A Study on the Multimodal Stylistic Features of Picture Book Finding Winnie

Shumin Hao

Northwestern Polytechnical University, Xi'an, China Email: haoshumin@mail.nwpu.edu.cn

Manuscript received September 14, 2023; revised October 30, 2023; accepted November 23, 2023; published March 26, 2024

Abstract—Picture books are a literary genre with multimodal features that plays an important role in children's education, entertainment and life. Children's picture books have attracted a lot of attention from the academic circles. At current, scholars mainly focus on the studies of education, culture, translation and literature of children's picture books, and few of them have studied children's picture books from the perspective of multimodal stylistics. Therefore, based on the theory of multimodal stylistics, this paper will analyze the multimodal stylistic features of a children's picture book named Finding Winnie which won the 2016 Caldecott Gold Award. This paper uses a combination of quantitative analysis and qualitative analysis to study the foreground features and stylistic effects of the language, the image, the layout, the color, the typograph and the inter-semiotic relationships in this picture book. It is found that material process, verbal process and relational processes are prominent features of the verbal mode, as well as foreground features. Images are mostly narrative. The verbal text is on the right and below the image, and the characters are in the middle of the image, which both constitute the foreground feature of the layout. Warm colors of yellow and brown and cool colors of green and blue constitute the foreground features of the color mode. The slope and bold typefaces are the foreground features of the typograph mode. The intensified complementary relationship constitutes a prominent feature of the inter-semiotic relationships.

Keywords—Finding Winnie, foregrounded features, multimodal stylistics, prominent features

I. INTRODUCTION

Picture books refer to a type of books that use many drawings and a small amount of text to tell a complete story together. The high-quality picture books can develop children's language ability, imagination, rich emotions, and good reading habits.

The Caldecott Medal is the most prestigious picture book award in the United States and is considered the "Oscars" of picture books. Finding Winnie won the gold medal of the Caldecott Award in 2016, the first Caldecott Gold Award for Sophie Blackall. Once this picture book was introduced, it was very popular with adults and children in China.

The story of a veterinarian named Harry and a bear named Winnie is told by a mother for her son at bedtime in the picture book Finding Winnie. Harry, a veterinarian, on his way to Europe to fight in World War I, used \$20 to buy a bear cub from a trapper, and he named the cub Winnie. He and Winnie became deeply attached to each other. However, the war was about to start and he had to serve in France. He sent Winnie to the London Zoo. On the occasion of parting, he told Winnie that although they are about to be apart, the important thing is that he will always love her, and Winnie will always be his own Bear. After Winnie was sent to the zoo, a little boy named Christopher Robin Milne came to the

zoo often to see Winnie. He especially liked the bear and became good friends with her. He even named his teddy bear Winnie. The boy's father was a writer, and he later wrote down the story of the boy and Winnie, which led to the series of stories about Winnie the Pooh that we read today. After the World War I, Harry went to visit Winnie and was happy to see that she is living a happy life. Finally, the story returns to the scene where the mother tells a story to her son, who turns out to be the descendant of Harry. It is a simple and heartwarming story that tells of love and friendship that transcends everything in the era of war.

At present, researches on picture books are carried out from many perspectives, especially the perspective of linguistics, including multimodal discourse analysis, multimodal metaphor, multimodal translation multimodal cognitive poetics. Present studies have less involved in multimodal stylistic analysis. Therefore, this paper will analysis the children's picture book Finding Winnie from the perspective of multimodal stylistics. This paper aims to reveal the foregrounded features of the language, the image, the layout, the color, the typography and the inter-semiotic relationships of Finding Winnie from the perspective of ideational function. It is of great significance in carrying out this research. First, this paper will help readers to understand the theme of this picture book more deeply from a new perspective. Second, this study will inspire the creation and design of original picture books in China.

II. LITERATURE REVIEW

A. Previous studies on Children's Picture Books Abroad and at Home

In foreign countries, children's picture books have been developed for more than 100 years in foreign countries. There are many researches on picture books from different perspectives, including picture book reading, teaching, translation, linguistics, psychology and so on.

In the field of linguistics, studies on picture book mainly focus on text-image relations, multimodal discourse analysis and multimodal cognitive metaphor. From the perspective of text-image relations, Lewis thinks that the texts and images in the picture book are not isolated, and they interact with each other and complement each other [1]. Painter and his fellows explain the interaction between images and texts. In a word, they all believe that both words and images are necessary in telling a story in picture books [2]. From the perspective of multimodal discourse analysis, Roger and Christian reveal the ways in which race is represented in images and texts by exploring expressions in picture books [3]. Gee [4] analyzes images in picture books and finds that the use of visual

grammar in images helps to understand the deeper potential meanings behind picture books. In terms of cognitive metaphor. Jennifer and O'Halloran *et al.* [5] analyze metaphors in Chinese children's sex education picture books based on cognitive metaphor theory. In summary, foreign scholars study picture books form various linguistics views, while less scholars conduct research about picture books from the perspective of multimodal stylistics.

It was in the 1960s that children's picture books were introduced in Taiwan, China. After decades of development and innovation in China, picture books now have entered a stage of rapid development, attracting many scholars in China to conduct research from different perspectives. Domestic research on picture books can be broadly divided into three kinds: education, artistic design and linguistics. In the fields of linguistics, studies on picture books can be divided into three types: multimodal discourse analysis, multimodal translation, multimodal cognitive poetics [6–12]. For example, Xie systematically discussed the relations between images and texts in Grimm's Tales based on the logical semantic relations between texts and images and visual discourse analysis framework [10]. Wang reviewed Translating Picturebooks and studied how to translate picture books from semiotic and multimodal perspectives [11]. Based on the poetic likeness model of Freeman, Cai integrates systematic functional grammar and visual narrative theory to build a multimodal cognitive poetic analysis framework [12].

From the foreign and domestic studies on picture books, it can be seen that many scholars focus on the study of image-text relationships, and the inter-semiotic relations are rarely researched. Therefore, this thesis not only studies the verbal mode and visual mode, but also analyzes the inter-semiotic relationships from the perspective of multimodal functional stylistics.

B. Previous Studies on Multimodal Functional Stylistics

Multimodal stylistics is an emerging branch of stylistics that focuses on the foregrounded features and inter-semiotic relationships among multiple modes. The study of multimodal stylistics can be traced back to the British stylist McIntyre, who first tried to use multimodality as a new approach to stylistic analysis in his study of drama [13]. Professor Norgaard at the University of Southern Denmark first introduced the concept of multimodal stylistics. There are two research branches in multimodal stylistics: multimodal cognitive stylistics and multimodal functional stylistics [14]. Multimodal cognitive stylistics refers to the use of a cognitive approach to study the role of non-verbal modes in the construction of discourse. Multimodal functional stylistics, on the other hand, is based on systemic functional linguistics and is concerned with the development of symbolic-grammatical systems of nonverbal modes.

The domestic studies mainly focus on the construction of a framework for multimodal functional stylistics and its application in different types of discourse. Zhang and Mu were the first to introduce multimodal stylistics to China and to construct a theoretical framework for multimodal functional stylistics [15]. However, this framework is only applicable to the functional stylistic analysis of multimodal discourse composed of images and texts. Subsequently, Lei

and Zhang [16] added print layout, layout and color modes to this theoretical framework, and proposed an approach for multimodal functional stylistic analysis of novel covers. Lei [17] reviewed the present theoretical framework of multimodal functional stylistics and discussed some questions, such as the construction of multimodal grammar and the way context constrains the choice of modes.

Later, many scholars applied the theory of multimodal functional stylistics in various areas, such as poems, advertisement, webpage and so on. Zhang and Mu [15] applied multimodal functional stylistics to the study of comic strips, which is the earliest applied research in this field in China. Zhao and Yu [18] analyzed the stylistic prominent features of the visual poem The Christmas Tree in terms of verbal mode and visual mode, and the analysis shows that the verbal mode and visual mode play a complementary role in the construction of the poem's meaning and theme. Song and Lei [19] compared and analyzed the meaning construction and foregrounding stylistic features of YiLi and MengNiu packaging ads by applying the framework of multimodal stylistics. Zhao [20] used multimodal stylistic theory to compare and analyze the multimodal stylistic features of the English homepage of the official Chinese and American diplomatic websites.

All in all, the analytical framework of multimodal functional stylistics is becoming more mature. Scholars have started to focus on other modes such as color, layout, typograph in addition to the text and image mode. Therefore, this study attempts to analyze multimodal stylistic features of Finding Winnie based on Lei's framework (see Fig. 1) [16]. The research question of the study are as follows:

- 1. What are the foregrounded features of the verbal mode, non-verbal modes and inter-semiotic relationships in children's picture book Finding Winnie?
- 2. What are the ideational meanings expressed by these foregrounded features?

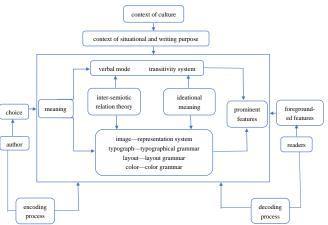


Fig. 1. A Framework for multimodal stylistic analysis [16].

III. METHODOLOGY

Both quantitative and qualitative methods are used in this paper to analyze the multimodal stylistic features of the verbal mode, non-verbal modes and inter-semiotic relationships in children's picture book Finding Winnie. The quantitative method is used to calculate the numbers and percentages of different modes to identify the prominent features in each mode and the qualitative method is used to

explain the prominent features and the foregrounded features with the association of the context.

In detail, there are three steps to follow: first, the textual content of the picture book is extracted, and there are 1521 words, and then this study counts the number of images based on the principle of completeness of images, with a total of 29 images. Second, the author annotates the research data with different grammatical theories which include the transitivity system, the representation system, the layout grammar, the color grammar and the typographical grammar, and calculates the numbers and percentages of verbal and non-verbal modes. Third, the tables showing the distribution of different modes are presented to help the author identify the prominent features. Finally, the foregrounded features are identified. Meanwhile, the ideational meanings conveyed by these foregrounded features are revealed.

IV. AN ANALYSIS OF MULTIMODAL STYLISTIC FEATURES OF FINDING WINNIE

A. An Analysis of the Verbal Features

The verbal mode is analyzed through transitivity system. The author finds all the process types of verbal mode to summarize the foregrounded features of verbal mode in *Finding Winnie*.

Table 1. Distribution of process types in verbal mode in Finding Winnie

Type of Process	Number of Process	Percentage of Total
Material Process	109	41.29%
Verbal Process	49	18.56%
Relational Process	44	16.67%
Mental Process	38	14.39%
Existential Process	16	6.06%
Behavioral Process	8	3.03%
Total Number	264	100%

As the above Table 1 shows, there are 264 process types in total. Among them, 109 material processes account for 41.29%. 49 verbal processes account for 18.56%. 44 relational processes take up 16.67%. 38 mental processes take up 14.39%. 16 existential processes occupy 6.06% and 8 behavioral processes occupy 3.03%. The table shows that the material process, verbal process and relational process account for large proportions and they comprise the prominent features of the verbal mode.

The material processes performed by Harry, soldiers and Winnie are used to describe the interaction between Harry and Winnie, soldiers and Winnie and their deep emotions, which is consistence to the topic of this picture book. Therefore, the material process is the foregrounded feature. The verbal processes are used to describe the scene that a mother is telling a story to her child and their dialogues, which is consistence to the context of the situation of this picture books. Therefore, the verbal process is the foregrounded feature. The relational processes facilitate the reader's understanding by explaining different aspects of the story and the development of the storyline between the characters. Therefore, the relational process is the foregrounded feature in this picture book. In summary, the material process, verbal process and relational process are the foregrounded features in this picture book. They work together to make the whole story more vivid and promote the development of the storyline. They also make the reader better understand the feelings between Winnie and the soldiers.

B. An Analysis of the Image Features

The author identifies the process types of 29 images in *Finding Winnie*. The following is the distribution of process types in images in *Finding Winnie*.

Table 2. Distribution of process types in images in Finding Winnie

Representation System	Type of Process	Number	Percentage	Total Percentage	
Narrative Representation	Action Process	82	52.23%		
	Reactional Process	57	36.31%	89.17%	
	Mental Process	1	0.63%		
	Speech Process	0	0%		
Conceptual Representation	Symbolic Process	7	4.46%		
	Classificational Process	6	3.82%	10.83%	
	Analytical Process	4	2.54%		
Total Number		157	100	0%	

From the Table 2, it can be seen that 82 action processes account for 52.23%; 57 reactional processes account for 36.31%; 1 mental process account for 0.63% and 7 symbolic processes make up 4.46%, 6 classificational processes make up 3.82% and 4 analytical processes occupy 2.54%. From statistics, action process, reactional process and symbolic process are the prominent features.

The picture book *Finding Winnie* praises Harry and Soldiers' warmth and their love to Winnie and criticizes that the war is cruel. The action process and reactional process performed by Harry shows he takes care of Winnie very well and Winnie does a good job in the military camps, which is consistence with the context of the situation. Therefore, action process and reactional process are the foregrounded features. In addition, the symbolic process is combined with the action process to describe the cruelty and length of the war, which is consistence with the theme of the picture book. Therefore, the symbolic process is the foregrounded feature.

C. An Analysis of the Layout Features

The analysis of the foregrounded feature of layout is based on the principle of information value. Table 3 shows the distribution of position of paragraphs in *Finding Winnie*.

Table 3. Distribution of position of paragraphs in Finding Winnie

Position of Paragraphs	Number	Percentage
Middle	6	23.08%
Right	6	23.08%
Lower	5	19.23%
Left	4	15.38%
Upper Right	3	11.54%
Top	2	7.69%
Total Number	26	100%

It can be seen in Table 3 that there are six types of layouts in the picture book. 6 paragraphs are in the middle part of the image, which take up 23.08%. 6 paragraphs are in the right part of the image, which account for 23.08%. And 5 paragraphs are in the lower part of the image, occupying 19.23%. From the statistics, the paragraphs mostly in the middle, right and lower part of the image constitute the prominent features.

Layout reflects the reading habits and illustrator's intention. The paragraphs are placed in the middle, linking the surrounding pictures that are concreate presentation of the paragraphs. The paragraphs in the right and lower are consistence with the principle that new information is placed on the right and realistic information at the bottom. Therefore, the paragraphs in the middle, right and lower part are the foregrounded features in this book.

D. An Analysis of the Color Features

Color is important in the picture book because it can convey connotative information and denotative information. Kress and van Leeuwen proposed the grammar of color including six distinctive features: value, saturation, purity, modulation, differentiation and hue [21, 22]. It is hard to classify colors into certain types from the perspective of value, saturation, purity, modulation, and differentiation. Hence the author analyzes the sale of hue in *Finding Winnie*.

It was observed that the color used in the picture book are soft and mild. There are five main colors in *Finding Winnie*: beige, brown, blue, green and white. Therefore, the use of these five colors becomes the prominent feature of the color mode. Beige is mild in tone and can give a sense of warmth; brown is mainly used for painting Winnie, making Winnie look more lovely and vivid; blue represents calmness, making people feel quiet and relaxed and highlighting the preciousness of peace in the context of war; green represents life, also representing that Winnie is a living being, and Harry gives it hope for life, also highlighting people's desire for life in the war era; white symbolizes innocence and simplicity, symbolizing the friendship between Harry and Winnie. highlighting the depth of the relationship between human and bear. Therefore, the prominent feature is also the foregrounded feature, which creates the overall soft style of the picture book and also tell a warm story of friendship for children.

E. An Analysis of the Typography Features

For typography, weight, expansion, slope, curvature, connectivity, orientation and regularity are used to analyze its foregrounded feature. This paper mainly analyzes the foregrounded features from the perspective of slope and weight.

It is observed that the upright typeface is a prominent feature in this picture book. It's used to narrate the story that Harry rescued Winnie and contributes a little to the theme, so it is the foregrounded feature. Slope typeface is used in the dialogues between Cole and his mother. Their dialogues provide more background information about Harry and bear. Through that background information, the readers have a clear understand about this story. These dialogues also show some optimism and love, which is consistence with the theme of this picture book. Therefore, slope typeface is a foregrounded feature.

The bold typeface appears three times in the picture book. Here are the bold typefaces: "Could you tell me a story?", "A very long time ago," and "Once upon a time,". They show the important time clues. "Could you tell me a story?" is the beginning of the whole story. It distinguishes the past and present, the true characters and the narrator. "A very long time ago," is the beginning of the story of Harry and Winnie.

"Once upon a time," is used to tell the story of Christopher Robin Milne and Winnie. Finally, a clear family tree can be seen. Harry is Cole' great-great-grandfather. Therefore, the bold typeface is the foregrounded feature.

F. An Analysis of the Inter-semiotic Relationships

In previous parts, the foregrounded features of the verbal mode, image mode, layout mode, color mode and typography mode have been analyzed. However, there are various modes in the multimodal discourse. They work together to produce a better effect than one mode. Thus, it is necessary to analyze the inter-semiotic relationship. In this part, the relationships between the verbal and visual mode, between the verbal mode and typography mode will be analyzed.

First, this paper adopts the representational theory of inter-semiotic relationships to analyze the relationship between the verbal and visual mode. 29 images are analyzed and the distribution of relationships is shown in Table 4.

Table 4. Distribution of relationships between verbal and visual mode

Relationships Between Verbal and Visual Mode	Major Mode	Number	Percentage
Intensified Complementary Relationship	Visual Mode	22	75.86%
Non-intensified Complementary Relationship		7	24.14%
Non-Complementary Relationship		0	0%
Total Number		29	100%

From the above Table 4, it can be seen that intensified complementary relationship occurs for 22 times, which occupies 75.86%, non-intensified complementary relationship occurs for 7 times, which account for 24.14% and the visual mode is the major mode. Therefore, intensified complementary relationship is the prominent feature.

Verbal mode provides the background information of the story, and visual mode makes the things or characters described by the verbal mode more vivid and appealing. For example, in the image 2, the verbal mode is used to introduce Harry's identity and the visual mode is used to depict Harry's physical features that supplement the textual information to give the reader an idea of Harry's appearance. In image 3, the verbal mode narrates that the war is coming and Harry has to go to the war. The visual mode depicts soldiers separated from their wives and families. These two modes are combined to express the cruelty of the war, which is consistence with the theme of this picture book. Therefore, the intensified complementary relationship between the verbal and visual mode is the foregrounded feature.

Second, this paper analyzes the relationship between the verbal mode and typography mode based on the representation theory of inter-semiotic relationships. It is observed that the non-complementary relationship is the prominent feature. In most paragraphs, there are no deviated features from the perspective of weight, expansion, slope, curvature, connectivity, orientation and regularity in typograph. In three paragraphs, the relationship between the verbal and typography mode is intensified complementary. There are deviated features like the slope typeface and the

bold typeface which highlight the meanings that the verbal mode conveys. These three sentences provide the time clue for the readers, which reinforces the depiction of the context of situation. Therefore, intensified complementary relationship between the verbal mode and typograph mode is the foregrounded feature.

Finally, this paper analyzes the relationship between the verbal mode and color mode from the perspective of the representation theory of inter-semiotic relationships [15]. The author finds that beige and green are used throughout the whole story. The intensified complementary between the verbal mode and color mode is the prominent feature. Beige represents warmth and green represents hope and living, which reinforces the scenes and theme illustrated by the verbal mode. The verbal mode and color mode are combined to depict the friendship and love between Harry and Winnie, which throws a light on people in the wartime. Therefore, the intensified complementary relationship between the verbal mode and color mode is the foregrounded feature.

In conclusion, the intensified complementary relationship between the verbal and other modes is the foregrounded feature of the inter-semiotic relationships.

V. CONCLUSION

This paper analyzes the multimodal stylistic features of the verbal mode and non-verbal modes in the picture book Finding Winnie. The following are the major findings: in the verbal mode, the material process, verbal process and relational process are the foregrounded features in the picture book. These processes make the whole story more vivid and promote the development of the story. In terms of the image mode, action process, symbolic process and reactional process are the foregrounded features. As for the layout, the middle, right and lower position of the paragraphs are the foregrounded features, which are in accordance with the principle that new information is placed on the right and realistic information at the bottom. As for the color mode, beige, brown, blue, green and white are the foregrounded features. They bring warmth and hope to people. For the typography mode, the slope and the bold typefaces are the foregrounded features. The slope typeface distinguishes the narrator and the real protagonist. The bold typeface provides clear time clues. In terms of the inter-semiotic relationships, intensified complementary relationship foregrounded features. The non-verbal modes supplement the verbal mode, presenting a vivid and appealing story for readers.

There are some limitations in this paper. First, although the findings were supported by statistics, there would be more or less uncertainty when this paper identified the color modes and the process types of the image mode owing to the insufficiency of some grammatical theories. The accuracy of the statistics will be improved if peer review and discussion is done during the process of the data collection and annotation. Second, this study mainly analyzed the ideational meaning carried by the foregrounded features due to the limited time. The interpersonal and textual meanings still need to be studied. Overall, this paper would help readers to understand the theme of this picture book more deeply from a new perspective and inspire the creation and design of original picture books in China.

CONFLICT OF INTEREST

The author declares no conflict of interest.

ACKNOWLEDGMENT

The author sincerely thanks the anonymous review experts for their valuable comments.

REFERENCES

- [1] D. Lewis, Reading Contemporary Picture Books: Picturing Text, London: Routledge, 2001.
- [2] C. Painter, J. R. Martin, and L. Unsworth, Reading Visual Narratives: Image Analysis of Children's Picture Books, London: Equinox, 2013.
- [3] R. Rogers and J. Christian, "'What could I say?': A critical discourse analysis of the construction of race in children's literature," *Race, Ethnicity and Education*, vol. 10, no. 1, pp. 21–46, 2007.
- [4] D. C. Li, "A visual grammar analysis of AD hypertext's multimodality," Foreign Language Research, no. 2, pp. 7–11, 2013.
- [5] L. Jennifer, K. O'Halloran, and T. Sabine, "Where do I come from Metaphors in sex education picture book for young children in China," *Metaphor and Symbol*, vol. 31, no. 3, pp. 179–193, 2016.
- [6] P. Li, "Research on children's aesthetic education strategy based on picture books," *Innovation and Entrepreneurship Theory Research* and Practice, no. 13, pp. 16–18, July 2020.
- [7] T. T. Qiu and F. B. Zhu, "Influences of Chinese and English picture books on cognitive development of preschool children," *Journal of Jiamusi Vocational College*, no. 5, pp. 176–179, 2017.
- [8] T. B. Song and D. X. Liu, "Five senses experience design of children's picture books based on psychological cognition," *Design*, vol. 35, no. 1, pp. 110–112, 2022.
- [9] Y. X. Shi, "The use of picture book works in children's language education," *Chinese Character Culture*, no. 11, pp. 102–103, 2021.
- [10] N. N. Xie, "An inquiry into the logico-semantic expansion of image-text relations in Grimm's Tales," *Foreign Language Education*, vol. 35, no. 1, pp. 112–114, Jan 2014.
- [11] H. L. Wang, "Rethinking translation of children's literature from semiotic and multimodal perspectives: A review of translating picture books," *Chinese Translation*, no. 3, pp. 124–190, 2019.
- [12] S. A. Cai, "Contrastive study of the poetic iconicity of english and Chinese childern's picture books from the perspective of multi-modal cognitive poetics," M.S. thesis, Inner Mongolia Normal University, 2022.
- [13] D. McIntyre, "Integrating multimodal analysis and the stylistics of drama: A multimodal perspective on IanMcKellen's Richard III," *Language and Literature*, vol. 17, no. 4, 2008.
- [14] N. Norgaard, R. Montoro, and B. Busse, Key Terms in Stylistics, London: Continuum, 2010.
- [15] D. L. Zhang and Z. G. Mu, "On the theoretical framework of multimodal functional stylistics," *Foreign Language Education*, vol. 33, no. 3, pp. 1–6, May 2012.
- [16] X. Lei and D. L. Zhang, "A multimodal stylistic study on the two covers of graham Rawle's Woman's World," *Contemporary Foreign Language Studies*, no. 9, pp. 20–77, Sep. 2015.
- [17] X. Lei, "On major problems issues in the theoretical construction of multimodal stylistics," *Foreign Language Education*, no. 2, pp. 36–41, March 2018.
- [18] Y. J. Zhao and X. Y. Yu, "A multimodal stylistic analysis of the visual poem 'Christmas Tree'," *Overseas English*, no. 2, pp. 75–76, 2019.
- [19] K. G. Song and X. Lei, "Comparative study on packaging advertisements from the perspective of multimodal stylistics," *Packaging Engineering*, no. 8, pp. 91–96, April 2019.
- [20] Y. Zhao, "A comparative analysis of multimodal stylistic features of the English homepages of Chinese and American official diplomatic websites," *Overseas English*, no. 4, pp. 115–116, 2021.
- [21] G. Kress and T. van Leeuwen, "Color as a semiotic mode: Notes for a grammar of color," *Visual Communication*, vol. 1, no. 3, pp. 343–368, 2002
- [22] G. Kress and T. van Leeuwen, Reading Images: The Grammar of Visual Design, London Routledge, 2006.

Copyright © 2024 by the authors. This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited ($\underline{\text{CC BY 4.0}}$).