

Analyzing Image Meanings in Chinese EFL Textbooks: A Multimodal Perspective

Jiaming Qi

School of Humanities and Social Sciences, Nanjing University of Science and Technology ZiJin College, Nanjing, China

Abstract—English as a Foreign Language (EFL) textbook image resources provide important materials and ways of learning for EFL students. Previous studies on the meaning and function of images in Chinese EFL textbooks tend to take pedagogy and cognitive psychology as main perspectives. Based on visual grammar, this article analyzes the image resources in Chinese junior high school EFL textbooks from a multimodal perspective, attempting to explore how the images realize three meta-meanings. It is found that cartoon, photo, table, and diagram are four main types of images in Yilin EFL textbooks. Quantitative analysis and qualitative analysis show that the images in the textbooks realized the representational meaning, interactive meaning and compositional meaning, but there are still some problems in image design, such as insufficient image types, lack of images promoting knowledge comprehension, and inadequate realization of compositional meaning of images. The research results offer some implications for Chinese EFL textbook editors to design textbooks, and also provide some suggestions for Chinese EFL teachers' teaching practice and students' learning.

Index Terms—images, representational meaning, interactive meaning, compositional meaning, Yilin EFL textbook

I. INTRODUCTION

English as a Foreign Language (EFL) textbooks are the main tools to achieve the goals of English curriculum, the basis for EFL teachers to design and implement various teaching activities, and the important source for learners to develop language knowledge and skills. Almost since their emergence, EFL textbooks began to use non-textual resources such as images. Nowadays, image resources like color photos, cartoons, maps and graphs are widely used in EFL textbooks (Lai, 2018). The use of images in textbooks can improve learners' interest in learning, and studies have shown that obviously better teaching results can be achieved when illustrated textbooks are used (Levie & Lentz, 1982; Willows, 1979). Image resources in EFL textbooks are an important part of textbooks and curriculum resources. They play an irreplaceable role in helping teachers to teach and stimulating students' interest in reading. The image and text resources in EFL textbook have respective strengths, and the integration of them definitely contributes to the discourse meaning construction. Therefore, EFL textbooks can be regarded as a kind of multimodal discourse in which images and texts work together to construct meaning.

Based on the analytical framework of visual grammar, this article analyzes the image resources in Chinese junior high school EFL textbooks from a multimodal perspective. Kress and van Leeuwen (2006) believed that words were not the only resource to make meaning, and the expression of complete meaning should also involve the participation of other modes. Therefore, they inherited and developed Halliday's (1985) theoretical notion of metafunctions, applied it to visual modes, and proposed the visual grammar theory for image analysis. Visual grammar not only emphasizes the importance of images in conveying information, but also provides a powerful theoretical framework for analyzing image resources, becoming an important theoretical support for multimodal discourse analysis.

The junior high school EFL textbook of Jiangsu Province is an adapted version of *Oxford Junior High School English* by the textbook compilation group, which is published by Yilin Press (hereinafter referred to as "Yilin EFL textbook"). It has novel layout design and exquisite illustrations, displaying typical multimodal characteristics. As a new textbook compiled under the guidance of the Chinese EFL curriculum standards for compulsory education, it has been widely used in public junior high schools in Jiangsu Province, China. At present, the relevant studies concerning Yilin EFL textbook mainly involve the discussion of teaching methods by taking it as a case (Pang, 2018; Shen, 2024), and of the few studies that have focused on the textbook itself, most are concerned with textbook evaluation (Shao, 2022; Yu, 2020). In addition, previous studies on the meaning and function of images in Chinese EFL textbooks tend to take pedagogy and cognitive psychology as main perspectives (Chen & Liu, 2016; Cheng & Cong, 2020; Pu, 2008; Song, 2005), while the research from multimodal perspective is insufficient.

EFL textbook image resources provided important materials and ways of learning for EFL students, so it is necessary to explore the functions and design issues of textbook image from the multimodal perspective. Previous multimodal studies on EFL textbooks in various contexts mainly took Kress and van Leeuwen's (2006) visual grammar as framework (Nordensvard, 2010; Salbego et al., 2015; Tahririan & Sadri, 2013; Torres, 2015; Weninger & Kiss, 2013). This article attempts to apply the comprehensive framework of visual grammar to Chinese EFL textbooks, which

provides a new perspective for the analysis and evaluation of image resources in Chinese EFL textbooks. At the practical level, the research results can offer guidance for Chinese EFL textbook editors to design textbooks, and provide some suggestions for Chinese EFL teachers' teaching practice and students' learning.

II. ANALYTICAL FRAMEWORK

Kress and van Leeuwen (1996) argued that there should be an underlying structure to explain the meaning of visual texts. In their book, *Reading Images: The Grammar of Visual Design* (1996), they constructed a framework for analyzing images by applying Halliday's (1985) theoretical notion of metafunctions to visual modes. According to visual grammar, the images are considered as meaning-making resources and likewise construct three meanings, respectively corresponding to the three metafunctions of language in systemic functional linguistics. Table 1 shows the correspondence.

TABLE 1

THREE MEANINGS OF IMAGE VERSUS THREE METAFUNCTIONS OF LANGUAGE	
Three Meanings of Image	Three Metafunctions of Language
Representational Meaning	Ideational Metafunction
Interactive Meaning	Interpersonal Metafunction
Compositional Meaning	Textual Metafunction

The representational meaning concerns the way images represent the relations between the people, places and things they depict (Qi, 2022). Kress and van Leeuwen (2006) distinguish between narrative representation and conceptual representation by “vector” — a motion, an eye line, an arrow, etc., which points to a clear direction. Being a vectorial pattern, narrative representation presents “unfolding actions and events, process of change, transitory spatial arrangements” (Kress & van Leeuwen, 2006, p. 79), which can be subdivided into action process, reactional process, and speech and mental process. The vector in the action process is usually represented by the direction of the action formed by the limbs of the participants in the image. When the vector is formed by an eyeline, by the direction of the glance of the participants in the image, the process is a reactional process. In speech and mental process, the vector is represented by dialogue or thought bubbles relating the speaker or thinker to their speech or thought in images. Being a non-vectorial pattern, conceptual representation is more generalized and stable, representing participants “in terms of class, or structure or meaning” (Kress & van Leeuwen, 2006, p. 79), which can be achieved by classificational process, analytical process and symbolic process. The classificational processes relate participants in terms of a taxonomy, and there is a relation of subordinate-superordinate between participants in the process (Qi, 2022). In the analytical process, the participants in the images are related in terms of a part-whole structure. The symbolic processes indicate what a participant means (Li, 2003).

The interactive meaning concerns the representation of social relations between images and viewers, which is realized by the subsystems of contact, social distance and perspective (Kress & van Leeuwen, 2006). Contact refers to the (imaginary) interpersonal relationship established between represented participants and the viewer through “eye contact”, which is subdivided into the relationship of “demand” and “offer”. The former refers that the participants in images look directly at the viewer, as if the participants “demanded something from the viewer and demanded that the viewer enters into some kind of imaginary relation with him or her” (Kress & van Leeuwen, 2006, p. 118), while the latter is formed when there is no eye contact between the represented participants and the viewer, indicating the image is providing some information for the viewer. Social distance is related to the “size of frame”. Close-up, medium shot and long shot suggest increasing social distance between the represented participants and the viewer (Qi, 2022). The close-up shot indicates an intimate relationship by showing the participants' head and shoulder. The medium shot establishes a social relationship by showing the participant's knees and the waist. The long shot, which shows the entire figure or anything ‘wider’ than that, imposes an impersonal relationship (Kress & van Leeuwen, 1996). Perspective reflects subjective attitudes of the viewer towards the represented participants, which consists of high angle, eye angle and low angle. High angle brings the viewer power over the represented participants, while the low angle does the opposite. Eye angle indicates equality, that is, no power difference between the represented participants and the viewer, and thus the viewer can easily integrate into the image.

The compositional meaning concerns “the way in which the representational and interactive elements are made to relate to each other, the way they are integrated into a meaningful whole” (Kress & van Leeuwen, 2006, p. 176). Information value, salience and framing are three routes to realize the compositional meaning. The elements in the image are endowed with specific information values by the various placement: left and right, top and bottom, center and margin (Qi, 2022). For example, in the image with a left-right structure, the represented participant on the left is known to the viewer, compared to the represented participant on the right, which is possibly unknown for the viewer. For the top-bottom structure image, the represented participant on the top holds the ideal or general information, while the real or detailed information is located at the bottom of the image. In the image of center-margin structure, the represented participant in the center is more important than those at the margin. Salience creates “a hierarchy of importance among the elements, selecting some as more important, more worthy of attention than others” (Kress & van Leeuwen, 2006, p. 201), which is implemented by such techniques as size, foregrounding/backgrounding, color, etc. (Forceville, 1999). Framing is presented

by the presence or absence of framing devices like boxes, lines, space, colors, and so forth. Through framing devices, the elements are visually separated from other elements in the image. The principles of information value, salience and framing are valid in composite images which include texts, images or other multimodal resources (Qi, 2022).

Kress and van Leeuwen (2006) emphasized that visual systems are multidimensional structures in which representational, interactive and compositional meanings complement each other and none of them is dispensable. In this article, visual grammar is applied to analyze image resources in Chinese junior high school EFL textbooks, exploring the realization of three meta-meanings of images in Chinese EFL textbooks. The analytical framework is shown in Figure 1.

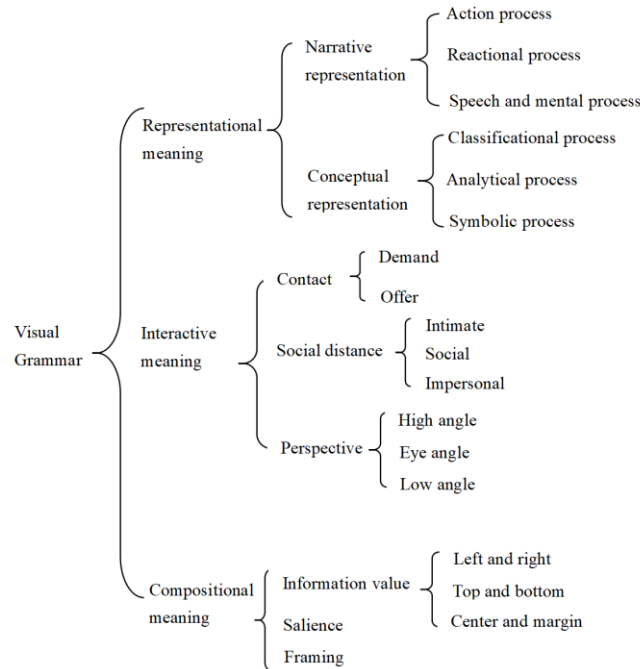


Figure 1. Analytical Framework of Visual Grammar

III. RESEARCH METHODOLOGY

A. Research Questions

The following three research questions are raised and they are answered respectively:

- (1) What are the types of images in Yilin EFL textbooks?
- (2) How do the images in Yilin EFL textbooks realize the representational meaning, interactive meaning and compositional meaning?
- (3) What are the problems in image design of Yilin EFL textbooks?

B. Research Subjects

The junior high school EFL textbooks published by Yilin Press in 2012 are studied as research subjects. Yilin EFL textbooks are recommended by Ministry of Education of China, and have been widely used by Chinese EFL students from Grade 7 to 9 in Jiangsu Province. Filled with rich image and text resources, Yilin EFL textbooks consist of totally six textbooks, and each book contains 8 units, except for the last one which has only 4 units. Each unit is composed of 8 modules, namely “comic strip”, “welcome to the unit”, “reading”, “grammar”, “integrated skills”, “study skills”, “task” and “self-assessment”. The images in 6 modules are analyzed, excluding the modules of “study skills” and “self-assessment”, because there are few images in these two modules and most are fixed images. In addition, those images which mainly play the decorative role in the textbooks are also excluded in this study.

C. Research Procedures

First of all, all the images in the above-mentioned modules of Yilin EFL textbooks are collected and classified, and an image corpus is built for further study. Then, in order to explore how the images in Yilin EFL textbooks realize the representational meaning, interactive meaning and compositional meaning, a mixed method is adopted: Firstly, a quantitative analysis is adopted to show the statistics and distribution of images in terms of three dimensions as well as their sub-dimensions. Secondly, a qualitative analysis is also adopted to illustrate the meaning-making features of the images with some typical examples. Finally, the problems in image design are explored based on the multimodal analysis of Yilin EFL textbooks.

IV. RESULTS AND DISCUSSION

A. *Image Types in Yilin EFL Textbooks*

The images in Yilin EFL textbooks can be divided into four categories according to their nature: (1) cartoon—cartoons of character or animal, cartoon combinations with speech/thought bubbles; (2) photo—photos of real person or thing; (3) table—tables for presenting grammatical knowledge (excluding fill-in ones); (4) diagram—diagrams showing a certain relationship between parts. Table 2 shows the statistics of image types in Yilin EFL textbooks.

TABLE 2
THE STATISTICS OF IMAGE TYPES IN YILIN EFL TEXTBOOKS

Image Type	Cartoon	Photo	Table	Diagram
Textbook volume				
Grade 7-1	267	0	25	2
Grade 7-2	186	7	28	0
Grade 8-1	156	2	7	2
Grade 8-2	147	22	19	2
Grade 9-1	147	8	2	1
Grade 9-2	52	13	3	1
Total	955	52	84	8

As is shown in Table 2, the four types of images in Yilin EFL textbooks in descending order of quantity are: cartoons, tables, photos, and diagrams. As the grade goes up, cartoons appear less frequently in textbook series, while photos appear more frequently. In addition, as the grade goes up, the number of tables decreases significantly, while the number of diagrams has no obvious change.

Cartoon is the most frequently used image type in Yilin EFL textbooks mainly because it is the most acceptable form for junior high school students. Vivid cartoons can stimulate and maintain junior high school students' interest in English learning regardless of their relatively low thinking ability and English level. Nevertheless, there is an ascending trend in the number of photos as the grade goes up. The photos in textbook series are either closely related to students' daily life, or show people and objects as they are, so they are more conducive to presenting the real situation to students. With the maturity of students' cognitive ability, photos are more helpful for students to understand the situational context of texts and thus achieve knowledge transfer.

Table is also a commonly used image type in Yilin EFL textbooks. Tables, mainly appearing in the "Grammar" section, are used to sort out the important grammatical knowledge learned in the units. Tables are mainly used in textbooks for the lower grades of junior high school, since students of lower grades have relatively low cognitive level and knowledge generalization ability, and it is helpful to promote their knowledge acquisition by presenting and summarizing grammar points in the form of tables. Diagrams appear in every volume of Yilin EFL textbooks but the second volume of Grade 7. Diagrams can be used to cultivate students' logical thinking ability. However, for junior high school students, diagrams are difficult to understand, and thus there are only a few of them in Yilin EFL textbooks.

It can be seen that the selection of image types in Yilin EFL textbooks is largely affected by the thinking ability, cognitive level and English proficiency of junior high school students, and different types of images play different roles in promoting students' understanding of English knowledge and improving their English proficiency.

B. *The Realization of Three Meta-Meanings of Images in Yilin EFL Textbooks*(a). *The Realization of Representational Meaning of Images*

According to visual grammar, representational meaning comprises narrative representation and conceptual representation. To figure out the features of representational meaning construction of images in Yilin EFL textbooks, the statistics of narrative representation and conceptual representation are presented and discussed. Table 3 and Table 4 show the statistics respectively.

TABLE 3
THE STATISTICS OF IMAGES OF NARRATIVE REPRESENTATION (NR) IN YILIN EFL TEXTBOOKS

NR	Action process	Reactional process	Speech and mental process	Total
Textbook volume				
Grade 7-1	69	35	51	155
Grade 7-2	74	5	45	124
Grade 8-1	58	11	37	106
Grade 8-2	63	3	36	102
Grade 9-1	48	10	63	121
Grade 9-2	13	1	20	34
Total	325	65	252	642
Proportion	50.62%	10.12%	39.25%	100%

TABLE 4
THE STATISTICS OF IMAGES OF CONCEPTUAL REPRESENTATION (CR) IN YILIN EFL TEXTBOOKS

Textbook volume	CR	Classificational process	Analytical process	Symbolic process	Total
Grade 7-1		1	1	12	14
Grade 7-2		0	5	7	12
Grade 8-1		2	1	4	7
Grade 8-2		5	0	16	21
Grade 9-1		1	0	1	2
Grade 9-2		1	0	5	6
Total		10	7	45	62
Proportion		16.13%	11.29%	72.58%	100%

As is shown in Table 3 and 4, images of narrative representation are far more than that of conceptual representation. The vector in narrative representation allows students to obtain a sense of engagement, which contributes to building a friendly relationship between students and the represented participants in images, thereby attracting students' attention and arousing their interests (Qi, 2021).

Table 3 shows that action process and speech & mental process are the main processes of narrative representation, with the former occupying more than 50%, while only about 10% images in Yilin EFL textbooks show reactional process, and most of them appear in the first volume of Grade 7. In Yilin EFL textbooks, images showing action process mainly present the physical actions (such as movements) of participants or the course of events. Most of these images appear in the reading section as illustrations, and also in various exercises, requiring students to fill in the blanks based on the images. The main function of the images showing reactional process is to render a certain emotion through eye contact of the represented participants, arousing emotional resonance of students. For example, in Figure 2, the image in the upper left corner presents a harmonious communication between two girls who are looking at each other and talking happily. The eyeline of both participants forms a vector. This reactional process is conducive to arousing students' interests in the relationship between the represented participants, and as a result, students are more likely to read the article on their own initiative to find the desired information. The image in the lower right corner shows a typical action process, where the girl playing volleyball is the actor and the volleyball is the goal, and her arms form the vector. This image conveys to the viewers what the participant is doing, thereby helping to facilitate students' understanding of the article. There is also a high proportion of images showing speech and mental processes in Yilin EFL textbooks. At the beginning of each unit is a set of comic strips, which lead students into the unit study with funny cartoons and concise dialogues. The dialogue and thought bubbles in comic strips display what the represented participants are thinking in an intuitive way, which is more liable to be accepted by junior high school students. In addition, images showing speech and mental processes often appear in the exercises. For example, in Figure 3, the exercises are designed through the ideas and words of the represented participants in the textbooks, which strengthens familiarity for students.

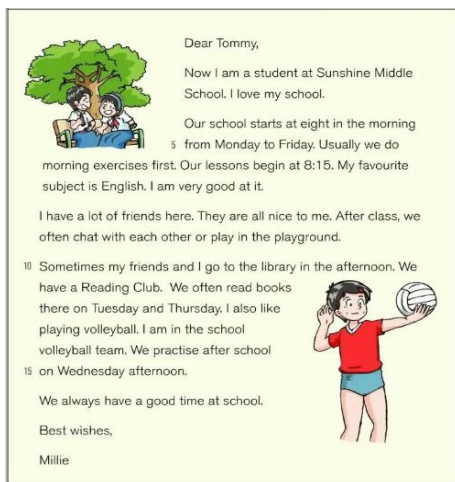


Figure 2. Reactional Process & Action Process (Extracted From Unit 4, Grade 7-1)

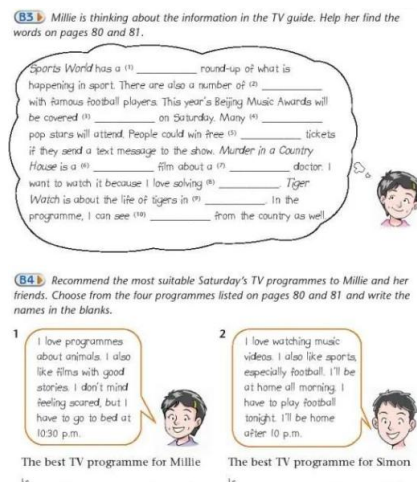


Figure 3. Speech & Mental Process (Extracted From Unit 6, Grade 9-1)

Different from the images of narrative representation, images of conceptual representation represent participants in terms of their class, structure or meaning, so as to deepen the viewer's understanding of the represented participants. Table 4 shows that symbolic process, which occupies 72.58%, is a dominant process, followed by classificational process, accounting for 16.13%. Images showing analytical process are rare in Yilin EFL textbooks, which can only be found in the first three volumes of the textbook series. The viewers could interpret the symbolic meaning and connotation of the image by analyzing the specific meaning of certain represented participants. The symbolic images are able to activate more relevant information of the viewer through their existing imagination, knowledge and thoughts. In Yilin EFL textbooks,

symbolic images are often used to present the characteristics of festivals, landmark buildings of cities, tourist attractions and so on, which are in line with the theme of the units. For example, Figure 4 shows an American flag, the symbol of the country, and the musical *Cats*, the symbol of Broadway. Such symbolic processes allow students to make immediate associations and prompt them to recall more tourist attractions in New York. With regard to junior high school students, symbolic process is an effective means to develop imagination and thinking ability. There is a relation of subordinate-superordinate between participants in the image showing classificational process, which is commonly seen in tree diagrams, flow charts, spidergram, etc. Such images rarely appear in reading materials, but are common in language exercises and tasks since they can make abstract concepts concrete and make students get a clear and straightforward impression of the content. For example, the "Task" section in Figure 5 uses a spidergram to help students organize their ideas. The analytical process, which links participants in the images in a part-whole structure, can help students acquire knowledge from both perspectives of part and whole, and thus understand the essence. Likewise, this type of image is common to be seen in language exercises and tasks. For instance, Figure 6 presents a growth chart of the giant panda Xi Wang. By analyzing different stages of Xi Wang's growth process, students could clearly understand the characteristics of giant panda at each stage of growth. In fact, this exercise serves as a useful supplement to the reading article since there is not enough space in the article to show the whole growth process with images. However, it requires higher thinking ability to analyze the logical relations between the represented participants in the images and then obtain the relevant concepts, which might be the reason why few images showing analytical process appear in Yilin EFL textbooks.

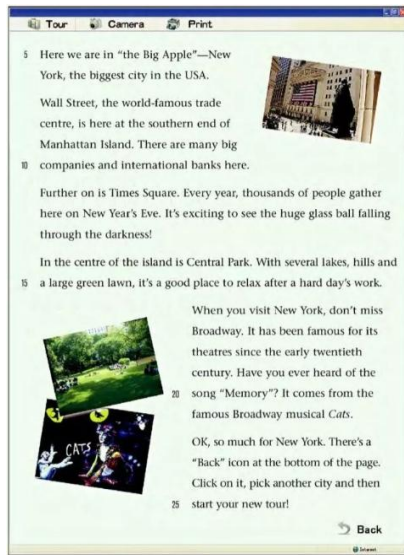


Figure 4. Symbolic Process
(Extracted From Unit 3, Grade 8-2)

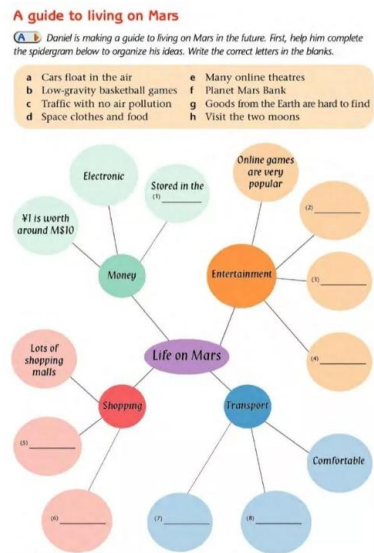


Figure 5. Classificational Process
(Extracted From Unit 4, Grade 9-2)

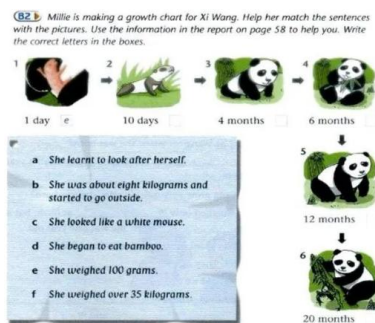


Figure 6. Analytical Process
(Extracted From Unit 5, Grade 8-1)

To sum up, Yilin EFL textbooks tend to use images to unfold certain story plots, show action processes and create English learning situations for junior high school students. Therefore, the realization of representational meaning of images is mainly realized by narrative representation.

(b). *The Realization of Interactive Meaning of Images*

Interactive meaning of the images is mainly realized by three subsystems of contact, social distance and perspective. To figure out the features of interactive meaning construction of images in Yilin EFL textbooks, the statistics of images of "contact", "social distance" and "perspective" are presented and discussed. Table 5, Table 6 and Table 7 show the statistics respectively.

TABLE 5
THE STATISTICS OF IMAGES OF “CONTACT” IN YILIN EFL TEXTBOOKS

Textbook volume	Contact	Demand	Offer	Total
Grade 7-1		0	217	217
Grade 7-2		0	188	188
Grade 8-1		2	139	141
Grade 8-2		1	167	168
Grade 9-1		11	128	139
Grade 9-2		2	60	62
Total		16	899	915
Proportion		1.75%	98.25%	100%

TABLE 6
THE STATISTICS OF IMAGES OF “SOCIAL DISTANCE (SD)” IN YILIN EFL TEXTBOOKS

Textbook volume	SD	Intimate	Social	Impersonal	Total
Grade 7-1		31	115	14	160
Grade 7-2		19	103	39	161
Grade 8-1		35	79	20	134
Grade 8-2		45	73	24	142
Grade 9-1		43	86	6	135
Grade 9-2		20	27	6	53
Total		193	483	109	785
Proportion		24.59%	61.53%	13.88%	100%

TABLE 7
THE STATISTICS OF IMAGES OF “PERSPECTIVE” IN YILIN EFL TEXTBOOKS

Textbook volume	Perspective	High angle	Eye angle	Low angle	Total
Grade 7-1		3	264	1	268
Grade 7-2		6	180	7	193
Grade 8-1		4	149	5	158
Grade 8-2		6	157	6	169
Grade 9-1		2	150	3	155
Grade 9-2		3	56	6	65
Total		24	956	28	1008
Proportion		2.38%	94.84%	2.78%	100%

As is shown in Table 5, among the “contact” images in Yilin EFL textbooks, images of “offer” are absolutely dominant, accounting for 98.25%. In such images, the represented participants make no eye contact with the viewer, and the main interactive function is to provide the viewer with some information. In Yilin EFL textbooks, images of “offer” either show students the characteristics of static things (e.g. the layout of the dining room as shown in Figure 7) or present the scene of a certain activity. In “demand” images, the participants make direct eye contact with the viewer. Figure 8 is a typical example, in which the well-known composer Tan Dun held up the trophy and looked excitedly at the viewers. His eyes convey the joy of victory, arousing strong resonance among the viewers. Research shows that most of images of “demand” in Yilin EFL textbooks are cartoons, where different characters (students, teachers, doctors, etc.) usually look at the viewer with a smile, conveying a happy mood and a friendly attitude, thus shortening the distance between the represented participants and the viewers. Due to the insufficient life experience and knowledge of junior high school students, there is a greater need for “offer” images to help them understand the world and accumulate knowledge. The main function of Chinese EFL textbooks for junior high school students is to present knowledge to students and promote students' accumulation of knowledge, rather than demand something from the students. That could explain why only a few “demand” images can be found in Yilin EFL textbooks.

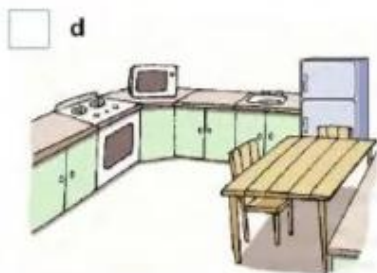


Figure 7. Image of “offer”
(Extracted From Unit 1, Grade 7-2)



Figure 8. Image of “demand”
(Extracted From Unit 5, Grade 9-1)

As is shown in Table 6, among the “social distance” images in Yilin EFL textbooks, “social” images account for the largest proportion, followed by “intimate” images, and “impersonal” images are the least. In Yilin EFL textbooks, “intimate” images are mainly used to introduce characters in textbooks or celebrities in real life. Figure 8 presents a close-up shot of Tan Dun, a famous composer. The close-up of Tan’s smiling face makes students feel close to him, thus creating a desire to know more about him. In addition, “intimate” images are often used to show interactions, especially conversations, between characters, thereby bringing the viewers closer to the participants in the images. As for the “social” images in Yilin EFL textbooks, they are mainly used to describe the actions of characters and the ongoing storyline, showing the process of interpersonal interaction to junior high school students. Figure 9 is a typical example of “social” image, which establishes a social relationship with the medium shot, and students could enhance their understanding of interpersonal relationships by viewing it. Figure 10 deploys a long shot to show people and their surroundings, presenting the students with a vision of daily life in the city. An impersonal relationship is hereby imposed between the students who are viewing the image and the characters in the image. The “social” images are frequently used in Yilin EFL textbooks so as to allow students to appreciate social relations while viewing the communication among the characters in the images. The “intimate” images showing facial expressions of characters can eliminate students’ sense of strangeness, and help them maintain a positive learning attitude. The “impersonal” images are not conducive to the establishment of close relations between students and the images, nor is it conducive to the promotion of social interactions, so they are seldom used in the textbook series.



Figure 9. “Social” Image
(Extracted From Unit 2, Grade 7-2)



Figure 10. “Impersonal” Image
(Extracted From Unit 1, Grade 8-2)

As Table 7 shows, among the “perspective” images in Yilin EFL textbooks, “eye angle” images occupy an absolutely dominant position, while “high angle” and “low angle” images are equivalent, each accounting for a small proportion. Generally, when an “eye angle” is adopted, the viewer and the represented participants in the image have equal status, and thus the viewer can integrate into the image easily. In Yilin EFL textbooks, “low angle” is often used to highlight the grandeur of buildings, as well as to depict objects with the sky as the background, such as kite, airplane, etc., while “high angle” is mainly used to depict an overall view of ground scenes or activities, or to display map information. For example, Figure 11 presents the Statue of Liberty from a low angle. Students will have a strong sense of visual impact when looking at the image, and they will be deeply impressed. Figure 12 presents a panoramic view of the park from a high angle, and in this case students have greater rights to interpret the whole image. In both “low angle” and “high angle” images, students are in an unequal relationship with the elements in the images. The former is easy to cause a sense of depression for students, while the latter makes it difficult for them to integrate into the image. The “eye angle” images appear most frequently in Yilin EFL textbooks since the equal relationship they indicate can ensure that students participate in the learning of textbooks to the greatest extent possible.



Figure 11. “Low Angle” Image
(Extracted From Unit 5, Grade 9-1)



(Extracted From Unit 4, Grade 7-2)
Figure 12. “High Angle” Image

(c). *The Realization of Compositional Meaning of Images*

Compositional meaning of the images is mainly realized by three routes: information value, salience and framing. The relevant statistics are respectively shown in Table 8 and Table 9, and then discussed so as to figure out the features of compositional meaning construction of images in Yilin EFL textbooks.

TABLE 8
THE STATISTICS OF IMAGES OF “INFORMATION VALUE (IV)” IN YILIN EFL TEXTBOOKS

Textbook volume	IV			Total
	Left and right	Top and bottom	Center and margin	
Grade 7-1	41	6	0	47
Grade 7-2	30	4	1	35
Grade 8-1	29	3	1	33
Grade 8-2	28	5	0	33
Grade 9-1	29	14	0	43
Grade 9-2	12	1	0	13
Total	169	33	2	204
Proportion	82.84%	16.18%	0.98%	100%

TABLE 9
THE STATISTICS OF IMAGES OF “FRAMING” IN YILIN EFL TEXTBOOKS

Textbook volume	Framing	Actual frame line	Virtual dividing line	Total
	Grade 7-1		14	4
Grade 7-2		9	0	9
Grade 8-1		29	2	31
Grade 8-2		18	0	18
Grade 9-1		26	4	30
Grade 9-2		14	0	14
Total		110	10	120
Proportion		91.67%	8.33%	100%

As is shown in Table 8, among the images of “information value” in Yilin EFL textbooks, those left-right structure images account for 82.84%, followed by top-bottom structure images, and center-margin structure images account for less than 1%. In this textbook series, images of left-right structure are mainly used to show the dialogue between characters. Figure 13 is a typical example, in which two students who meet for the first time are greeting and getting to know each other. However, research shows that not all left-right structure images in Yilin EFL textbooks follow the meaning construction pattern of “known to unknown”. It can be seen that visual grammar has insufficient explanatory power for left-right structure images, which coincides to some extent with the previous findings (Forceville, 1999; Painter et al., 2013). In Yilin EFL textbooks, the information located on the top of the image usually concerns what is imagined by the represented participant, displayed to the students in thought bubbles. As Figure 14 shows, Eddie bought an electronic dog, and what he imagined appears in the thought bubble on the top, that is, the electronic dog would treat it as its owner and take care of its daily life.



Figure 13. Left-Right Structure Image
(Extracted From Unit 1, Grade 7-1)



Figure 14. Top-Bottom Structure Image
(Extracted From Unit 1, Grade 7-1)

When composing an image, image designers tend to place important information in the center and secondary information that plays a supporting role on the edges of the image. Figure 15 is a case in point, where the fire-fighting hero Lin Tao is located in the center of the image for he is the main character the image designer wants to highlight, while the burning building is placed at the edge of the image. However, the research shows that there are only a handful of center-margin structure images in Yilin EFL textbooks.



Figure 15. Center-Margin Structure Image
(Extracted From Unit 7, Grade 7-2)



Figure 16. Image of "Framing"
(Extracted From Unit 8, Grade 7-1)

The main components in textbook discourse are images and texts, so framing discussed here refers to how to distinguish images and words, which is realized mainly by virtual dividing lines or actual frame lines in Yilin EFL textbooks. As is shown in Table 9, among the images of "framing" in Yilin EFL textbooks, images using virtual dividing lines only account for 8.33%, while all the others use actual frame lines to separate images and texts. In Figure 16, the projection under the spotlight forms a virtual dividing line separating the boy on the left from the text; meanwhile, a rectangular frame is employed to separate the text from the girl walking on the catwalk on the right. Actual frame lines separating images and texts make the layout of the textbook clearer, enabling readers to read the images and texts selectively. The "reading" section in Yilin EFL textbooks often adopts rectangles and circles as framing to make the presentation of both texts and images distinct and vivid. In addition, slash line is often used to segment elements in images, dividing different scenes. For example, an image showing that two friends are talking on the phone is divided into two parts by a slash line in between, with each part depicting a different scene of making phone call by a different person. This type of image is commonly seen in Yilin EFL textbooks. Students in junior high schools have a low level of cognitive thinking, so using tangible frameworks to distinguish scenes in images is beneficial for them to better understand the meaning of images and realize the transformation of scenes. Salience is achieved through the contrast of color, size, position, etc. Research shows that the images in Yilin EFL textbooks are rich in color and thus appealing to junior high school students. Most of the images are closely integrated with the texts. The size of the images is reasonable, and the layout appropriate. Furthermore, important element in the image is often placed in the foreground to emphasize its importance.

C. Problems in Image Design of Yilin EFL Textbooks

(a). Insufficient Image Types

It is found that the most important type of image in Yilin EFL textbooks is cartoon, compared to which photo, table and diagram appear less frequently. In fact, different types of images have different characteristics and can play different roles in promoting students' learning. For example, photos are highly intuitive, which can create learning situations, improve the authenticity of teaching content and stimulate students' enthusiasm for learning; various kinds of diagrams are conducive to cultivating students' logical thinking ability and analytical ability. Images with different functions working together in the textbooks will definitely contribute to students' cognitive development. Therefore, Yilin EFL textbooks can further enrich the types of images. At the same time, more images with "analytical" features can be added into the textbooks for senior students as appropriate, such as flow charts, schematic diagrams and mind maps.

(b). Lack of Images Promoting Knowledge Comprehension

It is found that Yilin EFL textbooks are mainly text-based, with images only playing a supporting role. In fact, quite a few images in the textbook series serve as illustrations for reading articles or language exercises, which are not directly related to the learning content and cannot promote students' understanding and mastery of knowledge. Some images appear in exercises where images and texts match each other, such as matching newly learned vocabulary with corresponding images, supplementing information based on images, sorting out key points with mind maps, etc. However, such kind of images account for a small proportion in Yilin EFL textbooks, and most images only serve to decorate and assist in illustrating the text information. Therefore, the proportion of images that can promote students' knowledge comprehension should be appropriately increased in Yilin EFL textbooks.

(c). Inadequate Realization of Compositional Meaning of Images

In Yilin EFL textbooks, left-right structure images dominate, but some images don't follow the meaning construction pattern of "known to unknown", which may cause confusion among junior high school students and lead to some trouble in reading images. The top-bottom structure images in the textbook series are mainly used to show what is imagined by the represented participants, and thus there is a lack of diversity in the meaning construction of images. The center-margin structure images, which are scarce in Yilin EFL textbooks, fail to play an effective role of highlighting important information. It can be seen that the compositional meaning of the images in Yilin EFL textbooks is inadequately realized due to the insufficient utilization of "information value". Therefore, it is necessary to adjust the

image design in Yilin EFL textbooks appropriately according to visual grammar, so as to express the information and meaning of the images in a better way.

V. CONCLUSION

A. Major Findings

There are four main types of images in Yilin EFL textbooks: cartoon, photo, table, and diagram, among which cartoon is the most common image type in the textbook series.

Research shows that the images in Yilin EFL textbooks realized the representational meaning, interactive meaning and compositional meaning, but comparatively, the compositional meaning of the images is inadequately realized. In terms of the representational meaning, images of narrative representation are far more than that of conceptual representation in Yilin EFL textbooks. Action process and speech & mental process are the main processes of narrative representation, while images showing reactional process rarely appear. The vector in narrative representation allows students to obtain a sense of engagement, thus attracting students' attention and arousing their interests in learning. Symbolic process is the dominant process of conceptual representation, followed by classificational process, while images showing analytical process are rare in Yilin EFL textbooks. Images with symbolic meaning are able to activate more relevant information in the viewer's mind through their existing knowledge and imagination. In Yilin EFL textbooks, such images are usually used to display the characteristics of festivals, landmark buildings of cities, tourist attractions and the like, so as to match the theme of the units. Images that embody the classificational process and analytical process mainly appear in language exercises and tasks. In short, the realization of representational meaning of images in Yilin EFL textbooks is mainly realized by narrative representation, and the images serve to unfold certain story plots, show action processes and create English learning situations for junior high school students.

In terms of the interactive meaning, images of "offer" are absolutely dominant among the "contact" images in Yilin EFL textbooks, while there are few images of "demand". As for "social distance" images in Yilin EFL textbooks, "social" images occupy the largest proportion, followed by "intimate" images as well as "impersonal" images. The "social" images are mainly used to describe the actions of characters and the ongoing storyline, showing the process of interpersonal interaction to students and allowing them to appreciate social relations. The "intimate" images show facial expressions of characters, which eliminate students' sense of strangeness, shorten the distance between students and textbooks, and help them maintain a positive learning attitude. As for the "perspective" images in Yilin EFL textbooks, "eye angle" images are absolutely dominant, while "high angle" and "low angle" images both account for a small proportion. Yilin EFL textbooks tend to establish an equal relationship with students by utilizing "eye angle" images, so as to ensure that students participate in the learning of textbooks to the greatest extent possible.

In terms of the compositional meaning, the left-right structure images occupy the most among the images of "information value" in Yilin EFL textbooks, followed by top-bottom structure images and then center-margin structure images. It confirms the findings that visual grammar has insufficient explanatory power for images of "information value". In Yilin EFL textbooks, images and words are mainly separated by virtual dividing lines and actual frame lines. As for the images of "framing", images using actual frame lines to separate images and texts are absolutely dominant. As junior high school students' cognitive thinking ability is relatively low, using tangible frameworks to distinguish scenes in images is beneficial for them to understand the meaning of images and realize the transformation of scenes. In addition, salience in Yilin EFL textbooks is mainly realized by means of the contrast of color and size, as well as foreground position of key elements.

Based on the multimodal analysis of Yilin EFL textbook, three problems in image design have been summed up as follows: insufficient image types, lack of images promoting knowledge comprehension, inadequate realization of compositional meaning of images.

B. Implications

This research has some implications for textbook image designers, Chinese EFL teachers and Chinese junior high school students. For textbook image designers, when designing textbook illustrations, they should not only consider the aesthetics of the images, but also the functions of the images. Visual grammar is helpful for designers to broaden their thinking and make textbook images contain richer connotations and more diversified functions. Focusing on the theme of each unit, they should design images that not only conform to students' cognitive level, but also fully realize three meta-meanings, so as to stimulate students' interest in English learning, strengthen the interaction between students and images, and promote their understanding and mastery of knowledge. For Chinese EFL teachers, they should value textbook illustrations, regarding them as an important curriculum resource. In the teaching process, teachers can make use of visual grammar to interpret images in textbooks in terms of representational meaning, interactive meaning and compositional meaning, and then excavate the teaching value of images, guide students to observe and explore images, cultivating students' multiliteracies. For junior high school students, they should actively change the way of reading images, carefully analyze the images under the guidance of teachers, and fully understand the three meta-meanings conveyed by the images, so as to utilize the images more effectively to understand the text and improve their multiliteracies.

ACKNOWLEDGEMENTS

This work was supported by a grant from “Jiangsu Provincial Social Science Fund of China” (Grant No.: 22ZWD001). It was also supported by the Linguistic Semiotics and Intercultural Research Team (Team No.: ZJSRT2023006).

REFERENCES

- [1] Cheng, F. H., & Liu, C. H. (2016). Ji yu duo mo tai ying yu jiao cai da xue sheng shi jue su yang jian gou yan jiu [An Exploration of College Students' Visual Literacy Construction Based on Multimodal English Textbooks]. *Journal of Guangdong University of Foreign Studies*, 27(6), 126-134.
- [2] Cheng, X. T., & Cong, L. (2020). Ying yu jiao cai bian xie zhong tu xiang zi yuan de she ji yu shi yong [The design and use of imagery resources in the writing of English textbooks]. *Curriculum, teaching material and method*, 40(08), 78-85.
- [3] Forceville, C. (1999). Educating the eye? Kress and van Leeuwen's reading images: The grammar of visual design (1996). *Language & Literature*, 8(2), 163-178.
- [4] Halliday, M. A. K., & Hasan, R. (1985). *Language, context and text: Aspects of language in a social-semiotic perspective*. Deakin University Press.
- [5] Kress, G., & van Leeuwen, T. (1996). *Reading images: The grammar of visual design*. Routledge.
- [6] Kress, G., & van Leeuwen, T. (2006). *Reading images: The grammar of visual design (2nd ed.)*. Routledge.
- [7] Lai, H. (2018). Image-text relations in junior high school EFL textbooks in China: A mixed-methods study. *Journal of Language Teaching and Research*, 9, 1177-1190.
- [8] Levie, W. H., & Lentz, R. (1982). Effects of text illustrations: A review of research. *Educational Communication & Technology Journal*, 30(4), 195-232.
- [9] Li, Z. Z. (2003). Duo mo shi hua yu de she hui fu hao xue fen xi [Social semiotic approach to multimodal discourse]. *Foreign Language Research*, 5, 1-8+80.
- [10] Nordensvard, E. (2010). *Multimodality: An EFL textbook comparison using multimodal discourse analysis*. Sodertorn University College, Sweden.
- [11] Painter, C., Martin, J. R., & Unsworth, L. (2013). *Reading visual narratives: Image analysis of children's picture books*. Equinox.
- [12] Pang, Y. D. (2018). Zhi jia shi jiao xue zai chu zhong ying yu xie zuo zhong de yun yong —— yi yi lin ban chu zhong ying yu 8B Unit 8 A Green World wei li [The application of scaffolding teaching in junior high school English writing —— A case study of Yilin EFL textbook 8B Unit 8 A Green World]. *English Square*, 8, 160-161.
- [13] Pu, Z. A. (2008). Xiao xue di nian ji jiao cai cha tu de ren zhi、jiao yu gong neng yu ding wei fen xi [Analysis on the cognitive and educational functions of the illustrations in the lower grade textbooks for primary schools]. *Curriculum, teaching material and method*, 28(09), 7-10.
- [14] Qi, J. M. (2021). A study on the representational meaning of the images in English textbooks based on visual grammar. (eds.), *Proceedings of the 2021 northeast Asia international symposium on linguistics, literature and teaching* (pp. 38-43).
- [15] Qi, J. M., & Hemchua, S. (2022). Analyzing the English comic version of *The Analects of Confucius* based on visual grammar. *Language Related Research*, 13(5), 391-419.
- [16] Salbego, N., Heberle, V. M., & Maria Gabriela Soares da Silva Balen. (2015). A visual analysis of English textbooks: Multimodal scaffolded learning. *Calidoscopio*, 13(1), 5-13.
- [17] Shao, Y. X. (2022). *A study on the grammar section of Yilin English textbook for junior high school* [Master's dissertation]. Suzhou University of Science and Technology.
- [18] Shen, Q. C. (2024). Qian tan PBL jiao xue fa zai chu zhong ying yu ci hui jiao xue zhong de ying yong —— yi yi lin ban “ying yu” qi nian ji shang ce Unit 2 Let's Play Sports wei li [An analysis of the application of PBL Teaching method in English vocabulary teaching in Junior high School —— Taking Unit 2 Let's Play Sports, 7A of Yilin EFL textbook as an example]. *English Square*, 2, 120-124.
- [19] Song, Z. S. (2005). Jiao ke shu cha tu de ren zhi xin li xue yan jiu [A Study of Illustrations in Textbooks from the Perspective of Cognitive Psychology]. *Journal of Beijing Normal University*, 6, 22-26.
- [20] Tahririan, M. H. & Sadri, E. (2013). Analysis of images in Iranian high school EFL course books. *Iranian Journal of Applied Linguistics (IJAL)*, 16(2), 137-160.
- [21] Torres, G. (2015). “Reading” world link: A visual social semiotic analysis of an EFL textbook. *International Journal of English Language Education*, 3(1), 239-253.
- [22] Weninger, C., & Kiss, T. (2013). Culture in English as a foreign language (EFL) textbooks: A semiotic approach. *TESOL Quarterly*, 47, 694-716.
- [23] Willows, D. M. (1979). *Reading comprehension of illustrated and non-illustrated aspects of text*. Paper Presented at the Annual Meeting of the American Educational Research Association, San Francisco.
- [24] Yu, X. J. (2020). *An evaluation of Yilin English textbook for junior high school* [Master's dissertation]. Guangxi Normal University.

Jiaming Qi works as an Associate Professor in Applied Linguistics at the School of Humanities and Social Sciences, Nanjing University of Science and Technology ZhiJin College, China. She obtained her MA in Foreign Linguistics and Applied Linguistics from the Graduate School of Nanjing University of Science and Technology, and got her Ph.D. degree in Semiotics and Cultural Studies. She has been focusing her research on EFL teaching and learning, multimodal discourse analysis (MDA) and translation studies. She serves as a peer reviewer for several accredited international journals in the field of MDA as well as EFL education.