Humanized Design Concept in Product Packaging Design

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Abstract. With the improvement of social progress and economic level, when people's material level reaches a certain level of satisfaction, the pursuit of higher levels of spiritual enjoyment begins. The same is true of the need for packaging opening design, because it not only meets pure functionality, but also embodies the emotional value of the open process. Studying the humanized packaging design of children's products to better protect children's health and safety, meet the psychological needs of children and aesthetic emotions, improve the quality of children's products, promote the sale of goods, and it is very important for the prosperity of the socialist market economy.

This article uses the basic functions of children's products packaging to explore the safety of children's food and drug packaging and the convenience of children's product packaging, so that the design is more humane; from the visual characteristics of children at different ages, the final experiment is to investigate the cartoon image. Use, interactive design of life situation, bionic design and fun design to meet children's psychological needs and aesthetic emotions, so as to realize the humanized design of children's products packaging. Experimental research shows that parents and students' satisfaction with the humanized design of children's product packaging has reached 98%.

Keywords: Packaging Design, Humane Ideas, Children's Products, Design Methods

1. Introduction

Design continues to evolve with the progress of the times, and changes with the material and spiritual needs of humans at different stages. The packaging design of the 21st century will be a civilized product that will re-examine, construct, define, name humans, and humanize the rotation around human thoughts, emotions, personalities, and functional needs. The essence of the humanistic design concept is to think about people as the center when considering design issues.

The humanized design of children's product packaging should follow the four principles of safety, applicability, environmental protection and aesthetic education [1]. Security refers to the security of packaging materials, the security of the external structure of the packaging, and the security during opening and use. Applicability refers to the convenience and comfort of use; environmental protection refers to the environmental protection of packaging raw materials to avoid wasting materials; aesthetic awareness education refers to children’s taste education is interesting [2-3]. As a designer of children's product packaging, the task is to make reasonable use of packaging elements such as shapes, colors, graphics, and materials, and to fully consider the special physiological and psychological needs of
2. Proposed Method

2.1 Humanized Design and Packaging of Children's Products

(1) Reasons for the humanization of children's product packaging design

The emergence of humanization of design is the result of social and personal reasons and the comprehensive factors of the design itself. The main reasons are as follows:

1) The inevitable result of socio-economic development

With the development of society and family economy, children's living standards have gradually improved. When the level of socio-economic development is low, the requirements for design objects are simple and practical, and there is no unnecessary demand [5]. When the social and economic level reaches a certain level, consumers will have higher requirements for design objects-including more psychological, spiritual and cultural needs in addition to practicality.

2) Incremental requirements for children's escalating needs

The humanized design of children's product packaging aims to meet children's own physical and mental needs. Demand is the driving force of human design. The continuous generation and satisfaction of requirements constantly push the design forward, thereby affecting and limiting the content and way of design. Children's demand for goods changes with age. The design can be divided into three phases from 0 to 14 years. The design ranges from simple to practical, and to the humanization of various practical spiritual and cultural factors. This reflects this growing level of demand. The main carrier of the production method, the design object, has an unquestionable role in meeting the advanced spiritual needs of mankind and coordinating and balancing emotions [6]. Therefore, injecting human factors into design is by no means a "whisper" of the designer, but an inherent requirement of children for design needs.

(2) Humanistic expression of children's product packaging design

By injecting "humanized" factors into the design and function of children's packaging, the packaging has "humanized" characteristics, making it emotional, personalized, interesting, and realistic [7]. The design of humanized expression lies in using the tangible "material state" to reflect and carry the invisible "mental state". The humanized expression of packaging design is as follows:

1) Through the development and mining of design and packaging functions, infiltrate human morality and moral concepts such as equality, integrity, and care in increasingly perfect functions, so that people feel warm and warm, and let people feel the true humanitarian feeling in the design. It can be described as "touching justice" [8]. Only when the designer pays attention to children and humans can he impress people with a humanitarian design. For example, in the repackaging design, the shape of the package can move a child-acceptable product, the design of the packaging handle, the appearance and image of the food package must be reflected in subtle design details [9]. The focus of these designs is to make children more caring and to harmonize children with merchandise.

2) By changing design elements (such as shapes, colors, materials, etc.), children can stimulate
positive emotional experiences and psychological feelings, which can be called "moving people" in design. The modeling element in design is the most important aspect of children's attention to design. Through some modeling, the nature and characteristics of the design must be clear, specific, and substantial. In packaging design, color must exist and depend on the existence of shape, and color must have a specific meaning by reflecting the shape [10]. But color design has strong emotional color and performance characteristics, and has strong spiritual influence. When using color in modern design, the emotions, preferences, and concepts of the designer and children must be combined.

3) Green design is the fundamental guarantee of humanized design. With the development of science and technology, new products are constantly emerging, and people's lifestyles are constantly changing. But with resource and environmental issues. It makes people must pay attention to resource consumption and environmental pollution in the production and use of products. Reducing environmental pollution and energy consumption is the goal of green design, which reflects the return of designer ethics and design responsibility. Only in accordance with the "green design" principle can the "human-oriented" humanized design principle be reflected [11].

2.2 Humanized Functional Design of Children's Products Packaging

The packaging of children's products is special, and the functions of the packaging are different from those of general commodity packaging. This article describes the humanized design of children's packaging from the perspectives of protection, convenience, packaging safety and ergonomics.

(1) Protection function of packaging

The basic factors that should be considered in the design of packaging for children's products are:

1) The content (solid, liquid, powdery and gaseous) content and chemical properties (fragility, deformability, water resistance, moisture resistance, rust resistance and mildew resistance, etc.) are packaging factors in structural design.

2) Packaging container design materials in the packaging structure, commonly used packaging materials such as paper, cardboard, plastic, metal, glass, ceramics, and various composite materials. These materials (transparency, thickness, barrier properties, etc.), chemical properties (chemical stability, safety, corrosion resistance, rust resistance, etc.), physical properties of mechanical strength (strength, elastic modulus, etc.), molding (rheological properties), Plasticity, etc.) and decorative elements (printability, smoothness, etc.) are also a consideration.

3) When designing the circulation environmental conditions, physical factors (shock vibration and static pressure of packing), biochemical factors (temperature, humidity, rain, radiation, harmful gases, microorganisms, etc.) and human factors (rough handling, Forgery, etc.).

In addition, the packaging structure design further includes a number of basic mechanical principles, such as the calculation of the compressive strength, rigidity and stability of the container, the problem of stress concentration, the calculation of the strength of the pressure container, the bending of the metal structure, and the press forming Mechanical problems and so on. These issues are related to the calculation of the mechanical properties, material strength of the material, structural stiffness issues, and structural stability calculations. Only by considering the packaging structure design of the above various factors, can the packaging play a role in protecting the contents.

(2) Convenient functions of packaging

The convenience of packaging refers to the fact that product packaging must be able to be easily loaded, transported, loaded and unloaded, stacked, displayed, sold, handled, opened, used and handled. It has three characteristics of time saving, labor saving and pleasant. The convenience of children's product packaging is mainly reflected in portability, opening, use and handling.

1) Easy to carry

The convenience of carrying does not mean simply setting a handle hole in the packaging carton. This handle should have sufficient strength to carry the weight of the contents. Otherwise, once the handle is damaged, the package will fall to the ground and the contents will May be damaged. As far as the handle itself is concerned, it should not only fit the size of the palm of the child, but also not damage the skin of the palm of the child.
2) Easy to open
The easy opening of the package is a primary issue for ease of use, and it is undoubtedly one of the issues that cannot be ignored in the design of the opening. Consumers are accustomed to the convenience of the way of opening the package, but when this convenient function of the package is defective in some way, consumers will notice it. Especially children, if food packaging is difficult to open, then they are likely to have no confidence or interest to buy again. In fact, the problem is not how to design a package that is easy to open. As long as the designer uses his brain and pays attention to life, it is easy to find a solution to the problem. The key point is that when designing the opening method, the designer must put himself in the place of thinking for children. Practice has proved that usually some adults think that the opening method is extremely convenient, but it is extremely inconvenient for children. For example, if the sealed lid is smooth, it can be difficult to grasp and unscrew. A groove is designed around the lid to increase friction. Or design the shape of the cover into a square or other special shapes to facilitate opening.

3) Easy to use
The convenience of packaging has two meanings: First, it has a convenient structure. Some of these structures are more complicated, such as air pressure type packaging containers, and some are simpler, such as powder spray caps for talcum powder. Second, there are instructions for easy use. If children do not understand the instructions for use, the quality of the goods is often undesirably impaired, so the instructions for use of the goods must be concise and designed to be easily visible.

4) Convenient handling
Convenient handling of children's packaging can be considered from two perspectives, one is reuse, that is, the reuse of packaging bodies and multi-functional packaging; the other is processing in various forms. Such as recycling for reproduction, incineration to obtain energy, decomposition to reduce pollution, creative use to increase wealth.

3. Experiments

3.1 Experimental Background
The first is to conduct a questionnaire survey of students and their parents in Wuyi Road Primary School before class to understand their life background, understanding of children's product packaging and expectations for children's product packaging. Make sure that you can have a broad understanding of the expectations of parents and children before the experimental survey, and have a comparative basis for later comparative surveys, and you can more intuitively see the degree of student and parent satisfaction. Then a questionnaire survey was conducted on the students and their parents in Wuyi Road Primary School. This comparison can show their satisfaction level at the end of the current survey and evaluation.

3.2 Experimental Background
Conduct classroom observations in 2 randomly selected classes in Wuyi Road Primary School, have a general understanding of the current living conditions of the students and their parents in this Wuyi Road Primary School, and grasp the students' attitudes towards children's products. To supplement the information that was not available in the questionnaires and interviews, the observation time was 3 weeks. Through classroom observations, researchers' perceptual knowledge was also increased to ensure more accurate data.

3.3 Experimental Collection
Questionnaire survey: A total of 140 questionnaires were issued and 128 were returned, of which 121 were valid. The questionnaire data will be mainly in the form of a five-level scale. Interview data: During the interview, use the recording equipment to collect the interview content. After the interview, the interview content is converted into text information, and then the relevant information and invalid information are deleted and analyzed to sort out valid information.
4. Discussion

4.1 Humanized Design of Children's Products—Experimental Analysis of Cartoon Image Satisfaction

The humanized design of children's products packaging is mainly reflected in meeting the physical and psychological needs of children; it has a certain visual aesthetics, and its form, proportion and scale meet human aesthetic standards. Children's TV has a basic understanding of various cartoon characters through various media and comics. When children grow up, they usually imitate their favorite and familiar cartoon characters, and are always happy and proud. When buying consumer products, they will also trade with their favorite cartoon characters; parents will be affected because the children's favorite products also contain rich next generations who can grow up happily, healthy and expect to buy such products. commodity. The investigation of experimental data is shown in Table 1 below.

|                | Little Monster | Mickey Mouse | Snoopy | Garfield | Spiderman | Rainbow Cat Blue Rabbit |
|----------------|----------------|--------------|--------|----------|-----------|-------------------------|
| student        | 8              | 34           | 33     | 33       | 6         | 7                       |
| Parent         | 8              | 32           | 38     | 36       | 3         | 4                       |

As shown in Table 1 above, students and their parents are 82.6% and 87.6% satisfied with the products contained in Mickey Mouse, Snoopy, and Garfield, respectively, these cute cartoon character types. For example: Mickey Mouse, Snoopy, Garfield, etc. Such rich cartoons have rounded and soft curved shapes, which are consistent with children’s physical characteristics, rich colors and cute images. They are more consistent with the children’s innocence and curious nature. Cartoons make children feel like their cute little friends, so they can easily get their affection. This design enables children's consumer groups to interact aesthetically with people's tastes and emotions like commodities. So as to achieve humanized design thinking.

4.2 Humanized Design of Children's Products—Experimental Analysis on Satisfaction of Morphological Bionics

The ultimate goal of humanized design of children's product packaging is to achieve deep human care for this special group of children. Bionic design is designed to imitate the morphological symbols of nature. Natural form symbols are inspired by nature. Through imitating, choosing, and refining natural forms, they can create natural symbols that are understood and appreciated by the general public with a sense of nature. In the design of bionic packaging, it is necessary to study the structure and morphology of organisms, to understand and dig out its inherent harmony and wonder from natural objects, to make full use of their peculiar shapes, structures, and functions, and to use bionic creative design Thinking, in design, fully reflects the perfect combination of human interest orientation and natural mystery, to achieve harmony with nature. Specifically, we can find bionic entry points from the aspects of shape, structure, color, and graphics, broaden and extend the expression of packaging, maximize the value of fun, and realize the humanization of packaging. The experimental analysis of morphological bionic design satisfaction is shown in Figure 1 below.
As shown in Figure 1 above, the bionic design of humanized form is the most expressive in the form of bionic packaging design. The satisfaction of the students and their parents is 72.2% and 71.1%, so they realistically imitate the animals or plants in nature in appearance. The cartoon image of the bear bear intuitively shows its morphological characteristics. The packaging design is most easily accepted by children Nostalgia, because the concrete form has the most innocent natural attributes and affinity. The figurative bear image is used as the design element of the packaging. The product packaging adopts the humanized design in a specific way, with novel and strange shapes and affinity. Not only bring children a pleasant mood, but also attract the children with the cute image of the bear, making the packaging more interesting.

5. Conclusions
This article has provided a solid theoretical basis for the research on the humanized design of children's packaging through a lot of literature and books about the packaging of humanized products and humanized design. The satisfaction of parents and students with the humanized design of children's products after this experiment reached 98%. This article studies and investigates the packaging of children's products, and discusses some basic issues of humanized design of children's products packaging from the aspects of function, vision and green packaging design. The division of children's perception of packaging into different age groups is proposed. The common methods of humanized design of children's products packaging are also introduced. By analyzing the humanized design of children's products, this article can better protect children's health and safety, standardize the production of children's products, improve the quality of children's goods, promote the sale of goods, and accelerate the healthy development of the industry. It is of great significance for the prosperity of the socialist market economy, and at the same time has great practical significance for the construction of a harmonious socialist society.

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