

A Study on the Innovative Design of Diversity-Related Toys for Children

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Abstract. Toys have a long history. They provide opportunities for children to play, and existing research emphasizes the importance of toys for children's future development. Play develops the skills children need for the future, guides them to explore new environments and discover new things, and it also introduces them to different sounds, colors, and shapes, which helps them to better perceive their external environment. Children are currently living in a world full of diversity, and they begin to develop social awareness as infants. Helping them to understand social diversity not only reduces discrimination against others later, but also helps them to better integrate into social life, but there is still a lack of toys that help children understand diversity. Character toys, as toys that can help children better understand others in terms of behavior and psychology, have great potential to help children understand diversity. An analysis of existing role-play toys reveals that there are four main categories of existing toys, but none of them deal with diversity. As children imitate the behavior and actions of adults, film or book characters during play, it was found that adults also have an influence on children's social diversity perceptions, and new innovations in role toys are proposed that allow children to be exposed to diversity-related content during play, while emphasizing the importance of adults in their play and helping to correct misconceptions in a timely manner.

Keywords: Toys for children, social diversity, child development, innovative design.

1. Introduction

Toy development has a long history, and it supports the daily play of children. Playing with toys as a pastime is a major activity for children and develops a variety of skills that children will need in their future lives [1]. Many current studies have shown that good child toys can have a positive impact on children's future development. By playing with toys children can better understand the world and become more involved in activities that encourage their cognitive, emotional, and social development. Toys can help develop their motor, mental, emotional, and verbal communication skills, as well as their self-confidence, since during play, children can develop their communication skills with their peers, learn to deal with difficulties encountered during play, and learn to share their toys with their friends [2]. Imagination and creativity are also well-developed, and children can explore new environments and develop curiosity during play [3]. Therefore, toys have a positive impact on children's growth and development. Children need to develop different abilities at different stages, and there is a wide variety of current types of Children's toys. Depending on the needs of children at different ages, the right toys provide children with ways to develop these abilities. Play is one of the means of education and recreation and toys also have educational significance for children, who can learn knowledge, observe nature, and identify colors, sounds, and shapes while playing [4]. Teaching children to understand and respect diversity is an important thing in the present environment of life full of diversity, but at this stage, there is a lack of toys that help children understand diversity. Therefore, this study will examine the existing literature and toys to understand the importance of toys for children's development, identify ways to help children understand diversity, and suggest innovative toy designs.

2. Literature Review

2.1. Childhood Development

Physical development is the most obvious of the child's developmental domains, with the brain facilitating exploration and movement across all developmental domains. The Sword study found that the experiences of the first five years of life for children have a remarkable impact on their future developmental outcomes [5]. The first five years of the children's life are often categorized into five stages: newborn, infant, toddler, preschool age, and school age, which correspond to the ages of 0-3 months, 3-12 months, 1-3 years, 3-4 years and 4-5 years respectively [5, 6]. Therefore, it is important to accurately understand what is happening at each stage of a child's life and to meet their developmental needs effectively at all times. At each stage, children need to achieve different goals and exercise skills in different domains including communication and phonological domains, physical domains, social and emotional domains, and cognitive domains, which are interconnected [7]. Toys and games can be used as a tool to help them develop their own skills, and how toys can help children develop their own skills will be analyzed in detail below.

2.2. The Significance of Toys for Child Development

Play, as a behavior involving fun and learning in which children voluntarily engage, can help them experience the world, connect with new skills, and internalize new ideas, and in the process of playing with toys, new experiences learned are combined with previous experiences. Existing research suggests that toys begin to help them perceive the world during infancy [8]. Reading in his research found that perception of objects begins soon after birth [6]. Children can perceive objects around them from birth to 18 months of infancy, but at this stage, they have limited language skills and babies mainly use sensory-dependent behaviors such as seeing, touching, tasting, and listening to perceive and observe [9]. This is the time when they initially begin to make sense of the world around them, and during this time they usually utilize some geometric toys to work on their perception of the shapes of objects. These types of object interaction toys are also beneficial for infant language learning. According to Herzberg and Swirbul found that infants who engage in a variety of object interactions can stimulate their expressive abilities to improve their language, perceptual, and motor skills [10, 11]. During the interaction with objects, the infant's fine motor skills were also enhanced, which had a positive impact on the next stage of development.

Perception and movement are early stages of adaptation in cognitive development, and cognitive abilities are usually associated with participation, perception, cognition, and thinking skills. while cognitive abilities are also associated with fine motor skills [12]. Therefore, an increase in perceptual abilities can lead to cognitive abilities as well as enhance fine motor skills. Fine motor skills (FMS) are considered by many researchers as an important skill for children to develop in preschool and during primary school [13]. FMS is a necessary skill for children to perform self-care tasks and activities, Marztog and Suggate found out through their studies on the FMS in children that the FMS is associated with dexterity and agility in children which will have an impact on their learning [13, 14]. Dexterity plays a central role in general cognitive development. Higher dexterity means that children have a better sense of object exchange and can perceive the dimensionality of objects, while flexibility is associated with verbal ability, while agility means that children may have speculative abilities, reflected in children having flexible hands and a flexible brain, with implications for writing motor skills and executive functioning [13-15]. Overall, perceptual abilities are developed in infancy through object interaction, and perceptual abilities are the basis for cognitive development, as perceptual abilities increase cognitive abilities gradually improve. The development of FMS is also related to cognitive abilities, which shows that toys can have a profound and long-lasting impact on the development of individual abilities in children.

2.3. Importance of Diversity-Related Toys

Toys serve as a bridge to help children understand the real world, not only to foster the development of their abilities to recognize the natural environment around them but also to have educational value. Nowadays, children live in an environment full of diversity, they will live with people with different cultural backgrounds, religious beliefs, physical conditions, and even gender orientation and identity [16]. Helping children to realize this can teach them to respect differences, increase empathy, enhance the sense of identity of the children, help them to better integrate into social life, contribute to solidarity, and help those unusual children avoid being hurt and bullied. Existing research emphasizes that the attitudes of children toward diversity are formed in early childhood and that they already develop negative attitudes towards diversity such as discrimination, prejudice, and bias before they start pre-school education [17]. Therefore, it is necessary to help them realize that diversity is normal, to make them understand that it is a part of society, and to understand that these differences increase the knowledge of diversity in society.

2.4. Imagination and Social Cognition

Role-playing games improve the empathy of children and also stimulate the development of personal identity and awareness of social rules and imaginative skills [18, 19]. Imagination is important for the social-cognitive development of children, it teaches children to predict the future based on knowledge of past events and to make decisions based on the need to plan. It can help children to understand everyday behavior in a new, more complex way, and imagining what a person should do and what he or she can do helps to help children understand human behaviors [20]. Imagination has an indispensable role to play in the social and emotional development of children [3]. Overall, role-playing games can help children develop an awareness of others in terms of behavior and emotions, and therefore these types of games have a great potential to help children raise awareness of diversity in children.

2.5. Summary

In summary, role-playing games can help children enhance their imagination in relation to social cognition, and as they may be potentially influenced by their surroundings and express this during play, role-playing toys may be able to play an important role in helping them recognize diversity. However, there is a lack of toys currently designed to recognize the social diversity of children. Therefore, this study hopes to analyze existing toys and propose new innovative design ideas to help enhance the understanding of diversity among children, helping them to better understand a world full of diversity and integrate into collective life.

3. Analysis of Existing Toys

This chapter will investigate and research the current role-playing toys for children. It will focus on analyzing the types of role-play toys, their uses, and how they help them to understand their surroundings and things, the importance of these environments and things, and ultimately to discover future innovations in toys.

3.1. The Significance of Role-Play Toys for Children

Role-playing toys develop the ability of imagination and language skills of children, which is because in the process of playing children need to imagine the development of the plot, imitate the language of adults, and in some cases replace objects used in the game with conditional objects [4]. Existing research declares that children do not spontaneously master the game, but rather rely on those who already know how to play to spread it [21]. For the child, the role is his place in the role-playing game, he connects himself to a character in the plot through imagination and acts according to the ideas about that character. Each character consists of rules belonging to himself, and the child

does not spontaneously generate knowledge of these rules but learns from them by studying the environment of the adults who live around them, by borrowing from them.

3.2. Analysis of Play Processes in Children

Children usually use role-playing toys for storyline play, during which children talk to their toys or playmates, and when they act as adults, they mimic adult expressions [22]. This type of play is a form of reflection on the world by children [21]. By showing events in the play, it can help them to understand and utilize them. It has been found through existing literature that children are potentially influenced by their surroundings and this is demonstrated during play.

Toys related to the everyday-themed play category are shown in Figure 1. Baby-shaped dolls make up a large proportion of these toys, which are often equipped with objects that are relevant to the everyday needs of children, such as cots, baby benches, and baby bowls. Children take on the role of parents in this type of play, changing clothes, feeding the dolls, celebrating birthdays, and other behaviors that occur in their daily lives. Through their actions with the dolls, they are able to express their awareness of peers, adults, and relationships.



Figure 1. Doll toys

The three pictures in Figure 2, Figure 3 and Figure 4 show toys that are related to the work industry and social themes of people. The themes of these games are often taken from the life around them including schools, shops, libraries, zoos and other such common places, as well as common public transport. They will use these toys for role-playing, simulating what would happen in different environments, and mimicking the required language and behavior. Through these toys, they are able to demonstrate their knowledge and understanding of their occupations and surroundings.



Figure 2. Doctor role-play toys



Figure 3. Barber role play toys



Figure 4. Kitchen role-play toys

The third category features toys based on literary works, films, cartoons, and radio programs. As shown in Figures 5 and 6, such as Barbie, Dora, and other character toys. During play, children imitate the characters based on the actions, words, and behaviors of the main characters in the plot. During the imitation process, they may think about how the protagonist would react in different environments and situations. These toys often have a rich backstory, which can be very insightful and enable children to understand behaviors that are not common in their daily lives. This can have a potential impact on their social cognition.



Figure 5. Barbie dolls



Figure 6. Dora toys

The final category of doll-like toys is illustrated in Figure 7, where children often act as "directors" designing the actions for the dolls to speak and perform. During play, the behavior of the child is planned in two ways - both for the doll and for him/herself, directing all the actions. The participants of the game have to set the story scene beforehand, which can be a familiar fairy tale, a story, or an episode from their own life. The children direct the hand and finger theatre dolls to 'act' according to the roles they play, giving them literary attributes. During play, they are prompted to talk about emotions and feelings with their playmates, which can develop their social and emotional processing skills.



Figure 7. Hand puppet toy

3.3. Summary

An analysis of current child play behaviors with role-play toys shows that children are often able to emulate the language and behaviors they have observed and learned to express their behavior towards their characters during this type of play. They role-play the same behaviors with baby dolls

by learning the actions and tone of voice of their elders towards them, and toys related to their surroundings and occupations show that they can develop an understanding of these environments and occupations through observation or instruction and imitate the behaviors and language. The film character toys reflect the fact that these types of artifacts also have an impact on children, as they imitate the behavior of film characters. The last category, on the other hand, shows that they make up through the experiences they have gained in everyday life or stories. This finding is an indication of the potential role of such toys in helping children to accept the differences between humans. However, at present, this category of toys lacks any reference to social diversity, as existing dolls are often physically able-bodied, and those related to occupations and the surrounding environment lack any consideration of people with special needs in terms of their physicality. Therefore, in the future, these missing components of toys can be designed through innovation.

4. Innovative Design Ideas

It was found that there is currently a lack of social diversity in these types of toys, as existing dolls are often physically able-bodied, and those related to occupations and the surrounding environment also lack consideration for people with special physical needs. Therefore, in the future, specialized toy design solutions could be developed for special populations.

Diversity-related characters can be given tools to help them understand social diversity, for example, by adding skin colors to dolls and toys to help them understand the differences in skin colors in the world, and dolls can be dressed in ethnic and cultural costumes to enhance their understanding of other ethnic groups and cultures while developing a sense of belonging to their own ethnicity and culture. In terms of the physical condition of the dolls, designers can design visible dolls for the disabled and match them with some living tools to help the children understand that these kinds of people can live a normal life but may be more difficult than normal people in some respects, to avoid them from developing a discriminatory mentality. For occupational and environmental toys, dolls related to occupations need to be considered to avoid gender stereotypes, for example, in hospital-related toys, women can also become doctors and men can also play nurses. For film and book toys, consideration should be given to the gender of the characters to avoid gender stereotyping and to increase the diversity of people roles to help them understand.

In a study, it was found that the behavior of adults had an influence on the behaviors of children [23]. This was found to be confirmed through behavioral analysis of role-playing games with children, where the behavioral language of parents or other adults around them had an influence on them, so consideration could be given to increasing adult guidance to children, as well as correcting incorrect thoughts and behaviors while children are playing the games. Help children to develop correct values while playing with toys.

5. Conclusion

As a tool of educational and recreational significance for children, toys, in addition to helping to develop their individual abilities, also need to help children become aware of their surroundings and clarify the right and wrong behaviors. It has been found through research that children are easily influenced by their surroundings and imitate the behavioral habits of adults or film or book characters. Therefore, role-playing games play an important role in increasing the perception of children about diversity. Based on this finding, an innovative design for the appearance and types of future role-playing toys is proposed, hoping on the one hand to correct their wrong way of treating people with differences in the process of playing and to help children learn about people with diversity and respect the differences in the process of playing, so that they can better integrate into the society in the future, and on the other hand to reduce the harm to other people, which will not only be beneficial to children but also important to the future of the society. This is not only good for the children but also for the future peace of the society.

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