

# A Study on Illustrations of English Textbooks from the Perspective of Visual Grammar Theory—Taking the People's Education Press Senior High School English Compulsory One Textbook as an Example

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**Abstract:** Illustrations in English textbooks broaden the learning channels and teaching media. Based on the theory of visual grammar theory proposed by Kress & van Leeuwen, this paper explores the significance of representation, interaction and composition of textbook illustrations. Finally, the author puts forward the strategies and methods to guide students to read the effective information of illustrations, and implements the cultivation of students' reading skills. In the actual teaching process, teachers should carry out three approaches: "Obtaining the representation meaning, understanding the visual connotation", "paying attention to the interactive meaning, predicting the development direction of visual content", and "understanding the composition meaning and creating visual information".

**Keywords:** Visual grammar theory; Textbook illustrations; High school English; Seeing skill

## 1. Introduction

The highly visual culture of the picture-reading era provides more possibilities for people to view illustrations (Zhou Ziyuan, 2019)<sup>[1]</sup>. English Curriculum Standards for Senior High Schools adjust language skills from listening, speaking, reading and writing to listening, speaking, reading, writing and seeing. It is emphasized that the content of "seeing" is not only continuous text such as narrative text and argumentative text, but also multi-modal discourse. Therefore, we should not only pay attention to the text in the English textbook, but also to the illustrations presented in the textbook, such as what information the illustrations try to convey to students, whether there is interaction between the illustrations and students, and whether the layout of the illustrations is reasonable. Based on the visual grammar theory, this paper will take compulsory one of the high school English textbook (2019) for People's Education Press as the research object, and combine the three meanings of case analysis illustrations -- the representation meaning, the interaction meaning and the composition meaning, and finally put forward relevant suggestions to improve students' seeing skills.

## 2. Visual Grammar Theory

Halliday, a British linguist, studied the mode of "language" and proposed the theory of language meta-function, that is, language has some specific functions that belong to language itself. Halliday (1994)<sup>[2]</sup> divided language meta-functions into three types: conceptual meta-functions, interpersonal meta-functions and textual meta-functions. Kress & Van Leeuwen (2006)<sup>[3]</sup> extended Halliday's systematic functional grammar theory to the study of illustrations, proposed a visual grammar theory for analyzing the functions of illustration elements, and extended the three functions of illustrations: representation meaning, interaction meaning, and composition meaning. The relationship between systemic functional grammar and visual grammar theory is shown in Table 1.

Table 1: The correspondence between systemic functional grammar and visual grammar

Systemic functional linguistics theory	correspond to	Visual grammar theory
conceptual meta-functions		representation meaning
interpersonal meta-functions		interaction meaning
textual meta-functions		composition meaning

The analytical framework of visual grammar theory is shown in Figure 1.

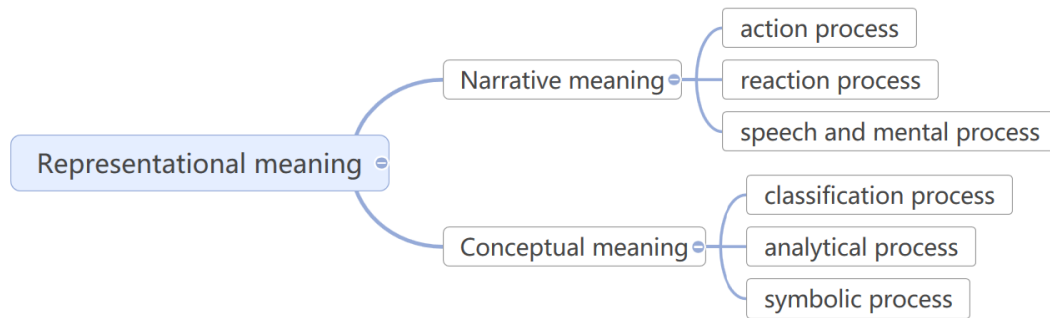


Figure 1: Visual grammar theory analysis framework

### 3. Research Object

There are 6 units of compulsory one textbook for senior high school students, each of which has 8 sections. Each section focuses on the same theme and presents humanistic knowledge and language knowledge through multimodal discourse to help students acquire language skills and improve thinking ability, so as to realize the development of core English literacy. In this study, 154 illustrations from high school English compulsory one textbook are selected and analyzed from three dimensions of visual grammar theory.

### 4. Research Results

#### 4.1 Representation meaning

The representation meaning can be divided into narrative representation and conceptual representation, and the essential difference between the two is whether there are vectors in the illustrations. A vector is composed of diagonal lines between illustration elements (Zhang Jingyuan, Jia Peipei, 2012)<sup>[4]</sup>, and can be formed by the gaze, actions, and other aspects of the character. Narrative representation emphasizes what has happened or is happening. Conceptual representation emphasizes what it is, which is a static meaning that is both generalized and stable.

##### 4.1.1 Narrative Representation

Narrative representation can be divided into action process, reaction process, speech and mental process. An illustration of an action course emphasizes what the action sender is doing or what action trend is generated. As shown in Figure 2, the girl's raised arm forms a vector, forming a sharp diagonal line in the picture, showing the beautiful process of dancing. The reaction process means that the vector is formed by the eyes of the participants in one or more illustrations. By looking at the eyes of the characters in the illustrations, we can infer some emotion in the hearts of the characters. As shown in Figure 3, both the boy and the girl look at the computer, their eyes form a vector, and we can see from the illustration that they are very interested in the content presented in the computer. The expression of speech and mental process is in the form of dialogue bubble or thought bubble, as shown in Figure 4, thought bubble reflects the girl's inner fear of making mistakes. According to statistics, there are fewer illustrations of speech and mental processes in the required textbook.



Figure 2: Action process



Figure 3: Reaction process



Figure 4: Speech and mental process

#### 4.1.2 Conceptual Representation

Conceptual representation can be divided into analysis process, classification process and symbolic process. The analysis process means that the illustration has a structural relationship between the whole and the part. Human history evolution chart, pie chart, flow chart, map, etc. are typical overall and partial illustrations. We can not only intuitively feel the characteristics of some parts through such illustrations, but also understand the overall significance of the illustrations. Figure 5 shows the topographic map of Peru. Students can deepen their understanding of the map of South America through the map of Peru combined with relevant common sense. The classification process is to interpret the relationship between elements in the illustration and summarize the conceptual meaning of something. There are some "subordinate" relationships among the illustration participants in the classification process, such as network diagram, flow diagram and tree diagram. As shown in Figure 6, "student club" is an upper concept, while "calligraphy club" and "basketball club" are lower concepts. Symbolic process refers to that the illustration presents a concept and embodies the meaning of the concept. For example, roses symbolize romance and maple leaves symbolize the coming of autumn. However, during the research process, it was found that the illustrations of compulsory one did not appear illustrations of such functions. The reasons may be as follows: first, the illustrations in the textbook should be consistent with the theme of the unit, but the number of illustrations that coincide with the theme and have a symbolic process is even less; second, the symbolic illustration means that the things widely recognized by the public are themselves lacking, so it also limits the choice of symbolic illustrations in the compulsory textbook.

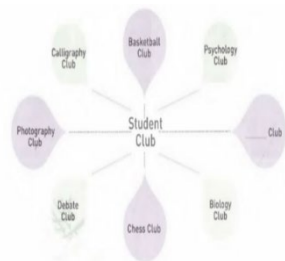


Figure 5: Analysis process

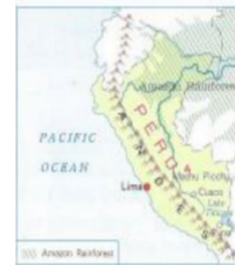


Figure 6: Classification process

#### 4.2 Interactive meaning

Communication is the mechanism by which intelligible information is effectively directed through a medium. Just as people use language to communicate, illustrations also have their own information transmission mechanism to promote the communication between students and illustrations. The interactive function of illustrations requires the participation of three elements: contact, social distance and perspective.

##### 4.2.1 Contact

The meaning of contact is divided into demand and offer. The fundamental difference between the two is whether there is eye contact between the participant in the illustration and the student. When the participant in the illustration looks at the student, there is eye contact between the two, and the illustration is a "demand" illustration. As shown in Figure 7, the three students are smiling and looking at the students. The designer intends to make the students immersive through eye contact and make them more willing to participate in the international youth camp. "Offer" means that the person or object in the illustration is not making eye contact with the student. As shown in Figure 8, the boy in the illustration does not interact with the students. The illustration only provides information about our boys rummaging in the forest.



Figure 7: Demand



Figure 8: Offer

#### 4.2.2 Social distance

Social distance includes close distance, middle distance and long distance. Close distance means that the illustration only shows the head and shoulders of the person. In Figure 9, the relationship with the reader is narrowed by close distance. The middle distance refers to the part of the illustration that shows the person above the knee, which is the best way for the illustration maker to describe the entire process of the event. As is shown in Figure.10, through such illustrations, students can clearly see that the figure in the illustration is a student with a bag on his shoulder and a book in his hand. The illustration focuses on the description of the actions of the characters in the picture, highlighting the communication and interaction with students, and showing the interaction process of interpersonal communication for students. Long distance means that the person in the illustration is only half the proportion of the entire illustration. Figure 11 shows the process of a woman running forward. When viewing distant illustrations, students form distant social relationships with the people in the illustrations.



Figure 9: Close distance



Figure 10: Middle distance

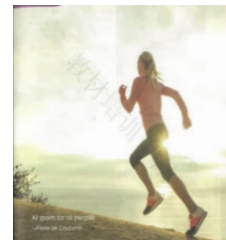


Figure 11: Long distance

#### 4.2.3 Perspective



Figure 12: Inferiority



Figure 13: Superiority



Figure 14: Equal

The perspective includes inferiority, equal and superiority. Inferiority is often used to highlight the grandeur of objects in textbooks and emphasize the urgency of events. Students often have an unequal relationship with illustration elements, and they can only passively accept the information conveyed by illustrations. Figure.12 is an example of the inferiority in the textbook. Students are in a low power position at the bottom of the perspective of the illustration. The superiority illustrations in textbooks is to show students the whole picture of something, and students are in a high position when they watch the illustrations. As shown in Figure.13, the illustration shows a corner of the city after the Wenchuan earthquake reconstruction. Students look down on the whole picture, and every building, street and tree in the city are within their field of vision. By reading the picture, students can have a clearer understanding of the post-Wenchuan reconstruction. Equal means an equal relationship, which often evokes students' past experience and draws students into English learning situations. As shown in Figure.14, students view the illustration from an equal perspective, and they are in an equal position with

the male student in the illustration.

### 4.3 Composition meaning

Composition meaning is divided into information value, frame and significance. Kress & van Leeuwen believed that the position of elements in the illustration, the way of illustration segmentation and the color contrast of the illustration would detail the overall rendering effect of the illustration.

#### 4.3.1 Information value

The information values are divided into "Given-New", "Center-Margin" and "Ideal-Real" structures. According to Kress & van Leeuwen, the left is the known information that has been presented, and the right is the unknown information in the illustration. As shown in Figure 15, the illustration information pointed by the finger of the boy on the left first enters our field of vision and becomes known information, but the information pointed by the finger is uncertain and can be any action. Only when students follow the movement of their eyes can they discover the referred content and realize the meaning construction of "Given-New". The "Center-Margin" plays an important role in the structure of the illustration. In the process of composition, image designers tend to place important information in the center of the image and secondary information at the edge. In Figure 16, the woman exercising at the center of the image is the main person the photographer wants to emphasize, highlighting the importance of exercise to our lives. The context is secondary information, placed at the edge of the image. The "Ideal-Real" structure means that the information above the image is the "ideal" information and the information below is the "real" information. The upper part of the image is to express a beautiful fantasy, and the lower part of the image has obvious empirical, so that students know "what actually happened", but there is no image of such structure in the compulsory textbook.



Figure 15: Given-New



Figure 16: Center-Margin

#### 4.3.2 Frame

The frame mainly looks at whether there is a dividing line between the image and the text. As shown in Figure 17, there are dividing lines between the text and the image, so that students will not be disturbed during the reading process. As shown in Figure 18, there is no frame between the image and the text, and the relationship between the image and the text is very close. The image in Figure 18 is the Terracotta Army, and the whole text is about the introduction of the Terracotta Army, with close relationship between the text and the image. This composition method does not disturb the reading of the text, but also increases the interest of reading the textbook, and reflects the integration of Chinese elements with the English textbook.

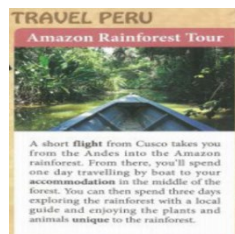


Figure 17: Line isolation

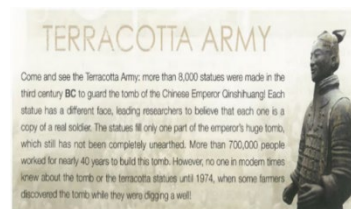


Figure 18: No line isolation

#### 4.3.3 Salience

Salience is achieved by differences in size, background color brightness, and foreground. The larger the elements in the image, the brighter the color, and the more advanced the position, the more likely it is to attract students' attention. The study found that the images of the compulsory textbook reflected the significance of the composition meaning of the visual grammar theory, and would emphasize the salience by adjusting the size of the elements in the image, highlight the important elements by bright colors, and place the main information in the front of the image.

To sum up, the illustrations in Compulsory One of high school English for People's Education reflect the meaning of representation, interaction and composition of visual grammar theory.

## 5. Research Suggestions

Firstly, acquire representation meaning and understand the visual connotation. The process in which students acquire representation meaning is the process in which students connect with the images, understand the contents of the images and form the cognition of the illustrations. Each unit of the PEP textbook has an opening page, which is characterized by focusing on the theme, bright colors and rich layers, which can effectively attract students' attention, so that students can establish the connection between images and learning content, vision and thinking, and vision and pictures. While introducing the theme unit, students can understand the connotation that this unit wants to convey. In actual teaching, teachers need to guide students to observe the characters, text, environment and other elements in the image, and urge students to dig deeper into the content contained in the connection with the image. The following is an example of the subject chart of Unit 2 Travelling around.

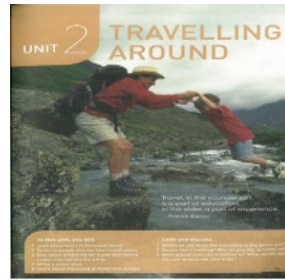


Figure 19: Unit 2 Travel around

Figure 19 belongs to the theme category of "people and society", including characters, destinations, emotions of characters, activities of characters, environment, weather and other elements. It presents specific events and main links in the travel process, and aims to guide students to form the thinking of "reading 10,000 books and traveling 10,000 miles". The first step is to find the meaning of representation according to the specific connection. The author first asked "Where were they?", "What were they doing?", "What's the weather?", "What did they pack?", "How did they feel about their vacations? Guide the student to observe the situation presented in the image, so as to become aware of the factors that need to be considered outdoors, as well as pay attention to the emotions during the journey. The second step is to analyze the meaning of representation and understand the visual connotation. I asked, "How do you plan meaningful vacation?" Guide students to form a sense of reasonable vacation planning on the basis of discussing the plan, content and significance of vacation activities.

Second, focus on interactive meaning and predict the development direction of visual content. The interactive meaning is the process in which students interact with the image characters. During the interaction, students are able to perceive the emotional attitude expressed by the images and thus predict the development direction of the visual content. Interactive meaning focuses on emotional interaction with image readers, and conveys different emotional attitudes through eyes, distance, perspective, modality, etc. (Li Ling, 2023)<sup>[5]</sup>. Therefore, in the character-based teaching process, teachers should consciously guide students to discover the story in the illustration by paying attention to the interactive meaning, and then make reasonable predictions about the story plot. Take the reading illustration of Unit 1 Teenage life as an example.



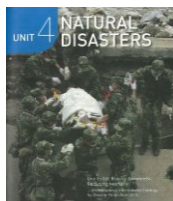
Figure 20: Unit 1 Reading and thing The freshman challenge

The first step is to observe the images from an interactive perspective and sort out the interactive information. In Figure 20, students interact with each other in the form of equal, middle distance and

request. The author guides students to observe the expressions and movements of the characters in the images. On the basis of helping students find the eyes of the characters and the viewer to form demands, students are prompted to think about the contents of the images. According to the facial expression of the image figure, the students could infer that the image figure was a positive and optimistic person, and combined with the title, the students were asked to predict what kind of emotion the image figure tried to ask the students.

The second step is to get the meaning of the theme and predict the development of the story. First, Teache asked, "What will be talked about in the passage?" "Will the boy give up when facing these challenges?" ", "What kind of people is he? ", "What you can learn from the boy? ", which let students realize that in the face of difficulties to maintain a positive and optimistic attitude. In this process, students can clearly understand the interactive meaning of the images.

Secondly, understand composition meaning and convey visual information. Composition meaning is the process of students appreciating and observing images according to the information value, frame and significance, so as to obtain the overall meaning of multimodal discourse, which can help students accurately understand information on the basis of the overall visual information.



*Figure 21: Unit 4 Natural disasters*

The first step is to understand the composition information value. The author guides students to observe the position of Figure 21 in the textbook, so that students can observe what is the core message of the entire illustration.

The second step is to judge the salience of the composition. According to the research of color psychology, the color preferences of boys aged 7 to 15 are green, red, green, yellow, white and black, and the color preferences of girls are green, red, white, green, yellow and black (Liu Yuan; Luo Chao-ying, 2023)<sup>[6]</sup>. The color in Figure 21 is composed of green and white, so it has a strong color impact. Teache asked the question, "How do you feel about the image?" "Why do you feel sad/moved...?" Arouse students' emotional description of the colors in the illustrations. Then guide the students to observe the size and proportion of the images, guide the students to observe the actions of the soldiers in the images, so that the students can have emotional touch.

To sum up, teachers excavating the illustrations of high school English textbooks based on the theory of visual grammar can not only cultivate students' reading quality and skills, but also promote the comprehensive improvement of students' core qualities such as cultural awareness, thinking quality, learning ability and language ability. Teachers should be aware that the representation meaning, interaction meaning and composition meaning of illustrations are not divided, and teachers need to reasonably explore the functions of illustrations according to the teaching objectives, teaching contents and the focus of different illustrations, so as to avoid the problem of difficulty in completing the teaching objectives due to over-interpretation.

### **Acknowledgements**

Project supported by the Innovation Fund of Gannan Normal University for Postgraduates in 2022, "A study on the representation meaning of illustrations in senior high school English compulsory textbooks based on visual grammar theory" (Grant No. YC2022-s909).

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