

Research on the Design of Pre-school Children's Intellectual Toys

Wu Heng

Yinchuan Energy University, Yinchuan, 750105, China

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Abstract: Intellectual toys are the main tools for preschool children to develop their intelligence, which can stimulate preschool children's imagination and creativity to a certain extent. In recent years, parents have a new understanding of toys, which has changed their roles. Many parents hope to cultivate their children's logical thinking ability through toys. As a representative, puzzle toys are welcomed by parents. Therefore, according to the characteristics of preschool children, this paper designs educational toys to improve their interactivity, intelligence and security.

1. Introduction

With the development of the times, the toy industry is also changing. In the past, the toy play method is simple and the function is single, which can only meet the children's entertainment needs. At this stage, more and more parents begin to pay attention to the development of preschool children's intelligence, making the types and functions of toys more diverse. Educational toys have become the first choice for parents to buy toys, because it not only meets the entertainment needs of preschool children, but also realizes the intellectual development of preschool children to a certain extent.

2. Summary of Educational Toys

2.1 Functions of Puzzle Toys

The emergence of toys is mainly to meet children's entertainment needs and promote children's physical and mental health. As a type of toys, puzzle toys are different from ordinary toys in orientation and function. In addition to satisfying children's basic entertainment needs, puzzle toys are also a tool for preschool children to develop their thinking. Pre-school children can realize the development of intelligence, the cultivation of logical thinking ability, the stimulation of imagination and creativity in the process of playing puzzle toys. With the development of the times, the functions of puzzle toys are more and more abundant.

(1) Entertainment function

Entertainment function is the basic function of puzzle toys, but also the premise to achieve other functions. For preschool children, toys must ensure their entertainment, in order to fully mobilize the curiosity of preschool children, so that preschool children in the process of toy play, learn some knowledge.

(2) Mental function

The starting point of the design of puzzle toys is not to solve the problem of preschool children's education, but since the advent of puzzle toys, it has been given the function of early education enlightenment, which is also the biggest difference between puzzle toys and other toys. Preschool children because of age, physical and psychological immaturity, and childhood is an important stage of life, so we need to use some tools and means to guide preschool children, in order to develop their ability to practice, brain, the emergence of puzzle toys just solved this problem, its puzzle function can not only improve the ability of preschool children to practice, brain, but also. Strengthen preschool children's expressive and interpersonal skills, so that preschool children can better integrate into collective life.

(3) Emotional function

At present, many families are only children. The busy parents will make the preschool children

lack companionship, and the children's emotional appeals can not be satisfied, which will lead to a variety of personality problems. The appearance of puzzle toys plays a role of playmate in preschool children's life, providing a companion and communication object for preschool children, making preschool children form relatively sound personality and promoting physical and mental health.

(4) Fitness function

Puzzle toys are different from ordinary toys. Puzzle toys are not limited to indoor activities. Therefore, puzzle toys can also improve preschool children's physical balance ability, running and jumping ability, increase the time of preschool children's outdoor activities, while training preschool children's intelligence, but also completed physical exercise, promote the comprehensive development of preschool children.

2.2 Classification of Puzzle Toys

With the development of science and technology, there are more and more kinds of puzzle toys. According to different standards, puzzle toys can be classified. The puzzle toys are mainly divided into the following two types.

(1) Traditional puzzle toys

Traditional puzzle toys have a high cost performance ratio. The design of traditional puzzle toys is relatively simple and the price is low, which can meet the basic needs of preschool children's intellectual development. Such as jigsaw puzzle, Luban lock, building blocks, rubber mud, magic cube, chess and cards, all belong to the category of traditional puzzle toys.

(2) Intelligent puzzle toys

With the development of Internet technology and electronic technology, puzzle toys have become more and more intelligent. Voice and remote control puzzle toys emerge in endlessly. Compared with traditional puzzle toys, intelligent puzzle toys can fundamentally improve preschool children's listening, speaking, reading and writing ability, make preschool children better feel and distinguish different sounds and images, and improve their cognitive ability.

2.3 Development Status of Puzzle Toys

With the development of science and technology, computer technology and electronic control technology are more and more widely used in puzzle toys. Electronic products have become an indispensable part of people's daily life. Therefore, electronic puzzle toys have sprung up and become the mainstream in the current puzzle toy market. At the same time, the development of bionics also provides a new direction for the development of puzzle toys. Many manufacturers make use of sound, light and heat technology to make the form of puzzle toys more diverse and improve the interesting of puzzle toys. In addition, strengthening interaction is also the focus of the development of puzzle toys. With the improvement of people's living standards, parents are no longer concerned about the price of toys when they buy toys for their children, but whether toys can bring good experience to children. Intelligent toys and interactive toys have become popular products in the toy market.

3. Study on the Design of Educational Toys for Preschool Children

3.1 Demand Analysis of Educational Toys for Preschool Children

Because preschool children are a special group, preschool children can not express their ideas and demands because of the relationship between age and thinking ability. Therefore, before starting the design work, we should analyze the needs of preschool children's educational toys. There are two main research methods. The observation method is to analyze the entertainment situation of preschool children from the perspective of spectator. The key point of this method is that it can not interfere with the entertainment of preschool children. Research method is a more reliable research method, through the analysis of preschool children's response to external stimuli, in order to explore the needs of preschool children. In addition, parents should also conduct a study on dispatch,

because preschool children are younger, and puzzle toys are purchased by parents. Therefore, parents' propensity to buy is also very important.

3.2 Basic Principles for the Design of Educational Toys for Preschool Children

When designing puzzle toys, certain principles should be followed. Firstly, the design of puzzle toys should start from the puzzle of toys. The most important function of puzzle toys is to improve the intelligence level of preschool children. Puzzle toys can help parents develop their children's intelligence at an early stage, cultivate their hands and brains, and lay a solid foundation for future learning. Toys play an important role in the growth of preschool children. Therefore, we must make full use of the advantages of toys to enhance the intelligence of toys, so as to realize the tapping of preschool children's potential. Secondly, safety is also a problem that should be paid attention to in the design of puzzle toys, because preschool children are generally too young to have a clear understanding of many things and mistake parts often occur. Therefore, in the design of puzzle toys, we must eliminate potential safety hazards and ensure the safety of preschool children. At the same time, we should try our best to choose green when choosing toy materials. Colored and environmentally friendly materials, which not only reduces pollution, but also avoids the harm of inferior materials to preschool children. Finally, it is necessary to enhance the interaction of educational toys, realize the interaction between preschool children and educational toys, people and space, improve the participation of preschool children in the environment, and enhance the interactive experience of preschool children in emotion, thinking and behavior.

3.3 Main Starting Points of the Design of Puzzle Toys for Preschool Children

(1) Combining with Science and Technology

With the rapid development of science and technology, the design concept of toys has changed, and the combination of science and technology has become the main method of puzzle toy design. For example, the design of programming robot, through sensor technology and mechanical technology, realizes the normal operation of programming robot, while using Internet technology, realizes the connection and control with mobile phone software. When the operation stops, the programming robot will also make sound through the vocal device to get children's attention and stimulate preschool children's imagination and creativity. In addition, some dance robots also need to use science and technology to achieve their functions. Such robots can be used to guide preschool children to learn words. Robots can attract children's attention in the process of dancing, so that they can join the dance ranks, so that preschool children can improve their intelligence in the process of sports.

(2) Focusing on the Innovation of Design Ideas

There is no innovation in the development of any industry. The same is true for the development of puzzle toys. When designing puzzle toys, we must innovate the design concept. Make full use of science and technology to enhance the interest of puzzle toys, design according to the personality characteristics of preschool children, and at the same time, conform to the mainstream aesthetic. Designers can start from the function of puzzle toys and innovate their functions. In addition, the innovation of puzzle toys is also reflected in the process and material selection of puzzle toys. The improvement of technology can improve the production efficiency of products. The choice of materials will directly affect the appearance of puzzle toys and the safety of preschool children. Therefore, in the design of puzzle toys, we must give full play to imagination and find innovative points for product development.

4. Design and practice of educational toys for preschool children

4.1 Orientation of Educational Toys Design

Aiming at the characteristics of preschool children's age and personality, this paper designs educational toys, which are the golden period of intellectual development. Educational toys are the tools for preschool children to perceive the world. Through the use of educational toys, they can

significantly improve preschool children's practical and mental abilities. Moreover, with the development of science and technology, educational toys are also developing towards electronic direction. At the exhibition, parents can use the advantages of educational toys to attract the interest of preschool children and avoid indulging in electronic products. In addition, the good interaction of educational toys can cultivate the communication ability of preschool children, so that preschool children can better adapt to interpersonal communication after school.

4.2 Optimizing the Design of Puzzle Toys

In the process of designing puzzle toys, some details need to be optimized in order to get better products. First of all, the appearance of puzzle toys is an important reason for preschool children to make choices. Therefore, the appearance design of puzzle toys must be based on the characteristics of preschool children, and should try to choose simple and lively style, because preschool children are younger, aesthetic has not yet formed a system, relatively clumsy and round shape is more acceptable to preschool children, and relatively simple. Simple shape has more imagination space, which can stimulate the imagination of preschool children. Secondly, the color matching of puzzle toys is also a very important link. Although preschool children are not mature and have poor understanding ability, the recognition of color is an instinct. Different colors can convey different emotions for preschool children. Therefore, in the design process of puzzle toys, it is necessary to choose matching colors that accord with the psychological feelings of preschool children, and to choose more warm colors. Finally, the choice of materials also determines the sales of pre-school children's puzzle toys. Different materials will bring different texture. Soft materials can bring stable and happy mood to pre-school children. At the same time, we must pay attention to the safety of materials and try our best to choose environmentally friendly and non-toxic new materials to ensure the health of preschool children.

5. Conclusion

To sum up, childhood is the key period for children's growth and development. In this period, puzzle toys play an important role, which is an important tool to guide children's growth and development. Therefore, in the design of educational toys for preschool children, we must design them according to the characteristics of preschool children's age and personality, meet the personalized needs of preschool children, integrate intellectuality with entertainment, let preschool children experience the world in the process of entertainment, understand the world, improve their hands-on and brain-using abilities, and promote the all-round development of preschool children.

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