation from a "language-skills-oriented" model to a "cultural-literacy-oriented" model[2][3]. In this context, textbooks are the core carrier of curriculum reform. The selection and distribution of Chinese cultural elements in textbooks are directly related to the implementation of the goal of cultivating cultural awareness and have therefore become an important issue in current English education research.

The senior high school English Curriculum Standards put forward multi-level and systematic requirements for cultivating cultural awareness. The Curriculum Standards clearly state that the goal of cultural awareness is to enable students to acquire cultural knowledge, understand cultural connotations, compare cultural similarities and differences, absorb the essence of cultures, form sound values and cultural confidence, and develop the ability to engage in intercultural communication and disseminate Chinese culture. Zhang further deconstructs cultural awareness into four dimensions: cultural knowledge, cultural skills, cultural emotion, and cultural behavior[4]. He emphasizes that its core lies in the internalization of cultural character and the appropriate expression of cultural behavior through language learning. This requirement breaks the imbalance in traditional English teaching, which has tended to emphasize target-language culture while neglecting local culture. It requires textbooks to systematically incorporate Chinese cultural elements while presenting the cultures of English-speaking countries, so as to provide students with learning materials for two-way comparison and deeper understanding [5].

For a long time, English teaching in China has tended to emphasize input over output and Western culture over local culture. In the context of the globalization of English, Chinese learners of English should not only "obtain information carried by English" but also "communicate Chinese culture through English"[6]. Jiang later found that, in PEP senior high school English textbooks, the proportion of local cultural content had once been less than half of that of English cultural content[7]. As a result, although students acquired certain English language skills, they found it difficult to appropriately express the core connotations of Chinese culture in English. This lack of cultural output ability not only affects the completeness of intercultural communication but also hinders the cultivation of cultural confidence [8]. The scientific integration of Chinese cultural elements into English textbooks can provide students with practical contexts for interpreting Chinese culture in English, helping them maintain their cultural stance in intercultural communication and realize the communicative goal of "appreciating the beauty of one's own culture while appreciating the beauty of other cultures" [2].

As an important outcome of curriculum reform, the 2019 PEP senior high school English textbooks have made new explorations in the selection and representation of Chinese cultural elements. However, the academic

community has not yet conducted a systematic study of how different types of Chinese cultural elements are distributed across the compulsory and selective compulsory volumes. On this basis, the present study focuses on the following core questions: How are different types of Chinese cultural elements distributed across the volumes of the 2019 PEP senior high school English textbooks, including the compulsory and selective compulsory books? How are these cultural contents realized through verbal texts and visual images? Taking the 2019 PEP textbooks as the research object, this study systematically analyzes the distribution patterns of Chinese cultural elements, enriches empirical research on cultural elements in English textbooks under the orientation of core competencies, and provides theoretical reference for improving the scientificity and rationality of textbook compilation.

II. LITERATURE REVIEW

2.1 Core Concepts

2.1.1 Cultural Awareness

Cultural awareness is an important component of English disciplinary core competencies. The General High School English Curriculum Standards (2017 Edition, 2020 Revision) define it as "understanding Chinese and foreign cultures and appreciating excellent cultures, as well as the intercultural cognition, attitudes, and behavioral choices demonstrated by students in the new era." Its core goal is to help students acquire cultural knowledge, understand cultural connotations, compare cultural similarities and differences, absorb the essence of cultures, form sound values and cultural confidence, and develop the ability to engage in intercultural communication and disseminate Chinese culture[9]. The 2025 revised version further states that cultivating cultural awareness helps students strengthen national identity and family-country sentiment, develop an awareness of a community with a shared future for humanity, and grow into individuals with cultural literacy and social responsibility[1].

From the perspective of its connotative dimensions, Zhang deconstructs cultural awareness into four interrelated levels: cultural knowledge, cultural skills, cultural emotion, and cultural behavior[4]. Cultural knowledge is the foundation and covers various carriers of material and spiritual cultures at home and abroad. Cultural skills refer to the ability to analyze, distinguish, and make value judgments about cultural phenomena. Cultural emotion points to the internalization of noble cultural character, while cultural behavior is the external expression of cultural character. Hao further notes that the cognitive level of cultural awareness can be divided into four progressive stages, ultimately moving from cultural understanding to cultural identification and from internalization in the mind to externalization in action[2].

In sum, cultural awareness is not merely the accumulation of cultural knowledge. Rather, based on cultural knowledge, it is a dynamic developmental process in which learners form stable cultural attitudes and value orientations through cultural understanding and comparison and eventually demonstrate appropriate intercultural behavior. It is also the core link connecting language competence with the goal of education for holistic development [5].

2.1.2 Cultural Representation

Cultural representation refers to the display and transmission of the content, values, customs, and beliefs of a particular culture in textbooks. Specifically, cultural representation covers the types of cultural content, modes of presentation, and regional distribution of culture. In her study of senior high school English textbooks, Zhang further subdivided modes of representation into five categories: cultural discourse, such as input texts involving listening, reading, and viewing; cultural knowledge sections, namely modules devoted to cultural introduction; pictures and quotations, namely visual and quoted signs; background cultural information, such as names of people and places; and activities or exercises, namely tasks integrating cultural understanding, expression, and language use[10]. Niu proposed that cultural content can be divided into material culture, spiritual culture, social culture, behavioral culture, and conceptual culture[11].

Material culture is generally defined as the various physical objects or artifacts created and used by human beings, which reflect the social structures, economic systems, and values that influence people's daily lives and social interactions. Specifically, material culture includes, but is not limited to, architecture, clothing, food, transportation, and daily necessities. In English teaching, material culture is not limited to these objects themselves but also includes the cultural background and historical stories they carry. PEP English textbooks, for example, help students understand the distinctive lifestyles and aesthetic preferences of different countries by presenting various kinds of cuisine. In addition, material culture can be presented in the classroom through pictures and exhibits, so that students can better understand and experience different cultures.

Spiritual culture refers to spiritual products such as ideology, culture and the arts, religious beliefs, moral norms, legal systems, and people's lifestyles, customs, styles, and values. It includes the totality of individual consciousness, thinking, emotion, and will. Education transmits culture and enables new generations to inherit, in a rapid, economical, and efficient way, the essence of the spiritual and cultural wealth created by humanity, thereby becoming "cultural persons" capable of appreciating and creating culture. Teachers can deeply explore cultural elements in textbooks, such as a country's history, culture, and customs, and guide students to understand the differences and uniqueness of different forms of spiritual culture.

Social culture is also an important component of culture, reflecting relationships and structures in real society. It differs from material culture in that it focuses on interpersonal relationships, and it differs from spiritual culture in that it is grounded in reality. Learning this type of culture can increase students' intercultural knowledge and enhance their intercultural awareness. In teaching, social factors can be combined with cultural background, and language acquisition can be achieved through interaction between teachers and learners. This approach is applicable not only to the cultivation of reading and writing abilities but also to the improvement of listening and speaking abilities.

Behavioral culture refers to all cultural factors related to various human behaviors, including interpersonal behavior and non-communicative general social behavior. It involves not only individual behavioral patterns but also cultural patterns such as social psychology, modes of thinking, ideas, and customs. Behavioral culture is reflected not only in language materials but also in the words and actions of characters in typical contexts. Teachers

can use role plays, information-gap activities, problem-solving tasks, and other activities to enable students to participate actively in real communication, thereby better understanding and mastering the communicative patterns of the target culture.

Conceptual culture refers to people's views, thoughts, and conceptual systems concerning objective things, including worldviews, values, and outlooks on life. As part of social consciousness, conceptual culture has an important influence on the cultivation of students' cultural awareness. Cultural awareness as a core competence of the English subject emphasizes students' understanding of Chinese and foreign cultures and their identification with excellent cultures. This helps strengthen students' national identity and cultural confidence and enhances their cultural literacy and social responsibility.

2.1.3 Multimodal Discourse Analysis

Multimodal discourse analysis developed on the basis of critical discourse analysis. It aims to investigate the interaction among various modes of communicative signs, as well as the meanings they construct and their respective functions and characteristics. Multimodal discourse analysis takes Halliday's systemic functional linguistics as its theoretical foundation and regards language as a social semiotic system with inherent expressive capacity. In addition to language, other semiotic systems such as visual and auditory systems also contribute to the representation of meaning. These modes in discourse work together to convey meaning. Therefore, multimodal discourse analysis in this paper refers to the analysis, from different perspectives, of discourse or communicative forms composed of two or more modes.

2.2 Research on Cultural Representation in English Textbooks at Home and Abroad

The representation of cultural content means presenting cultural content in a specific way, either explicitly or implicitly. In the context of English textbooks, cultural representation refers to the ways in which textbook compilers present cultural content through the design of different textbook sections. In addition to studies on the selection and arrangement of cultural content in English textbooks, some research has also focused on the forms in which cultural content is represented.

Research on cultural representation in English textbooks has attracted scholarly attention in recent years, but it remains relatively scattered overall. Researchers have mainly examined the cultural content represented in textbooks from different perspectives, such as gender and ideology. For example, Yamada conducted an in-depth analysis of cultural representation in Japanese English textbooks, revealing how textbooks reflect the cultural characteristics of Japanese society[12]. Meanwhile, Keles and Yazan briefly studied Oxford University Press's New Headway textbooks, focusing on the application of cultural typology and the concentric-circle model[13]. Most of these studies adopt national perspectives and demonstrate how different countries understand and represent culture differently in English textbooks. Therefore, an in-depth exploration of cultural representation in English textbooks is not only conducive to enhancing language learners' intercultural communicative competence but also significant for cultural understanding and communication in the context of globalization. Weninger and

Kiss conducted a semiotic analysis of two sets of Hungarian English textbooks, examining the importance of discourse, images, and tasks in textbook meaning-making[14]. Their study mainly focused on the development of language competence and emphasized the relationship between language learning and practical application. However, it paid relatively limited attention to the cultural connotations embedded in textbooks and did not fully demonstrate the interaction between language and culture.

Domestic research on textbook cultural elements has developed into multidimensional analyses. Wu and Chen[15] systematically examined a senior high school English textbook from the dual dimensions of cultural structure and geographical distribution. They found that the textbook displayed a pronounced geographical tendency in cultural representation: cultures of English-speaking countries occupied a dominant position, while local Chinese cultural elements were also frequently represented, including many culturally recognizable contents. The study suggests that the textbook shows the dual characteristics of "prioritizing target-language culture" and "highlighting local culture" in its cultural selection. Other studies have combined cultural typology with national perspectives, such as Yuen's cross-dimensional study of secondary school English textbooks[16]. Through an intersectional analysis of cultural typology and geopolitics, Yuen found that, in the two textbook samples, concrete cultural products such as architecture and works of art accounted for 58.7%, whereas abstract cultural concepts such as value systems and cognitive patterns accounted for only 12.4%. In terms of geographical distribution, cultures of target-language countries accounted for 71.3%, while the combined proportion of cultures from Asian and African countries was less than 5%, reflecting an obvious geopolitical bias in textbook cultural selection. Zhou and colleagues identified two main forms of cultural representation: explicit and implicit representation[17]. Based on Zhou's explanation of cultural representation, Zhang and Li developed an analytical framework for English cultural representation[18]. This framework divides cultural representation into explicit and implicit forms, each consisting of ten subcategories. Notably, the framework assigns weights from 1 to 10 to the various forms of representation, thereby quantifying each cultural element and providing clearer and more authoritative data. Therefore, this paper adopts Zhang and Li's definitions of the forms of cultural representation.

2.3 Research on English Textbooks from the Perspective of Multimodal Discourse Analysis at Home and Abroad

Initially, most foreign scholars tended to examine textbooks by focusing on a single mode, especially language. With the rapid development of technology and multimedia, textbooks have undergone significant changes in both form and function. Textbooks increasingly incorporate multiple forms, including images, videos, and colors. Scholars began to take systemic functional linguistics as their theoretical foundation and applied multimodal discourse analysis to the study of textbooks. Barthes was among the earliest scholars to examine the relationship between images and texts, offering a new perspective for later multimodal researchers[19]. Subsequently, researchers became increasingly interested in various semiotic resources, including images, fonts, layouts, and colors. For example, Lemke conducted an in-depth study of the multiple meanings of visual and verbal semiotics and pointed out that semantic frameworks can facilitate the integration of meaning relations

between visual representation and verbal expression[20]. Delin and Bateman proposed a genre- and multimodal-discourse-based model that analyzes electronic and written texts at five levels[21].

In addition, the semiotic relationship between images and texts has become an important aspect of textbook research. Drawing on systemic functional linguistics and visual grammar, Royce proposed the concept of intersemiotic complementarity[22]. This framework can be used to analyze the complementary functions of images and texts in meaning-making. Foreign scholars have made substantial contributions to interdisciplinary textbook analysis. O' Halloran explored the interaction between linguistic and visual elements in mathematics textbooks, providing valuable methodological insights for studying multimodality in educational materials[23]. Bezemer and Kress investigated English textbooks over three historical periods, namely the 1930s, the 1980s, and the early twenty-first century, focusing on five key dimensions[24]. Their findings show that English textbooks contain a wider variety of semiotic resources and that the relationships among these resources have become more equal. Ajayi examined how educators use multimodal resources from textbooks in English classrooms[25]. He also suggested combining additional multimodal semiotic resources with textual content to improve students' communication skills. With the advancement of multimedia, textbooks are no longer delivered in a single mode. Foreign scholars have begun to pay attention to the multimodal resources of textbooks. Multimodality has become a major feature of textbooks, and interdisciplinary textbook analysis has attracted considerable attention. Moreover, the integration of semiotic resources with image-text relations has become an important research focus.

Compared with research abroad, domestic research on multimodal discourse began relatively late. Domestic studies on the multimodal discourse analysis of textbooks can be divided into two major categories. One category examines the characteristics of multimodal textbooks across different subjects, editions, and grade levels. The other concerns the development of multimodal textbooks. Regarding the characteristics of multimodal textbooks, Chen and Qin used PEP primary school English textbooks as their corpus and analyzed 62 teaching units from eight textbooks across four grades to explore the multimodal resources in these textbooks and the interaction of multiple voices[26]. The study shows that multimodal signs convey four different types of engagement meaning: disclaiming, proclaiming, entertaining, and attributing. Chen and Wang used a theoretical framework to examine the conceptual meaning of visual images and analyzed the characteristics of Chinese science textbooks at the primary, secondary, and university levels[27]. The results showed that image-text interaction in Chinese science textbooks differs across educational stages. With respect to textbook compilation and improvement, Zhang and Zhang investigated the editorial principles of print, electronic, and presentation textbooks. The principles associated with these three types of textbooks provide valuable insights for the development of multimodal foreign language teaching resources[28]. Zhang and Zhang attempted to propose a framework for multimodal textbook design based on three widely used versions of multimodal materials in English teaching[29]. Liang and Zhang studied the multimodality of college English textbooks, emphasizing that the inherent complexity of these materials should challenge traditional teacher-centered approaches[30]. They advocated a shift toward improving students' ability to use English comprehensively. In sum, domestic research on English textbooks based on multimodal discourse analysis has become relatively mature. However, most existing studies focus primarily on

college-level textbooks. By contrast, research on senior high school English textbooks remains relatively limited.

III. RESEARCH METHOD

3.1 Research Object

This study selects the texts and illustrations in the "Reading and Thinking" sections of the three compulsory volumes of the PEP senior high school English textbooks published in 2019 (hereafter referred to as the Textbooks) as the research object. The reasons for choosing this textbook series are multifaceted. First, it was published after the revision of the new curriculum standards and therefore reflects the latest educational concepts and requirements in both content and structure. Second, this textbook series has been widely used in teaching practice, and its influence and popularity rank among the highest among similar textbooks. At the same time, it can provide a reference for educators, helping them better understand the textbook content and how to effectively integrate it into teaching activities, thereby improving teaching quality and students' learning experience.

3.2 Research Tools

This study adopts content analysis to analyze the 15 textbook texts. This research method was initially regarded as a useful approach for objectively and systematically analyzing materials. Its main advantage lies in its ability to transform non-quantitative texts or information into quantitative data in order to analyze the features of content based on a framework. To present a quantitative description, this study uses the analytical framework for the content of cultural representation and the analytical framework for the forms of cultural representation proposed by Zhang and Li to code the cultural elements represented in the textbooks[10][18]. Through content analysis of the texts in the "Reading and Thinking" sections of the three compulsory volumes of the 2019 PEP senior high school English textbooks, the study aims to provide a quantitative description of cultural elements.

3.3 Data Collection and Analysis

The data collection and analysis in this study mainly adopt corpus-based content analysis, using the corpus analysis tool AntConc (<https://www.laurenceanthony.net/software/antconc/>) to retrieve and count the textbook texts. AntConc is free corpus analysis software developed by Laurence Anthony. It supports word-frequency statistics, keyword-in-context (KWIC) searches, collocation analysis, and other functions. First, the researcher digitized the 15 texts in the "Reading and Thinking" sections of the three compulsory volumes of the 2019 PEP senior high school English textbooks. To ensure corpus purity and the accuracy of the analysis results, all texts were manually entered or copied into plain-text format, and exercises, annotations, and non-textual-body content were removed. After retrieval and processing, all retrieval results were exported to Excel for coding and statistical analysis, in order to examine the frequency and proportion of various types of cultural content, including native, target-language, and international cultures. In addition, words directly related to Chinese culture were selected from the AntConc results. These words had to meet the criteria of "clear semantic reference and distinct cultural attributes," while ambiguous polysemous words without specific cultural reference, such as "center" and "common," were excluded.

IV. RESULT AND DISCUSSION

The words ultimately screened as being related to Chinese culture are shown below. Table 1 presents the word-frequency analysis. In terms of cultural types, traditional culture is dominant (78.6%), indicating that the textbook's selection of Chinese cultural content is highly inclined toward traditional themes, including traditional customs, traditional ideas such as harmony, traditional architecture, and traditional drinks such as tea. There is only one item of modern culture, Chinatown, which represents the culture of overseas Chinese communities. Although it has a certain degree of modernity, it is essentially rooted in traditional culture. There is also only one item of revolutionary culture, revolution, and it appears in an implicit state. This indicates that revolutionary culture is extremely weakly represented in the textbooks, which is highly consistent with Zhang Hong and Li Xiaonan's finding that "revolutionary culture includes only Lei Feng and his famous sayings." [10].

From the perspective of cultural forms, cultural practices account for the highest proportion (64.3%). These include festival customs, social behaviors, and behavioral manifestations of values, such as the concept of harmony, harvest customs, and customs in general. Cultural products rank second (28.6%), including material cultural achievements such as architecture and tea, both of which are typical material carriers of traditional Chinese culture. Cultural perspectives include only one item, traditions, reflecting insufficient exploration of deeper values, such as Confucian thought and philosophical ideas. Cultural figures and cultural communities are completely absent, indicating that the selected texts do not present specific representative figures of Chinese culture, such as Confucius or Lu Xun, or cultural groups, such as Chinese farmers or Chinese adolescents. Preliminary analysis suggests that traditional culture dominates the three compulsory volumes, with Chinese cultural content centered on traditional themes and accounting for nearly 80%. Cultural practices are also prominent, with 64% of cultural words belonging to the behavioral level, reflecting the textbooks' emphasis on the everyday-life representation of culture. However, revolutionary culture is weak, with only one implicitly represented item. There is also a lack of deep cultural representation: cultural perspectives include only one item, while cultural figures and cultural communities are entirely absent, which affects students' systematic understanding of cultural values and cultural groups.

Table 1 Examples of cultural forms in texts

Words	Frequency	Type	Cultural Form	Notes (Semantic Explanation)
traditions	1	Traditional	Cultural practice	Refers to traditional customs and cultural inheritance
harmony	1	Traditional	Cultural perspective	The Confucian core idea of "harmony"
harvest	1	Traditional	Cultural practice	Harvest customs in agrarian culture
Chinatown	1	Modern	Cultural community	Overseas Chinese settlement area, reflecting Chinese cultural communities
imperial	1 ("emperor" in the frequency	Traditional	Cultural product / figure	Related to emperors and associated with feudal dynastic culture
architectural	1 ("architecture" in the frequency	Traditional	Cultural product	Traditional architecture, such as the Forbidden City and classical gardens
customs	1	Traditional	Cultural practice	Folk customs and etiquette practices
ancient	1	Traditional	Cultural perspective / product	Refers to ancient culture, cultural relics, and related content
revolution	1 (implicit revolutionary	Revolutionary	Cultural practice	Revolution-related history and practice
tea	1 (associated with "Southern Chinese tea cultures" in the	Traditional	Cultural product / practice	Chinese tea culture, including cultivation and drinking customs

Analysis based on the framework of cultural representation forms shows that cultural representation is mainly explicit, with a total intensity score of 26, accounting for 86.7%. This indicates that the textbooks mainly present Chinese culture directly through input materials, such as reading texts and knowledge sections, while cultural content in practice activities is relatively limited. However, the modes of representation include single-culture discourse (weight 10), multicultural discourse with cultures of equal importance (weight 8), multicultural discourse with culture as secondary content (weight 7), background cultural information (weight 1), and multicultural discourse in exercises with culture as the main content (weight 4). This reflects diversity in the textbooks' modes of cultural representation. Among them, single-culture discourse has the highest weight: harmony is presented in the form of "single-culture discourse" with a weight of 10, indicating that a small number of cultural themes are explored in depth and given complete discourse space in the textbooks. Background information has the lowest weight. For example, emperor is presented as "background cultural information" with a weight of 1, indicating that culture related to figures often appears as auxiliary information and lacks independent cultural status. Meanwhile, cultural representation in exercises deserves attention. Chinatown is presented as "multicultural discourse in exercises with culture as the main content" with a weight of 4. This suggests that practice activities can also carry cultural content and help teachers guide students to participate in cultural learning through tasks.

Table 2 Proportions of Element Presentation

Proportion (by intensity)		
Explicit presentation	Single Cultural Discourse	33.30%
	Multicultural Discourse Equal Weight Culture	26.70%
	Secondary Culture in Multicultural Discourse	23.30%
	Background and cultural information	3.30%
Implicit Presentation	Main Culture in Multicultural Discourse Practice	13.30%

Images can also serve as one of the carriers of cultural representation. For example, in the illustration in B1U5, oracle-bone inscriptions are displayed in connection with the theme of the Chinese writing system. In terms

of cultural content, the image belongs to native culture (China) and to the cultural-product category (Chinese characters). More specifically, it presents the morphological evolution and structural logic of Chinese characters, including pictographic and self-explanatory forms, and thus functions as a core symbolic product of Chinese culture.

From the perspective of visual grammar, the image presents a conceptual representational-analytical process. It treats the characters for "horse," "deer," "ox," and "person" as whole objects and analyzes the formation and transformation of Chinese characters by showing their evolution from ancient scripts, such as oracle-bone or bronze-inscription styles, to modern simplified characters. The lower part, which contrasts the scripts of Yan, Qi, Zhao, Wei, Han, Chu, and Qin with the script after Qin unification, analyzes the process of script unification. However, the image objectively "offers" knowledge about the evolution of characters and does not intend to interact with the viewer. Finally, in terms of compositional meaning, the information value combines top-bottom and left-right structures. The upper part shows the evolutionary sequence of individual characters, read from left to right, while the lower part presents a contrast before and after unification. The overall layout is logically clear and conforms to cognitive patterns.

Analyzing the relationship between image and text leads to different findings. This image represents a typical integrated relationship. It "refers" to specific Chinese characters. Its pedagogical function lies in guiding students to observe the historical evolution of Chinese characters and understand the development of Chinese

Figure 1 Image presented in texts



culture. Most importantly, it has a linguistic function: the image itself is direct material for language learning, namely the learning of Chinese characters. It helps students intuitively grasp the form, meaning, and origin of Chinese characters and constitutes a core component of language-knowledge construct

Figure 2 Image presented in texts



Figure 3 Image presented in texts



In the text of B3U4, Figure 2 represents inner-circle national culture (the United States), whereas the image on the right represents native culture (China). In terms of cultural categories, the left image represents cultural practice, namely a spaceflight disaster, while the right image represents both a cultural product, a spacecraft, and cultural practice, an achievement in exploration. The left image is a narrative representation involving a reactional process. Although the image itself is static, showing smoke trails after an explosion, it strongly points to a preceding catastrophic "action" and evokes a solemn "reaction" from viewers. The right image is a narrative representation involving an action process. The Zhurong Mars rover stands quietly on the surface of Mars, but its presence itself is the result and proof of the successful landing of a Chinese spacecraft and its readiness to begin exploration. Both images are offers, objectively presenting events or achievements. Their social distance is long shot: the left image shows the scale and impact of the disaster, while the right image shows the full appearance of the Mars rover and the overall Martian environment. The attitude is eye-level. When the two images are juxtaposed, they form a strong visual contrast: failure and success, tragedy and pride, historical lessons and future hope. This juxtaposed composition itself conveys profound thematic meaning. The framing uses blank space and separation, allowing the two images to stand side by side while remaining independent for viewers' comparative reflection.

At the same time, the images "refer" to two major events in the history of human space exploration. Their pedagogical function is very strong. They guide students to view scientific and technological progress dialectically and to understand that the path of exploration is full of risks and sacrifices, as well as breakthroughs and glory. Their linguistic function lies in the fact that, in the unit "Space Exploration," these two images constitute a complex text that students need to "interpret" and "express." Students need to use the language knowledge they have learned to describe the two events, compare their underlying meanings, and express their own views and feelings. This represents a high-level integration of language output and cultural reflection.

V. CONCLUSION

Against the background of the core competence of "cultural awareness" proposed in the General High School English Curriculum Standards (2017 Edition, 2025 Revision), this study applies multimodal discourse analysis to systematically examine the representational features of Chinese cultural elements. The findings are as follows. First, in terms of cultural content types, traditional culture occupies a dominant position (78.6%), while modern culture and revolutionary culture are extremely weakly represented. Cultural figures and cultural

communities are entirely absent, reflecting the textbooks' obvious tendency to emphasize traditional culture while neglecting modern and contemporary culture. Second, in terms of forms of cultural representation, explicit representation (86.7%) far exceeds implicit representation. Chinese culture is mainly represented through single-culture discourse and multicultural discourse, while background cultural information and the integration of culture into exercises are relatively insufficient. Third, from a multimodal perspective, images and texts form an integrated relationship combining referential, pedagogical, and linguistic functions. Images not only visually present cultural symbols, such as the evolution of Chinese characters, but also guide students to engage in cultural reflection through visual contrast, such as the juxtaposition of the Challenger and Zhurong. In this way, they realize a deep integration of cultural understanding and language learning.

This study reveals the structural features and potential deficiencies of Chinese cultural representation in the textbooks and provides empirical evidence for optimizing textbook compilation. The proportion of modern and contemporary culture as well as revolutionary culture should be appropriately increased, the representation of cultural figures and communities should be enriched, and the design of implicit cultural integration and cultural tasks in exercises should be strengthened. In addition, the study verifies the applicability and explanatory power of multimodal discourse analysis in textbook cultural research and provides methodological reference for subsequent related studies.

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