

## Research on Visual Image Art Therapy for Children with Autism

Xiaoting Yin, Mengyang Xu

Yancheng Teachers University, Yancheng, China

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**Abstract:** Most children with autism have brain damage, delayed language development, and limited understanding and cognitive ability. Compared with language teaching, visual images are more effective in children's cognitive learning. This paper mainly starts from the perspective of visual image coding and artistic psychoanalysis, and discusses the rehabilitation of children with autism in combination with actual cases.

### 1. Introduction

Visual images have a huge impact on human civilization. Starting from the early cave paintings, humans have drawn images of important activities and recorded life trajectories and cultural totems through art. The presentation form of the artistic medium through painting contains the mapping of various ideas that burst out from the subject's subconscious mind at the time and space. Although for children with autism, nerve damage causes their expression path to be unsmooth, combined with their cognition and understanding at the time, the symbol selection, drawing, interpretation and other activities in the painting process are also the present perceptual presentation. Ordinary children's initial perception of the world around them is also full of primitive colors and lacks realistic elements. Their art works are also full of "private signs." These lines and patterns are full of personal colors and distinctive features, because their brains have not been covered by the symbolic programs of the real world. At this time, copying, reproduction, and imitation do not exist. The content of the children's drawings is their original inner intentions for the surrounding world. Through learning slowly, children will record various forms in the brain into image forms in the subconscious, and then output them. These images will have the shadow of their consciousness. Children with autism lack the ability to observe and imitate, and their eyes often cannot see the changes in the surroundings. There is a problem in the image input step. At this time, the reserve in the subconscious is insufficient, it is difficult to construct and reorganize. Therefore, when art therapy is faced with children with autism, it is not just looking at the final images of the paintings, but focusing on how to store "symbols" for children with autism, and how the outside world stimulates S1. The whole operation process is the creation of a brain model [1].

### 2. The Effect of Visual Images on the Rehabilitation of Children with Autism

The focus of art therapy is on non-verbal media. However, painting images reflect the mental image, and its narrative performance presents the content that language cannot express in the images. Through empathy, the construction and output of emotions are completed. In the relationship of art therapy, the mental images are presented as visual art through art media. Through empathy, the construction and output of emotions are completed. In the relationship of art therapy, the mental images are presented as visual art through art media. Through the guidance of therapists, individual cases construct, reorganize and output the painting image symbols, establish a cognitive connection with real time and space scenes, and express inner emotions. The idea is concretized and linked with the language, and the image plays the role of explanation at this moment. Through painting art therapy, children's mental images can be visualized.

The coding ability of visual organs is an innate human instinct [2]. Compared with language memory, visual image memory is more profound and convenient for people. Visual images are presented in specific forms, which are more intuitive and understandable than abstract expressions

of language. Therefore, the visual image system is more suitable for children with autism who lack language. The author participated in the training courses of Nanjing Brain Hospital and Qingdao Yilin Health and Education Center, two well-known autistic children's rehabilitation institutions in China, and took autistic children to participate in intervention courses. Through practice, most observed autistic children were better at cognitive learning through pictures. Many learning contents were completed through the prompts of the visual image system. Visual images promote the integration of sensory experience and cognitive thinking, while painting is the translation of autistic children's internal understanding of the external world, which is internalized. Through the brush in hand, the content of learning is presented like flowing water. Through the pictures, people can find the symbolic associations entered before, and can analyze the creative internalization process of children with autism, and expand their points of interest. Through painting images, children with autism are no longer silent. Children's subconscious interest points are discovered, and is used as an entry point to carry out research on art media and mental image construction. Although language communication is not smooth, image media can specifically draw their inner thoughts.

### 3. Coding and Translation of Visual Images

Da Vinci said, "As soon as dawn breaks, our eyes can capture countless images around us like magnets." Visual observation and experience can overcome language barriers and eliminate the gap between different texts, making it more impactful. Visual perception is an intuitive process of understanding. The eyes naturally see the shape, size, texture and color of the surrounding objects, the dynamics in space, and can naturally connect with the known visual materials in the brain for processing [3]. Research data from Cisco also shows that 90% of all data transmitted on the network today are visualized data [4]. For everyone, the media role of visual images is very important, especially for people with autism, many of whom rely on visual support for learning. Autism scholar Temple Grandin said in the book *Thinking with Images*: "I use my subconscious mind to think. The thinking of humans and animals comes from primitive perception, but most people have this ability. Blinded by language, sensory thinking has become their subconscious. What I think is the subconscious area of my brain that processes primitive sensations." "A lot of people with autism have these insightful visualization skills. Although I have little experience in drawing perspective, I can try to draw a blueprint. Young children with autism often show a talent for drawing. Perhaps it is a compensation for his lack of oral skills." [5] Complete visual communication includes the sender of the message, the message sent, the media carrier, the receiver, and the feedback. In the process of art therapy, it is mainly through painting as a medium to intervene and treat children with autism. In order to ensure that children with autism can receive and correctly understand the information people send, therapists need to continuously test and improve the input prototype information, and encode visual images so that they can perceive the information visually.

When mapping information into a visual image with a certain transformation principle, when mapping the visual elements of the information, it is necessary to comply with the basic coding principles that conform to the human visual perception. When people observe things, they always choose certain reference objects, such as comparing tall and short, people usually choose the same horizontal line for the two things that are going to be compared, so that the human eye can quickly compare the results. In order to enhance the effect of visual recognition, therapists must be familiar with this observation habit. In the process of visual coding, it is necessary to ensure that the information is intuitively expressed, easy to understand routinely, and convenient for associative memory. For example, people's emotions such as happiness, sadness, and anger are more difficult to understand for children with autism. Simplifying these expressions into avatar expressions (mouth bending is happy, downward bending is sad, and eyebrows are twisted up is angry), and then inputting teaching will increase their cognition and understanding of emotions. The coding of visual images and artistic psychoanalysis refer to the intervention and teaching of children with autism through artistic and interesting forms. Painting as an artistic expression method is particularly

suitable for children's psychological needs [6]. In the process of artistic painting expression, they will display various creative symbols of their own. Each person will present unique artistic creations in different ways, search for known and changed element symbols, and preferences in a specific environment. Colors, graphics, and composition all reflect the world around them. Hand-brain combined use itself is also a sensory training for children with autism, which promotes the development of their perception, concentration, imagination, and psychological emotional intelligence.

#### **4. The Specific Application of Painting in Art Therapy for Children with Autism**

The author carried out a case follow-up study on the painting of a boy with autism, and found that children's painting symbols change with the change of mental age, and the process is very representative. The media material he used is also very rich, including watercolor pens, needle pens, branches, chalk and so on. Now the paper will analyze the influence of art painting on the boy by showing his paintings from different periods. Selecting his artistic creation of 3-5 years old and his artistic creation of 6-7 years old for comparison (See Figure 1). Through the art works of 3-5 years old from 01-08, it can be observed that his paintings and hand-made models are based on the theme of houses, and the pictures are mainly flat lines, skilled expressions, diverse art media, and paintings are not restricted by the venue. It shows the charm of painting art. Initially, his subconscious symbol of a house was shapes and a triangle and a square. This symbol was also established by the parents in the early teaching through the child's known cognition and the symbolization of the visual image. The child with autism has a very good memory of shape recognition in the early stage, so the parents used abstract graphics to teach him some shapes related to shapes (such as triangles and squares to make small houses). In picture 01 from the age of 3-5, we even found that there are wheels under the house. The upper left corner of picture 02 is a lighter, but there are house doors and windows and other elements in the lower right corner of the bus. Children's perception at this stage is rather vague, but they like to use shapes to combine houses, and they can't distinguish between the house and the car in reality. The appearance in and the lack of understanding of spatial concepts such as upper and lower positions. But the advantage of art painting is that it combines children's existing cognition and stimulates them to use art painting to express what he wants to express. The art paintings of different art media record their psychological development process, and there is no restriction on the place. They can use stick to draw on the ground, or they can use chalks to draw on the wall. In short, both form and time are very free. Once they have mastered certain output skills, children with autism want to express it very much. Through the actual observation of the instructors, the boy gradually developed his interest in space through continuous contact with the symbolic image of the house, using building blocks and other media to further complete the imaginative expression of the house image in his mind. As shown in pictures 07 and 08, he used foam building blocks and wooden building blocks to continuously superimpose the three-dimensional house. The whole mental image construction process is complete and clear.



Fig.1 3-5 Years Old (Photographed by the Author)

In the age of 5-7 years old, choosing the symbolic image of the house alone to see the mental image construction and mental development process of the boy (See Figure 2). In the process of painting, he had a great interest in house-related furniture, and the theme of painting generalized from house to furniture. At the same time, his skills of painting have been improved, and the forms of artistic expression have become richer. He wanted to try the painting effect of a three-dimensional space, and the picture developed from a single color to a rich color block. From pictures 01 to 03, we can clearly observe the process of him as an autism child learning three-dimensional drawing. Starting from Figure 4, we observe that his pictures clearly have a composition and a certain theme, that is, a story. The poor social skills of children with autism are directly related to their cognitive and comprehension skills. However, as they grow older and continue to intervene in art therapy, teachers construct and enter many symbol codes. Through the shaping of these subconscious minds, children slowly accumulate materials about human affairs and things about the world around them, and can tell some stories they understand. Picture 04 is a boat. Someone is fishing on the boat. There is a yellow chair at the stern. Three bubbles on the right side of the chair are a chimney. There is also a small green house on the boat with a flower on the roof. In front of the house. Someone is fishing with a line in his hand, the sun is green, there are clouds and seagulls (the shape of clouds and seagulls were input to the boy by the instructor, and the form of painting symbols he always uses), the small fish is in the sea, but Not under the sea water indicates that the child with autism does not really understand the state of the fish swimming in the water. But according to the instructor's explanation, he already has known that there are fish in the sea, the fish will spit bubbles, and the chimney will emit smoke. These are the mental images of the knowledge he has mastered. The boat is like a house. This should be a child with autism. The generalization of inner knowledge, the application of known knowledge to unfamiliar places, it has a certain imagination, including the ability to tell stories. Although picture 05 is a simple house, the key point is that the artistic image of the house has undergone a three-dimensional change. The overall color of the house is rich, and the shape is plump with doors and windows, and the chimney is still smoking. The theme house is located in the center of the picture, which shows the child's love for the image of the house. The interior of the house has also been refined, there are stairs, including people going downstairs. The house is on the hillside, and the flower symbol that it has always liked to use appears. The small house is divided into four colors and the large hillside is carefully painted with blue blocks to bring out the poetry of the house. Picture 06 is also a painting of a story-like scene, with symbols such as houses, cars, big trees, people, sun, and clouds. It continues the symbols that the boy has always liked to use, but the story is enhanced, going out in

the car, going out to play, the inner mental image is mapped out, and the language expression ability is enhanced with the artistic painting. Picture 07 and 08 are about the model making of the house. Hand-made is also a kind of art medium. The express boxes that can be seen everywhere were chosen by the boy. The hand-made form allows him to easily express his own planning and imagination of the house. Through a comprehensive understanding of the house, he could create a three-dimensional house model based on his imagination. The space performance of the house is completely correct. Upstairs and downstairs, stairs are needed to go upstairs, where do parents live, where do “I” live, the expression is clear, and the room is equipped with all the necessary facilities for normal life, such as a bed, toilet, desk, cabinet, clothes rack, etc. At this point, it means that the child has fully understood the true meaning of the house. The process of his mental development is vividly expressed through the process of his artistic painting.



Fig.2 5-7 Years Old (Photographed by the Author)

## 5. Conclusion

From the early establishment of visual coding to the later active learning to improve the output, it can be seen that art painting and other visual image forms are attracted to children with autism, and it is a long-term art therapy method for home intervention [7]. It should be noted that the intervention plan should be formulated according to the specific mental development of each child [8]. The initial stage is to input the subconscious that is connected to life. After the image coding is established, the mind is mapped out, that is, expressing through different visual image media, such as painting, handwork, games, etc. After children have flexibly mastered visual symbols, they will further develop their artistic imagination, which in turn will lead to the improvement of cognitive understanding. The storytelling of painting is the expression of children's inner mastery of knowledge. Through such a virtuous circle, children with autism can reduce disease interference, increase the correlation between visual images and psychological cognition, and use their own better ways to obtain information in life and establish effective learning channels.

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