

Study on Graphic Symbolic Context in Art Education for Special Groups

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Abstract: With the rapid development of the information age, graphic symbols have become a convenient means for People ' s Daily communication, especially the communication with special groups is inseparable from the effective communication of graphic symbols . Graphic symbols have the functions of guiding psychological cognition, communicating emotions and transmitting information . After sensing the emotional needs of the human heart, especially for special groups, the graphic symbol design uses emotional elements as the foundation and perceptual perception as the means to achieve a high degree of integration between graphics and emotions, forming a special symbol system without borders and language expression. Graphic symbols transcend the senses, combine time and space to reorganize, rely on emotion and color elements, and re - create with the help of modern scientific and technological means, which greatly improves the communication power and appeal of graphics . At the same time, it is important to accurately analyze the effect of graphic symbols on special groups, interpret the audience ' s receptive ability of graphic symbols, and deal with the audience ' s receptive ability, individualized difference ability and the audience ' s information feedback, which is an important link to solve the effectiveness of graphic symbols communication .

1. The function of graphic symbols in information transmission and visual communication

As for graphic symbols, they can completely break the constraints and limitations between different cultures, break through the restrictions of national boundaries, and enable people to instantly understand their meaning and connotation, which is the communication ability of graphic symbols, especially in the field of special education. Therefore, in addition to conveying information and enhancing communication, graphic symbols can also distinguish product features, promote products, establish reputation and protect audience groups if applied in the commercial field, which is closely related to its appearance design and directly determines the communication effectiveness of information transmission. It has important theoretical and social significance in the specialty of art design for special education in colleges and universities.

1.1. Design concept and classification

Graphic symbols can be divided into cultural and art, public signs, and institutional symbols according to their functions. Such symbols are usually recognized by the public and guided by them, providing information services to the public, etc., with strong visual standardization, most of them have certain industry standards, and most of the colors are relatively simple. Abstract symbols stand out among many graphics, leaving a part of imagination space for the audience, and creating a sense of curiosity of graphics, which is more in line with the visual language characteristics of graphics. On the one hand, the classification research can be beneficial to the national logo management agency to carry out standardized management of graphic signs (especially trademarks); On the other hand, it is convenient for us to study and learn different graphic symbols, so it is more and more favored by people. The communication and expression of graphic symbols have unique convenient conditions, and we can see the things behind the design through modern semiotics.

1.2. Visual dimension characteristics of graphic symbols

Arnheim put forward a view of the visual thinking of graphic symbols: "All perception contains

thinking, all reasoning contains intuition, and all observation contains creation." This view reflects the effectiveness of thought for cognitive activity. [2] The visualization of graphic symbols is also to introduce the creativity of people's visual thinking into the internal reality and the external reality, so that people's cognitive activities are more creative.

To some extent, graphic symbols are a continuation of language, and in spatial dimension, they are also two - and three-dimensional transformable modeling designs. Whether it is the transformation of spatial dimension or the transformation of language level, the extension of graphic symbols is more convenient. The so-called visual language refers to the visual style composed of images and colors that can convey emotions and ideas in the field of art, such as TV ads in traditional media, outdoor ads, car body ads, as well as mobile phone ads and online ads in new media, etc., all of which rely on the transformation of graphic symbols in visual dimensions. Through the connotation and communication of emotion, we define the communication strength of graphic symbols, take visual symbols as the most accurate transmission method, focus on the indication system and semantic symbols, and finally realize the effective communication between graphic symbols and the audience.

2. Psychological guidance analysis of graphic symbols

The forms of graphic symbol communication facing special groups rely on multi-sensory common stimuli, while the psychological level of reference. Therefore, to unlock the key of human psychological cognition, it is necessary to analyze more levels of psychological cognition such as emotional cognition, emotional elements, and the meaning of synaesthesia of graphic symbols.



Figure 1 Graphic Symbol

First, the mental cognitive process of graphic symbols. Human cognition specifically includes thinking, imagery, memory, perception and other psychological phenomena. Perceptual graphics come from the comprehensive effect of different sensory information. People with different cultural background, personality, experience, understanding ability and age will form different psychological feedback to the same graphics. [3] For special people, attention should also be paid to the impact of psychological differences on graphic cognition. It can be seen that the generation of graphic emotion is a conventional memory, and its cognitive process is highly dependent on the extraction of visual elements, which can guide and suggest the graphic expression context, and there is interaction and identity between the two. The logo design of the National Theatre of the United Kingdom (see Figure 1) adopts the graphic principle of positive and negative shapes. The positive part, that is, the black part of the figure, draws a laughing character's facial mask, while the negative part, that is, the blank space just borrowings the remaining space of the black pattern, and reflects another expression of the character, that is, the sad expression. The two expressions of happiness and sadness exist in the same picture, which accurately conveys the sorrow and joy of the drama life, and fits the image and positioning of the Grand theater itself.

Secondly, the emotional elements of graphic symbols. In daily life, a lot of communication between people is based on emotional resonance, which is an instinctive reaction. As Leo Tolstoy said, "People use words to convey ideas to each other, but people use art to convey feelings to each other." A person who receives, auditory or visual, an emotion expressed by another person is able to

experience the same emotions experienced by that person expressing his own feelings." [4] For example, when human beings perceive different emotions such as happiness, love, joy and enjoyment, sadness, pain, anger and danger, there is often an instinctive and intuitive reflection. In the face of continuous human reproduction, and this reflection formed on the surrounding things gradually becomes mature. This kind of emotional cognition is an advanced stage in human evolution, and it is also an instinctive response that deeply stimulates the cerebral cortex to produce complex emotional behaviors. Therefore, emotional design, to some extent, is to cater to the deep thinking generated by human instinctive reactions.

The second aspect of the emotional element is the behavioral response, which is an internal driving force generated by human emotional communication. Human behavior does not need a unified definition of standards and ways, so everyone has his own behavior characteristics, that is, each person's unique personality. In the same social group, due to the same customs and culture, there will be more common points in the personality of the members, so that the common characteristics of certain behaviors of the members of the community are formed. In order to stimulate this common behavioral response of human beings, graphic symbols borrow emotional elements to drive behavioral effects. In particular, the visual impairment and hearing impairment in the special population, it is in contact with this pattern, the psychological and emotional reflection, effectively convey the designer's intention, to achieve barrier-free communication.

The reflective behavior of human emotion is the third aspect of emotional elements. The initiation of an emotion requires a long period of continuous consideration, and sometimes even intense conflict. What kind of behavior is happy? What kind of behavior is sad? Humans are constantly thinking and summarizing. After feeling the emotional demands of human heart, especially the graphic symbol design for special people, with emotional elements as the foundation, perceptual perception as the means, and emotional suggestion, finally achieve a high degree of integration between graphics and emotions.

Thirdly, the synaesthesia meaning of graphic symbols. Graphic symbol is a borderless symbol system without language expression. In today's globalization, people are using a series of symbols instead of language to try to express and expand. Whether we are in airports, hospitals, highways, shopping malls in the world, all kinds of similar graphics can enter our sight, these abstract or concrete graphics can play a common psychological feeling.

People's five senses and other psychological feelings can be converted to each other, this phenomenon is very amazing, we call it "synesthesia". Of all the senses, vision is the most dependent form of sensation, and about 83% of the information in the perception of the external world comes from vision. [4] 186 Synesthesia first appeared in linguistics as a literary rhetoric. In recent years, the academic community has made in-depth studies on the physiological and psychological mechanism, characteristics and rules of synesthesia. [5] At the psychological level, synesthesia is a process of restoring one sensory information to another sensory experience with the help of association and imagination based on one's own cognition and experience, so as to realize the translation between different senses. At the physiological level, when a certain sensory sensation triggers neural excitement, it will stimulate the existing sensory memory, so that different sensory nerve centers can produce temporary neural correlation, resulting in synesthesia. [6] After understanding the mechanism of synaesthesia, synaesthesia elements can be activated more accurately in the creative process, and the method of multi-sense superposition can be used to make the creation more hierarchical. In special people, the five senses of synaesthesia, namely vision, hearing, smell, touch and taste, have congenital deficiencies, and the loss of a certain sense will make life very inconvenient.

Therefore, graphic synaesthesia is a process of recombination across sensory experience, combining time and space. Based on user experience, it combines two or more senses to carry out "sensory shifting" by means of multi-level cross-space superposition sensation. This correlation is internalized into visual translation and decoding of graphic symbols, opening up the barrier of language transmission in the silent world. Thus, the spread ability of graphic symbols is rapidly improved.

3. Recombination and re-creation of graphic symbols

First, emotional design. If we master the psychology of graphic design and the elements of human emotion, the design of graphic symbols for special people will become the focus of research in the new era. Professor Donald Norman divides emotional design into three categories: people and design, products and design, and the subtle relationship between products and people. Emotional design goes beyond the traditional design that only focuses on the product itself, and begins to pay attention to people's emotional needs and consciousness, and pay attention to the psychological interaction between products and users, thus improving the affinity of products. [7] Explore a variety of graphic design methods, combined with the principles of formal beauty that constitute art, and carry out artistic re-creation from the psychological feeling of graphics. First of all, we should make a group portrait of the object of appeal to understand the physiological and psychological characteristics of special education art students. Then, emotional transmission is used as a link to build a bridge between sensibility and rationality, and awaken the special groups' control of all senses such as vision, perception, hearing and touch, so as to maintain cognitive consistency with teachers.

On the basis of forming emotional resonance, the visual language system is mobilized, including points, lines, surfaces, colors, space, etc. are deconstructed objects of graphic elements. Each part of the figure, which has been rebroken and reorganized twice, is an element of life and emotional communication mission. Such re-creation process makes graphic symbols complete the special transmission form of replacing language and placing themselves in semantic meaning, thus ensuring the accuracy of receiving graphic symbols by special audiences, it is more convenient for special groups as creators to design and use graphics.

Second, color design. People are color animals, no matter the general population or the special population, the emotional perception of color is the same. Due to the different cultural backgrounds of the East and the West, sometimes there are cognitive differences in the same color. For example, in the East, especially in China, people like red very much. Red is also considered to be a symbol of auspiciousness, festivity, warmth and happiness. In the western world, red is regarded as the color of purgatory, full of violence, danger, and emergency psychological implication. It can be said that red has a dual character, and its emotional expression is closely related to the external environment of people's lives, political factors, regional information and conventional symbolic meaning, and is popular in all color systems.

In addition to the ability to perceive emotions, color also produces a sense of temperature. The large area of the blue ocean on the earth gives people a feeling of refreshing and cool, while the equator and desert areas are mostly earth red, giving people a feeling of hot and high temperature; In food, the outer packaging of cold drink products is usually cold color, and some children's food is mainly warm color packaging. This is a visual experience of people's information transmitted by color symbols. The experiment of color temperature proves that people have a temperature difference of more than 3 degrees Celsius for warm colors and cool colors.^[1]

In addition, color also has a sense of weight, which is determined by color brightness. When contacting graphic symbols, designers should make clear the main needs conveyed by the object of appeal. Low brightness color gives a feeling of thick, high brightness color gives a feeling of lightness. For example, the graphic design of yellow is very high in brightness and is the brightest color in the spectrum, but it is easy to cause visual fatigue and cause eye discomfort for a long time. The yellow and the lowest brightness of the black collocation, formed a strong contrast, play a prompt, alert role, as we often see the traffic signs are usually black and yellow collocation.

For art design students of special groups, they are two-way receivers of graphic symbols, both designers and users. This special way of communication determines the importance of graphic psychology, especially the emotion and color elements relied on in the process of re-creation, which are the magic weapon of the creator and the language of the user. This synesthetic transformation realizes the deep communication between vision and emotion.

Third, dynamic graphic design. The English version of Motion Graphics Design can be understood as moving graphics, that is, moving graphic design, which means that graphics change

with the change of time, and its own form changes, so it is given to graphic design.^[8] Another kind of dynamic graphic symbol is defined by interspersing the plane figure with time as the axis, and extending and marching in space according to the action track of the plane figure. This visual representation gives the graphic symbol the concept of time and space. Dynamic graphics is similar to a product between graphic design and animation. Dynamic graphics uses the rules based on graphic design in visual expression and animation production methods in technology.^[9]

The expression form of dynamic graphics mainly takes time as the clue, dynamically extends in space, and the tension of graphics expands constantly, so as to complete the contextual expression of dynamic graphics to the greatest extent. Under normal circumstances, the dynamic graphics will take the core graphics as the basic element, and then on the basis of the core graphics, graphic reconstruction, displacement, radiation, rotation, centrifugation, jumping and other changes in the spatial dimension, and finally into the time axis after re-editing to form a flexible and unified dynamic graphics design. This regular change in dynamic graphics enhances the rhythm of the graphics themselves, and it is easier to attract people's attention and cause human emotions to resonate, and its communication effectiveness is therefore multiplied, becoming a more efficient and easy to communicate new graphics style.

The value generated by dynamic graphics due to its own advantages cannot be ignored: first, it can quickly convey graphic information, and the convenience of new media enables the transmission of dynamic graphics to have immediate effect, which is not limited to the form of carrier and improves the receiving frequency of the audience. Meanwhile, new media such as mobile phones and the Internet are widely used, which is not restricted by region and space. Second, dynamic graphics have strong appeal. Compared with planar graphics, dynamic graphics are more coherent in logical space and have more advantages in time and space extension, which makes the procedural presentation of graphics more real and has a high degree of reducibility, which greatly improves the communication power and appeal of graphics. Third, the visual impact is enhanced. Dynamic graphics is a moving plane graphics, which makes the process and rhythm of the whole graphics production complete and unified. At the same time, such time memory makes dynamic graphics have a more complete spatial performance, resulting in a stronger visual impact, which is a visual atmosphere that cannot be created by language.

4. Analysis of the effect of graphic symbols on special populations

First, improve the accuracy of graphic symbol expression. According to a large number of actual investigations and studies on visual graphic symbols, it can be seen that visual graphic symbols can produce a high degree of fit and match with human language in terms of structure and function, especially in the process of conveying specific information, they have amazing commonality and consistency with human language. Therefore, in the field of special education, graphic symbol teaching of art design majors plays a very important fundamental role. It is the simplest substitute for human language, one of the most direct ways for human beings to convey emotions and information instructions, and also the carrier and platform for the effective integration of information instructions and emotional communication.

Second, to interpret the audience graphical symbol acceptance ability. In the special education group, the audience relies on graphic symbols to communicate, and graphic symbols are the most distinctive and representative means of art design. Whether the two sides of special education can accurately feedback the information and communicate with each other, and whether it has high integrity is directly determined by the specific meaning and symbolic significance of the graphics. For both the communicator and the receiver, the process of using visual symbols to communicate cannot be separated from the semantic transmission function of specific graphics. In the final analysis, the process of transmitting information is actually the communication between the communicator and the receiver of information, that is, the designer (teacher) and the audience (student). While the audience (students) interpret the information, they also give back some information, from which they can judge whether the information dissemination process is successful. Therefore, it is an important link to solve the failure of symbol transmission to study and

deal with the audience's acceptance ability, individual difference ability and the audience's information feedback.

Third, avoid falling into the misunderstanding of graphical symbol expression. In the creation of graphic symbols, relevant people need to pay attention to not only the textual interpretation should be attached great importance and use, but also have the awareness and ability to accurately grasp the visual characteristics of graphics, so that its cross-domain, cross-nationality and communication characteristics can be fully played, which is the text can not be replaced. However, the design expression of some graphic symbols is limited, so it is necessary to define the semantic expression of graphics, rather than unilaterally pursuing the simplicity of patterns, which is easily misleading in vision. Therefore, simple graphics and complex graphics have their own characteristics, and they should face different audience groups, put forward different design schemes, and use them flexibly in different application scenarios. In addition, care should be taken to keep the public able to interpret it normally. Do not deliberately exaggerate the visual image, beyond the expression of public recognition, which will cause unnecessary trouble.

Fourth, social service has been strengthened. Because graphic symbols are closely related to social life and have good connection and service in many fields, the powerful social function of graphic symbols is one of the main tools to maintain social order and image building. In the special education group, the function of the graphic symbol can not be ignored, and its expression is closer to the real life, which can awaken people's interpretation and memory.

5. Conclusion

According to the above detailed analysis and systematic study of the graphic symbol context in the art design specialty of special education in colleges of our country, we can understand more clearly, through the guidance of related theoretical knowledge of graphic semiotics, can make special education groups have a clearer understanding of the concept and characteristics of visual symbols, and correctly recognize the significance of visual symbols. Through the in-depth analysis of the graphic context, the communication effect, psychological guidance and how to improve the accuracy of the audience's symbolic semantic interpretation are deeply discussed.

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