

# REVIEWS OF EDUCATIONAL TOYS DESIGNS IN CULTIVATING SOCIAL COMPETENCE OF PRESCHOOL CHILDREN

Loy Jia Shin<sup>1</sup> and Ahmad Rizal Abdul Rahman<sup>1\*</sup>

<sup>1</sup>Department of Industrial Design, Faculty of Design and Architecture, Universiti Putra Malaysia, Serdang, Malaysia

\* Corresponding author:  
rizalrahman@upm.edu.my

## ABSTRACT

*There is a need to embed social development attributes in educational toys design to cultivate children acquire higher competency personalities. The purpose of this paper is to analyse the attributes of social development through educational toys design in cultivating social and emotional development among preschool children. This study uses Literature Review to analyse the attributes of social skills development for educational toys designs. Prior investigation is carried out on methods in promoting positive social development towards young children and to understand the influence of educational toys design on children's play environment. Additionally, this paper also uses Literature Review to document social behavioural aspects of pre-school children in Malaysia. The results are expected to lead towards the theoretical framework or guidelines in designing educational toys for the social development of children. This review will serve as a decree for consumers and product manufacturers to have a deeper understanding towards the social and emotional development of children, which would nurture the growth of their moral compass and improve their attitudes. Lastly, this paper is expected to contribute to the sustainable development in human ecology.*

**Keywords:** : Play, Social Development, Educational Toys, Designs, Preschool Children, Social Skills

## 1. INTRODUCTION

Education is important for every child during the process of their growth as this will educate them towards knowledge and experiences in their future. Educational toys have become one of the tools that are used to teach children in many aspects, bit by bit. Besides that, educational toys also have become important tools for the development of children since they are important in stimulating and prolonging play (Goldstein, 2012). The careful selection of toys can lead children to play with others, to cooperate, or to develop particular skills. Moreover, the development of children included their mental and physical growth that was influenced by playing with educational toys. In the market, there are various types of education toys that serve different purposes regarding the attributes that needs to be learned by the children. Višnja Đorđić, Tubić, & Jakšić (2016) stated that development is a lifelong process, and different aspects of development (physical, motor, cognitive, emotional, etc.) are correlated and interdependent in multiple ways. The complex interaction of our genes, and our social, cultural, and physical environment, is what defines us.

The designs of toys contribute to the type of toys itself. The method of categorizing educational toys varies, due to the nature of the designs and functions of the toys. A toys supplier organization, The Lakeside Collection, have listed and categorized five types of educational toys which include The Basics, Constructive Play, Emerging Artistry, In Touch with Technology and also Fun with Science. Each of the categories serves different purposes in the educations, according to types of development. On the other hand, The Lakeside Collection has stated that the current toy trend is focusing

on STREAM, which is about Science, Technology, Robotics, Engineering, Artistic and Mathematics. This shows the lack of educational toys in developing the social development of preschool children. However, there is a need to implement attributes of social development in educational toys to cultivate preschool children with higher social skills. Concepts of play are able to contribute in sustainable development as well as education.

## 2. PLAY AND EDUCATIONAL TOYS

Lowe (1988) stated that toys and games are synonymous with play. Almost everyone likes to play and such a desire continues throughout an individual's life. Psychologists inform us that play is not just a filling in of an empty period, or just a relaxation or leisure activity, but it is an important learning experience. Play is also part of the children's routines and activities, as "play" play a significant role in children's cognitive, social-emotional, and self-regulatory development. Therefore, it can be said that play is essential to development because it contributes to the cognitive, physical, social, and emotional well-being of children (Milteer, Ginsburg & Mulligan, 2012).

The value of play is increasingly recognised, by researchers and within the policy arena, for adults as well as children, as the evidence mounts of its relationship with intellectual achievement and emotional well-being (Whitebread, 2012). This shows the importance of play as it can be used as a medium to understand children and having a role in children's growth and development. Play allows children to experience, express, regulate and learn about their emotions in genuine, self-directed ways. Hence, it can be justified that play is essential for learning in children where toys as used as the tools of play. Play materials are provided and how they are used is equally important. Therefore, it is significant for kids to have play in their daily life during their early childhood.

By having play, children are able to create new learning experiences, and these self-created experiences enables them to acquire social, emotional, and intellectual skills they could not acquire in any other way (Elkind, 2008). Elkind highlighted the trilogy of play, love, and work—three basic drives that power human thoughts and actions, three drives essential to a full, happy, and productive life. And while play, love, and work may constitute separate and distinct dispositions, they function most effectively when they operate together.

In a previous publication, three concepts were considered to develop an educational toy, namely aimlessness, empathy and play value, which could contribute to the professional in terms of the toy quality (Gielen, 2010).

These three components serve as the key roles in designing a toy. However, his study did not specify development of the concepts mentioned into any types of development of children. In order to design relevant toys to fit certain learning objectives, the toys must come with relevant play value that enables children to feel pleasure thus able to learn from continuously playing. Eberle (2014) has stated that is difficult to define play as the concept of play is ambiguous and complex. He highlighted that play is a roomy subject, broad in human experience, rich and various over time and place, and accommodating pursuits as diverse as peek-a-boo and party banter, sandlot baseball and contract bridge, scuba diving and Scrabble. However, he classified play into six elements which are anticipation, surprise, pleasure, understanding, strength and poise in his study, as to cover the field of play. Parten (1932) has classified play into six stages based on the social behaviours of children (see Table 1). As stated, each stage changes based on the growth as it portrays different characteristics in conjunction with the social development of preschool children. Each of the stages show that children go through positive development by having more social interaction towards the others and their surroundings. During the cooperative or named social play, children show their ability in understanding others by having empathy. This study will focus on the methods that will develop the social skills of preschool children through play.

*Table 1: Parten Stages of Play (1932)*

PLAY	DEFINITION	EXAMPLE
<b>UNOCCUPIED</b>	Child is observing, not playing.	Juan stands near the sandbox, counting children and buckets.
<b>SOLITARY</b>	Children play alone.	Lori completes a puzzle, plays with a doll, or rides a bicycle.
<b>ONLOOKER</b>	Child watches, but does not engage in play.	Mari and Will watch two classmates negotiate the use of a balance scale.
<b>PARALLEL</b>	Children play independently, but side by side.	Jen and Carlos read books or build blocks next to each other with no interaction.
<b>ASSOCIATIVE</b>	Children share materials, make their own projects, and tell stories about them.	Margo and Lynn share crayons at the art table and make their own pictures and talk about them, or pretend to run a restaurant in the dramatic play area.
<b>COOPERATIVE</b>	Child is engaged in the activity and with other people involved.	Emily, Austin, and Ashlyn invite others to join a game of hide-and-seek after negotiating and sharing the game rules and goals.

From the social stages of play, cooperative play will be the focus in conjunction with preschool children, since cooperative play starts in the later period for that age group. This can be generalised that preschool children undergo cooperative play most of the time before they grow into the next stage of their lives. It is important to make sure the children have the ability to play and interact with others.

Therefore, it can be summarised that the relationship of play, educational toys and learning into process, equipment and purpose are integrated and contributing between one another in producing a relevant educational toy design. By referring to Figure 1, play is required as the process for children in order to gain skills, knowledge for their further development. On the other hand, the equipment used to achieve the learning purpose are the educational toys. Educational toys can be used as the tools to develop particular skills in terms of the cognitive development, motor development, social development and emotional development. These three components serves as the significant role in the growth and development of children, which should always be considered for its relationship with intellectual achievement and emotional well-being of the children (Elkind, 2008).

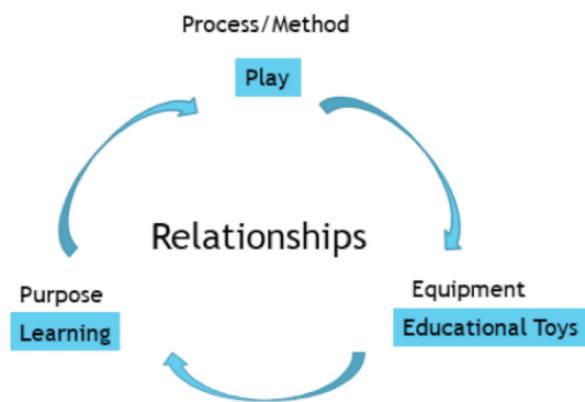


Figure 1: Relationships of Play, Educational Toys and Learning

## 4. DEVELOPING CHILDREN SOCIAL SKILLS

In this sub-topic, the authors reviewed the concepts of the methods in developing the social skills of preschool children. Throughout the readings on some of the research studies before, the authors were able to summarize the methods used significantly to develop social skills of preschool children. In this research, the authors have reviewed and will discuss the use of pretend play, parental involvement and peer interaction which will benefit the social development of preschool children.

### 4.1 Pretend Play

Bergen, (2001) has reviewed the research and concepts of pretend play and young children's development. In his study, he synthesized the latest research on the role of pretend play in children's social and linguistic competence and discusses challenges and policy directions suggested by these research findings. His paper highlighted that the findings of many recent studies of pretend play shed light on the social and linguistic competence vital for school success because pretending involves language use and takes place in social contexts. Lillard et al (2013) stated that the impact of pretend play is claimed to be crucial for children's healthy development. The article highlighted that pretend play is one of the many routes to positive developments (equifinality), and pretend play is an epiphenomenon of other factors that drives development. The study summarizes those social skills correlations inconsistent with both solitary and social pretend play. Role-play contributes to educating about sustainable development as well as educating for sustainable development (Blanchard & Buchs, 2015)

### 4.2 Parental Involvement

Playing with children establishes and strengthens bonds that will last forever. Xing et al. (2017) studied Chinese preschool children's socioemotional development: the effects of maternal and paternal psychological control where it examined the predictive power and combined effects of maternal and paternal psychological control on the socioemotional development of preschool children aged between 2–5 years in China. The study highlighted

that higher maternal psychological control could predict more behavioural problems significantly and less prosocial behaviours marginally significantly. Hosokawa & Katsura (2017) studied about marital relationship, parenting practices, and social skills development in preschool children. Their study examined the pathways by which destructive and constructive marital conflict leading to social skills development in preschool children, are mediated through negative and positive parenting practices. The findings provide preliminary evidence of the need to explore negative and positive aspects of family relationships. Thus, it can be summarized that the needs of positive parental involvement in the play of preschool children will provide advantages to their development.

### 4.3 Peer Interactions

Martin, Brady, & Williams (1991) stated that social and isolated toys have impacts on the social behaviour of integrated and non-integrated groups of preschool children during free play time. The article highlighted that under social toy conditions, children engaged in social behaviour more often than during any other condition. In addition, the incidence of social play was higher in integrated groups than in non-integrated groups. Coelho et al. (2017) examined the relation between children's play behaviour, social acceptance in the peer group, and number of reciprocal friendships. The study highlighted playing with peers is one of the most important contexts for the acquisition of social competencies in early childhood. They have identified the greatest number of significant correlations between reciprocal friendships and positive play interaction were found at age three and four, suggesting that already at an early age, behaviour during play is a concern in the choice of friends.

Therefore, it can be summarized that there are few aspects of methods and techniques which are relevant to be considered as the criteria in designing an educational toy with the intentions to develop the social skills of preschool children. For this research context, the concepts of pretend play, parental involvement and peer interaction is classified as prior methods in developing the social development or social skills of the preschool children. The three concepts reviewed will serve as the factors for further analysis on the existing educational toys in the market. When it comes to designing a toy for social skills development, the product features should consider the three concepts mentioned.

## 5. FINDINGS AND DISCUSSIONS

The authors have discussed the understanding of Play, the need of educational toys, the role of social skills in children and methods in developing children's

social skills. From the review, the authors have come up with a proposition by linking all the related components of knowledge and have assisted to develop a conceptual framework for this research. They agreed that educational toys play an important role in making sure preschool children develop their social skills at the earlier stages of their growth.

Therefore, the authors arrived with a proposition of the applicable design concepts (pretend play, parental involvement, peer interaction) in educational toys designs which can cultivate preschool children to have a better social competency (social cooperation, self-control, assertion) through cooperative play (see Figure 2). The figure shows the components and the subcomponents of the overlapping keywords to identify their relationships in terms of design considerations. The link is being made to determine the relationships of social skills learning, elements of play and the theories of educational toys designs. This will further serve as the guideline in setting up the future research methodology design.

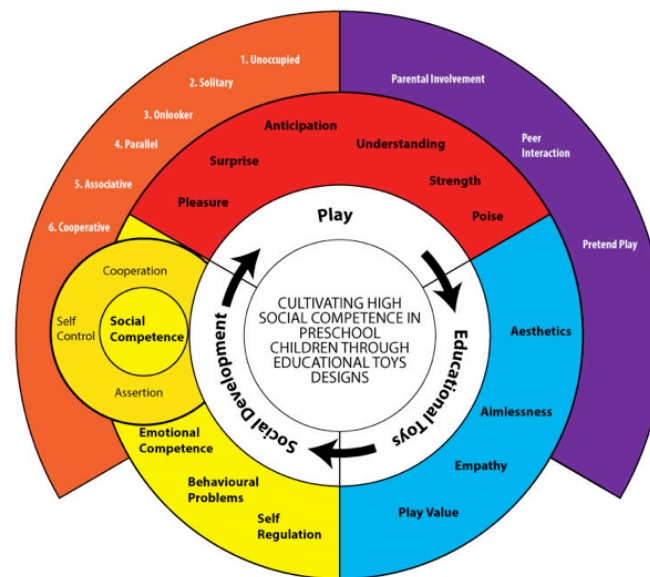


Figure 2: Conceptual Framework of Play, Educational Toys and Social Development

Additionally, the authors that the social skills of preschool children are crucial and significant and can be developed through the application of play with certain types of educational toys. From the reviews, the authors acknowledged the importance of role play in contributing to the development of social skills.

This can be stated that the designs of educational toys which applied the use of pretend play are able to encourage the children to express the role they are imagining while playing. Thus, this enables the children to think and communicate by implementing their thoughts while associating towards certain environments. At the same time, social interactions among their peers within the same age group will be beneficial to the development of their social skills, as well. By having peer interactions in the toy designs applications, preschool children are able to communicate and thus, understand each other with the similar level of thoughts. Lastly, parental involvement is one of the key factors in developing the social skills of preschool children. Every play that involves parents will definitely providing advantages in guiding their children to have more confidence in expressing and strengthening their bond.

## 6. CONCLUSION

This paper has reviewed and discussed the importance of social skills in preschool children as it should be one of the considerations and criteria when designing an educational toy. Researchers or designers could gain a better understanding about social skills of preschool children to implement the attributes of social development in child play. This research could be explored in future studies with the application of the theoretical proposition by any parties who are interested in this topic. The theoretical proposition may serve as the guide in developing framework for sustainable toy designs through play. However, as this research is still ongoing, the designs theories and elements of the educational toys' studies will be examined and explored by validating processes with the behaviors of preschool children in their holistic real-world environment.

## REFERENCES

- Anme, T., Shinohara, R., Sugisawa, Y., Tanaka, E., & Watanabe, T. (2013). Validity and Reliability of the Social Skill Scale ( SSS ) as an Index of Social Competence for Preschool Children. *Journal of Health Science*, 3(1), 5–11.
- Bergen, D. (2001). Pretend play and young children's development. *ERIC Digest*, (October).
- Blanchard, O., & Buchs, A. (2015). Clarifying Sustainable Development Concepts Through Role-Play. *Simulation & Gaming*, 46(6), 697–712.
- Coelho, L., Torres, N., Fernandes, C., & Santos, A. J. (2017). Quality of play, social acceptance and reciprocal friendship in preschool children. *European Early Childhood Education Research Journal*, 1807(September), 1–12.
- Darling-Churchill, K. E., & Lippman, L. (2016). Early childhood social and emotional development: Advancing the field of measurement. *Journal of Applied Developmental Psychology*, 45, 1–7.
- Eberle, S. G. (2014). The Elements of Play Toward a Philosophy and a Definition of Play. *American Journal of Play*, 6(2), 214–233.
- Elkind, D. (2008). The Power of Play. *American Journal of Play*, (May 2007).
- Gielen, M. a. (2010). Essential concepts in toy design education: aimlessness, empathy and play value. *International Journal of Arts and Technology*, 3(1), 4.
- Goldstein, J. (2012). *Play In Children ' S Development , Health and Well-Being*. Toy Industries of Europe.
- Halle, T. G., & Darling-churchill, K. E. (2016). Review of measures of social and emotional development. *Journal of Applied Developmental Psychology*, 45, 8–18.
- Hosokawa, R., & Katsura, T. (2017). Marital relationship, parenting practices, and social skills development in preschool children. *Child and Adolescent Psychiatry and Mental Health*, 11(1), 2.
- Lillard, A. S., Lerner, M. D., Hopkins, E. J., Dore, R. A., Smith, E. D., & Palmquist, C. M. (2013). The impact of pretend play on children's development: A review of the evidence. *Psychological Bulletin*, 139(1), 1–34.
- Lowe, N. K. (1988). *Games and Toys in the Teaching of Science and Technology*. Science and Technology Education. Division of Science, Technical and Environmental Education, Unesco.
- Martin, S. S., Brady, M. P., & Williams, R. E. (1991). Preschool Children in Integrated and Nonintegrated Groups : Investigation of a Setting Event. *Council for Exceptional Children Effects*, 15(2), 153–161.
- Milteer, R. M., Ginsburg, K. R., & Mulligan, D. A. (2012). The Importance of Play in Promoting Healthy Child Development and Maintaining Strong Parent-Child Bond: Focus on Children in Poverty. *Pediatrics*, 129(1), e204–e213.
- Parten, M. (1932). Social participation among preschool children. *Journal of Abnormal Psychology*, 27
- Steedly, K. M., Schwartz, A., Levin, M., & Luke, S. D. (2008). Social Skills and Academic Achievement. *The Academy for Educational Development*.
- Višnja Đorđić, Tubić, T., & Jakšić, D. (2016). The relationship between physical , motor , and intellectual development of preschool children. *Annual International Scientific Conference Early Childhood Care and Education*, 233(May), 3–7.
- Whitebread, D. D. (2012). *The Importance of Play*. University of Cambridge.
- Xing, S., Gao, X., Song, X., Archer, M., Zhao, D., Zhang, M., Liu, X. (2017). Chinese Preschool Children's Socioemotional Development: The Effects of Maternal and Paternal Psychological Control. *Frontiers in Psychology*, 8(October), 1–9