

THE ROLE OF TOYS IN THE SOCIAL SKILLS DEVELOPMENT OF PRE-SCHOOL CHILDREN IN MALAYSIA

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Received: 03 June 2025 | Revised: 13 Aug 2025
Accepted: 22 Oct 2025 / Published: 25 Dec 2025

DOI: <https://doi.org/10.51200/ga.v15i2.7150>

ABSTRACT

Developing social skills in children at an early age is an essential process. Educational toys are seen as an important agent in cultivating these skills in children. This study explored the role of educational toy designs in developing the social skills of pre-school children. Twenty-four (24) observation entries were utilized on four (N=4) pre-school children (6 years old). The participants were exposed to different educational toys across six play sessions in a controlled environment. During the sessions, the children's behaviors were observed, coded and verified. Results showed that through the toy play sessions, the children portrayed various social attributes, namely cooperation, self-control and assertion. The results are further validated with two (N=2) expertise from childhood development background. The results of the research on toy attributes for social skills development highlight several key features, including the ability to allow multiplayer interactions, the inclusion of shareable components, the incorporation of a win-lose system, sensory triggers, features that promote active play, and opportunities for children to express themselves verbally. This study has significant implications as to the importance of educational toys as tools that facilitate the process of cultivating and developing social skills in children.

Keywords: child development, social skills, play, educational toys, pre-school child

1.0 SOCIAL SKILLS DEVELOPMENT

Early childhood is a period of rapid changes in human life with growth, development and learning, which the correct support of children's development forms the basis for their learning experiences in the following years (Öngören, 2022). The early childhood period plays

a crucial role in shaping children's overall growth and development (Muhamad Ridza et al., 2024). Child development is classified into four domains, i.e. cognitive development, motor development, social-emotional development, and language development (Bartolotta & Shulman, 2010). Social-emotional development refers to the evolving capacity of young children to "establish close and secure relationships with adults and peers, manage and express emotions in socially and culturally suitable manners, and engage in exploration and learning — all within the framework of family, community, and culture." (Yates et al., 2008).

It is essential for children to learn to socialize and communicate with others so they can grow to be effective communicators and sociable individuals (Bartolotta & Shulman, 2010). Indeed, being competent in social skills is increasingly recognized as critical for a child's success, not just in school but in other settings and in later phases of adulthood (Darling-Churchill & Lippman, 2016; National Education Goals Panel, 1995; Thompson & Lagattuta, 2006). Social skills include empathy, participation in group activities, generosity, helpfulness, communication, negotiation, and problem solving (Lynch & Simpson, 2010). KidsMatter (2014) further suggested that children's social development involves learning to be a friend, negotiating personal needs, dealing with difficulties, being assertive without being aggressive, and relating effectively with adults and peers.

Studies have found that social skills are fundamental in facilitating positive interpersonal relationships and interactions with others and with the environment (Lynch & Simpson, 2010; Steedly et al., 2008). Likewise, Parlakian (2003) revealed that children gain confidence and competence to build relationships across different settings by solving problems and coping with challenges that develop their social skills. Thus, to ensure that pre-school children are able to communicate well and forge meaningful social relationships, intervention is required to cultivate their social competence. Children's social competence comprises three key elements: cooperation, self-control, and assertion (Anme et al., 2013; Shaheian et al., 2017). Cooperation refers to the ability of a child to empathize with others and work together; self-control is about a child's behavior in situations that involve conflict; and assertion pertains to a child's initiating behavior.

With regard to intervention mechanisms, playing is a key part of a child's daily routine that has a significant role in a child's cognitive, social-emotional, and self-regulatory development (Beeghly, 1993; Fromberg & Bergen, 1998; Nwokah et al., 2013). Play holds paramount importance in the developmental process, as it significantly contributes to the cognitive, physical, social, and emotional well-being of children (Goldstein, 2012; Milteer et al., 2012). Nwokah et al. (2013) found that play instilled in caring and responsive relationships is critical to a child's healthy development, especially when the child is developmentally challenged. By playing, children cultivate their social skills in the simplest way through sharing, negotiation, and conflict resolution (Hoffman, 2013). These findings reveal that play is highly beneficial to child development, especially to social skill development.

1.1 PRE-SCHOOL CHILDREN IN MALAYSIA

Before children begin schooling, their early childhood is an important period of growth where they acquire knowledge, skills and experiences that contribute to social, emotional and cognitive development (Kleeck & Schuele, 2010). According to the Ministry of Education Malaysia (MOE) (1991), Early Childhood Care and Education (ECCE) in Malaysia is segmented into two age categories: those aged up to four years old and those falling within the four to six years old range.

The initial group of children (0-4 years) is enrolled under the Ministry of Women, Family, and Community Development (MWFC), overseeing national programs dedicated to

the growth and development of children. In contrast, early childhood education for the second age group (4-6 years) involves the collaboration of three ministries: the Ministry of Education, the Ministry of Rural and Regional Development, and the Department of National Unity and Integration (Mustafa et al., 2013).

Following a pilot project in 1992, the MOE set up public pre-schools (*prasekolah*) as extensions to existing primary schools (Mustafa et al., 2013). In 2003, the MOE required all public and private pre-schools to follow the National Pre-school Curriculum (School Malaysia, 2019), which is based on the principles of the Rukun Negara and the National Philosophy of Education. The curriculum calls for pre-schools to develop social skills, intellectual skills, physical skills, spiritual skills and aesthetic values in children.

Since 2016, the Ministry of Education (MOE) has included 'learning through play' as one of the eight instructional approaches in the National Pre-school Curriculum Standard (NPCS), encompassing six learning and development components (Lim & Bahaudin, 2015). Strategies involving 'learning through play' actively support a child's holistic development, fostering a disposition for lifelong learning (UNICEF, 2019). Consequently, educational toys serve as instruments and materials aiding teachers or practitioners in implementing 'learning through play' methodologies. This underscores the importance of crafting educational toys that enhance the learning and developmental journey. Therefore, this study aimed to explore the role of toys and its attributes as play materials that develop the social skills of pre-school children.

1.2 RESEARCH OBJECTIVES

This study highlighted a main research question, “How can toys be used to develop the social skills of preschool children through play sessions?”. Two research objectives were further developed to accommodate the research question of this study and to provide a structured direction in examining the factors related to toy design development for preschool children.

1. To determine the play methods to develop social skills of preschool children.
2. To identify the toy attributes for social skills development.

2.0 DEVELOP SOCIAL SKILLS THRU PLAY

Contemporary studies have showed that social skills can be developed through play (Nhung, 2024). Nearly everyone harbors a love for play, and this inclination endures throughout an individual's lifetime. Elkind (2008) underscores that play, love, and work form a triad of fundamental elements steering human thoughts and actions toward a fulfilling and productive life. Psychologists propose that play is not merely a filler for idle periods or a form of relaxation or leisure; instead, it constitutes a crucial learning experience (Lowe, 1988). Through play, children generate novel learning opportunities, and these self-initiated experiences facilitate the acquisition of social, emotional, and intellectual skills beyond the confines of traditional educational environments (Elkind, 2008).

According to Lowe (1988), toys and games are interchangeable with the concept of play. Consequently, toys play a crucial role in the social and emotional development stages of a child. A toy is the material foundation of playing for children, toddlers and infants alike; it shapes their experience, stimulates their imagination, and directs their behaviour by conveying the values of a particular historical period (Klemenović, 2014). Therefore, it is justifiable that toys have a crucial role in developing the social skills of pre-school children. This paper

highlighted two play concepts of pretend play and peer interactions as the method to develop social skills of preschool children.

2.1 PRETEND PLAY

Many parents believe that pretend play enhances their children's social and communication skills (Shamsudin et al., 2023). The British Toy and Hobby Association (2018) states that pretend play, or role-playing, helps children develop new skills and interests while supporting their social growth. It encourages the use of language in social settings, and recent studies emphasize its role in building social competence, which is essential for school success (Bergen, 2001). Research by Kirkorian, Wartella, and Anderson (2008) found that educational TV programs like Sesame Street help preschoolers develop social skills. These shows present characters interacting in various roles, reinforcing the idea that pretend play supports children's development.

Lillard et al. (2013) highlighted pretend play as important for healthy child development. Their study suggested that while pretend play contributes to positive growth, it is one of several factors (equifinality) and may also be shaped by other developmental influences. They reviewed past research to examine links between social skills and both solitary and social pretend play but focused more on correlations rather than current trends. This study aims to investigate how educational toys used in pretend play influence the social behavior of Malaysian preschoolers.

2.2 PEER INTERACTIONS

Fostering positive peer interactions contributes to various aspects of student well-being, including enhanced social competence, increased academic engagement, improved self-esteem, and positive behavioral outcomes (B. Escabarte & D. Gallardo, 2024; Chen, 2024). Martin, Brady, and Williams (1991) studied how social and isolated toys affect the social behavior of both integrated and non-integrated preschool groups during free play. They found that social behavior was more common when children played with social toys and that integrated groups engaged in more social play than non-integrated groups. However, their research mainly focused on child-to-child interactions, particularly in fostering the social integration of children with disabilities.

Coelho, Torres, Fernandes, and Santos (2017) explored the connection between children's play behavior, peer acceptance, and the number of mutual friendships. Their research highlighted that peer play is a key setting for developing social skills in early childhood, reinforcing the idea that social interactions with peers play a crucial role in shaping children's social development. This study, will examine how educational toys with peer interactions influence the social development of preschoolers in general.

3.0 METHOD

This section discussed the method employed on the ways in identifying the educational toys for cultivate social skills and their impact on social skills development in pre-school children. The first study applied systematic analysis on literature and the toys used for social skills development. Toy concepts were predetermined to further serve as the tools to play with in the observation. The next study applied Parten's stages of play theory, which cooperative play is being set up as the observation process as preschool children in the age of 4 to 6 are started to use social skills and interact with their peers while playing (Parten, 1932).

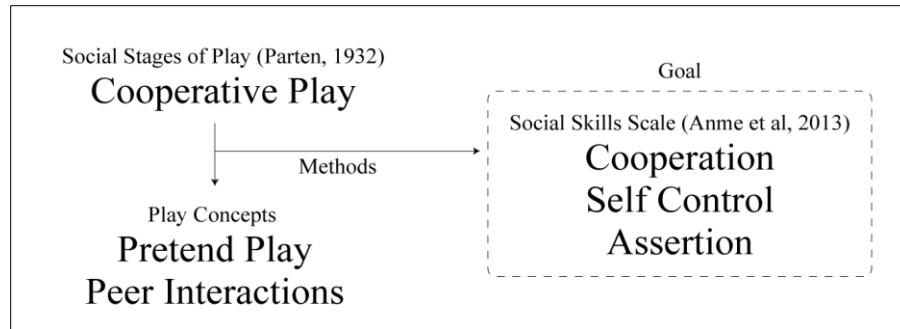


Figure 1: Conceptual model of the relationships of subject matters.

3.1 FIRST STUDY (EDUCATIONAL TOYS FOR SOCIAL SKILLS)

According to the British Toy and Hobby Association (2018), role play (or pretend play) is one way for a child to try out new skills and interests, which enables them to develop their social skills. As pretending involves language use and takes place in social situations, recent studies on role play suggest that such play is crucial for a child's healthy development and social competence, which is vital for a child's success in school (Bergen, 2001; Lillard et al., 2013).

Martin et al. (1991) further found that social and isolated toys have an impact on the social behavior of pre-school children during free play time, such that under social toy situations, children engage in more social behavior. Consistent with this, Coelho et al. (2017) revealed that play with peers is one of the most important contexts for the acquisition of social competency in early childhood.

In short, toys that enable children to perform role play and induce peer interaction are perceived to develop their social skills (Loy & Rahman, 2019). These two concepts were thus considered as toy design attributes that contribute to social skills development. Primary assessment was carried out on 21 toy's categories by Toy Industry Association (2013). Those toys groups will be justified based on designs concepts of whether role play and peer interactions are required while designing the toys. By referred to the example of toys in the categories, the needs of role play and peer interactions in designing the toys are identified. By identifying the toys features, 6 different toys were selected as the play instruments for the next study.

3.1.1 PLAY MATERIALS

This topic discussed the educational toys selected as play materials for this study's observation. From the available toy market in Malaysia, toys that satisfied the design attributes of pretend-play and peer interaction were chosen. The toys are selected according the products information and descriptions. The product descriptions provided a basic understanding of the features and ideas in the product design with highlighting the potential in developing the social skills of preschool children.

1) BREAKFAST AND UTENSILS SET

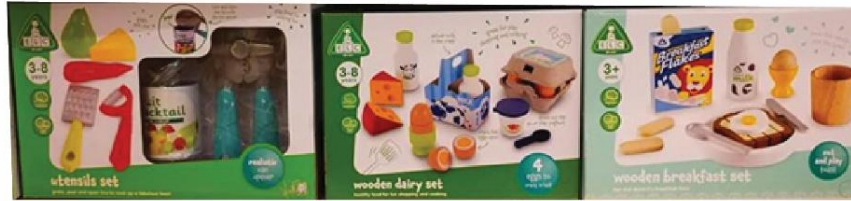


Figure 2: Breakfast and Utensils Set.

Figure 2 shows the toy selected from the Early Learning Center (ELC) toy shop which applies the role play concept with the goal of developing social skills in pre-school children. The product description is: “Three sets of role-play toys on breakfast preparation with utensils set. Fun play shopping and cooking helps children to understand the real world.”

2) POLAR STACK N' PACK



Figure 3: Polar Stack n' Pack.

Figure 3 shows multiplayer product Polar Stack n' Play. The product description is: “In Polar Stack n' Pack, players manoeuvre and place the animal pieces to build a tall, stacking tower. In this game, balance is the key! Throughout the game, players will add, remove and pile the animal pieces according to the directions of the dice. The player who runs out of animal pieces first is the winner.”

3) LEGO CLASSIC



Figure 4: LEGO Classic.

Figure 4 shows the famous LEGO Classic toy, which was selected due to its design concept that allows children to role play. The product description is: “Discover a world of wheels with this LEGO Classic set featuring an array of wheels and tires, plus a selection of LEGO pieces including bricks, shapes and eyes.”



Figure 5: Percy the Penguin Game.

Figure 5 shows the board game Percy the Penguin, selected from the ELC toy shop as well. The product description is: “Turn the timer dial to start the game. Use the fishing rod provided to try and hook a magnetic fish from the penguin belly. There are four different coloured fish – can you name the colours? Each player takes it in turns to fish. When the timer runs out, the penguin’s mouth will snap close. Add up your points on your fish; the player with the highest score wins. Start the timer and take it in turns to throw the fish into the penguin’s mouth.”

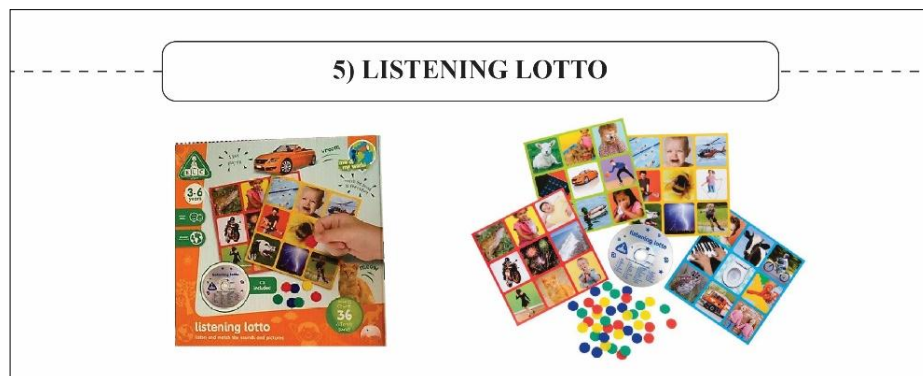


Figure 6: Listening Lotto.

Figure 6 shows the Listening Lotto board game, from the ELC toy shop, that allows children to play together. The product description is: “Playing tips: Listen Carefully. Pick a playing board, ask a grown up to start the CD. Listen carefully – what makes that SOUND? – can you see a picture on your board to MATCH the sound? If we listen carefully, we can be the first one to cover all our pictures. Playing together boosts social and communication skills and listening to the sounds helps your children learn to concentrate.”



Figure 7: Plush Craft.

Figure 7 shows the Plush Craft toy selected from Toy R Us, which applies the animal concept to craft toys. The product description is: “PlushCraft™ makes fabric crafting fun and easy. Use the stylus to punch colourful fabric pieces into premade pillows, room decor items, and even 3D pals. Take a trip to the Zoo with the no-sew craft kit. Follow the illustrated instructions and use the stylus to punch fabric pieces – match the colours to create 3 Plushy pals.”

Table 1 provides a concise summary of the selected toys, categorized by the type of toy and the underlying concept of their design. The toys included in this table were chosen based on product recommendations that specifically emphasized their potential to enhance the social skills development of preschool children. Each toy was evaluated for its ability to foster meaningful interactions, promote collaboration, and support communication among children, aligning with the objectives of this study. By focusing on toys with proven educational and developmental value, the selection ensures that the designs are relevant, practical, and capable of contributing to the overall goal of improving children’s social competencies. Plush Craft Pets was the only toy that was justified without the design attributes of role play and peer interaction.

Table 1: Toys Selected for Observation

No	Name	Types of Toys	Play Concept
1	Breakfast and Utensils Set	Role Play Toy	Role Play, Peer Interaction
2	Polar Stack N’ Pack	Board Game	Peer Interaction
3	LEGO Classic	Building Block and Construction	Role Play
4	Percy the Penguin Game	Board Game	Peer Interaction
5	Listening Lotto	Board Game	Peer Interaction
6	Plush Craft Pets	Craft	Not Applicable

3.2 SECOND STUDY (TOYS IMPACTS ON SOCIAL SKILLS)

The observation method was selected for data collection in this study. Observation is used in the social sciences as a qualitative method of data collection about people, processes and cultures (Kawulich, 2012). This method was selected because children are unable to understand or interpret their experiences independently due to their cognitive limitation. Twenty-four (24) observation entries were carried out to investigate the social behaviors of the respondents when they are playing with the play instruments from the first study.

3.2.1 SAMPLE

The sample of this study comprised four (N=4) pre-school children who were recruited from the Family, Adolescent and Child Research Centre of Excellence (FACE), Malaysia. The participants, of which two were boys and two were girls, were six years of age at the time of data collection.

Purposive sampling, a widely employed strategy, involves categorizing participants based on a predetermined criterion that is pertinent to a specific research question (Mack et al., 2011). In the current study, purposive sampling was employed due to its suitability for focusing on children who met specific criteria. The inclusive criteria for sampling in this study were children who were (i) attending classes following the National Pre-school Curriculum by MOE Malaysia and (ii) six years of age. Since six-year old children are the oldest in the pre-school age group, their growth and development can serve as the guideline and thus the results obtained may be generalised to the rest of the age group.

An exclusion criterion was also established to ensure that the results were precise to the scope of this study. Since the study focuses on the social skills of pre-school children in Malaysia, the respondents selected excluded children with special needs such as children with autism or slow learner syndrome that would affect the results of the study.

Four children who satisfied these criteria were chosen as participants to be involved in six observation sessions. Two boys and two girls were selected out of twenty children in FACE's six-year old class. The equal distribution of genders was deliberately decided to avoid insecure feelings in the children, as children become aware of gender-related concepts as early as 18 months of age (Halim & Lindner, 2013). Also, this prevented any gender bias issues in the data. During data collection, analysis, and reporting, pseudonyms were applied to address the children's name due to ethical considerations, as well as to protect the children's identity and minimize their exposure to risk. The pseudonyms were AD (male), AM (male), NA (female) and QA (female).

3.2.2 OBSERVATION CHECKLIST

The participant observation method was employed to identify the influence of design attributes of educational toys (role play and peer interaction) on the development of social skills in four Malaysian pre-school children. To accomplish this, the Social Skills Scale (SSS) by Anne et al. (2013) was adopted to measure and validate the behaviors of pre-school children in this study. Specifically, the SSS was used as a guideline to identify the social competence of pre-school children, as it was designed to evaluate child social competence within a short duration. There are three major components in social competence, i.e. cooperation, assertion and self-control.

As shown in Table 2, each component has eight items on the SSS, which served as checklist items for the observation guide. Based on the checklist, the two design attributes of educational toys (role play and peer interaction) were tested on pre-school children to observe their social skills (social cooperation, self-control, assertion) through cooperative play.

Table 2: Social Skills Scale (SSS) Components (Source: Anne et al., 2013)

Components	Items
Cooperation: children's	1. Cheers and comforts a person who is missing someone 2. Helps friends when they get hurt

cooperative and empathetic behaviors	3. Brings cheer to friends who look lonely 4. Applauds friend who has done something well 5. Praises a friend's success 6. Pleased at others' successes 7. Helps friends when asked 8. Helps friends without encouragement from others
Self-Control: children's behaviors that emerge in conflict situations	1. Waits to ask for something 2. Shares toys or food with others 3. Borrows toys from others 4. Behaves well as required by the situation 5. Postpones gratification when requested 6. Waits for his/her turn 7. Listens to someone till the last 8. Does not throw temper tantrums in public
Assertion: children's initiating behaviors	1. Evidences happiness when someone does something for him/her 2. Shows his/her feelings on his/her face 3. Expresses appropriate greetings to others 4. Initiates talk with another person 5. Makes eye contact when speaking with others 6. Displays strong reaction when he/she is spoken to 7. Makes eye contact when someone speaks to him/her 8. Participates in a play group (company) when asked

3.2.3 VIDEO RECORDING TOOLS

When using the observation method, it is important to pre-emptively minimize errors to obtain precise results during the actual observation. Hence, to ensure a smooth data collection process, serious consideration was given to the selection of recording tools to be used in the observation.

The GoPro Hero 7 Silver Action camera and the Canon Powershot N camera were selected as video recording tools for the observation. Both cameras are smaller in size compared to other professional cameras; as such, they were selected to minimize distractions among the children. Besides that, the GoPro camera has a wider lens that captures bigger angles and a high battery capacity that enables it to record for longer durations. The observation videos were recorded in high definition to ensure clear images.

3.2.4 SETTING

A classroom in FACE was selected as the location for the observation sessions. Figure 8 depicts the environment and atmosphere of the classroom. As mentioned earlier, two cameras were used to record the observation. The first camera was placed in front of the classroom while the second camera was placed behind the children to maximize video coverage.



Figure 8: Setting for observation in FACE.

3.2.5 OBSERVATION PROCESS

The researcher worked to build rapport with the participants by visiting and meeting them several times before the real study commenced. This step was necessary to control the study setting so that the presence of the researcher during the actual observation would not be a shocking experience for the children, as such shock would have affected their natural responses.

A pilot test was carried out and reviewed to improve the actual study. The children who participated in the pilot test were selected by their teacher in FACE, and were not respondents for the actual study. Actual data collection was conducted across six different sessions on different days, whereby one session was designated for each toy. The observation times were scheduled with the person in charge at the center a week before the study began.

Before each observation session, the children were given brief introductions to the toys and play methods to ensure they played with the toys appropriately. The children were then invited to the classroom that had been set up earlier which was safe from external distractions that might affect data accuracy. They were given 20 minutes to play with the selected toys; this whole period was recorded as data for analysis. Observation notes on the children's social behavior and interactions when playing were jotted down in reference to the SSS guide. In total 24 observations analysis were carried out as the observations done on 4 preschool children in the 6 different play sessions.

3.3 ETHICAL CLEARANCE

Before the observation was carried out, this research's application for ethical clearance was approved by JKEUPM (JKEUPM-2018-187). The researcher also secured ethical approval to access the Family, Adolescent and Child Research Centre of Excellence (FACE), Malaysia. Following this, parents who voluntarily agreed to allow their children to undergo several play sessions with the designated educational toys were sourced and selected.

To adhere to ethical standards, all parents were mandated to sign consent forms before the observation, with full awareness of their right to withdraw at any point. The consent letter provided comprehensive details about the research and obtained acknowledgment from all

parents. A personal ID system was implemented to uphold the confidentiality of personal information. Additionally, data was securely stored on a password-protected disk, ensuring that only researchers had access to the information.

3.4 DATA ANALYSIS

Since this study applied a qualitative approach, coding was used as the data analysis method to identify and organize the study themes. The components of the SSS (Table 2), the scale which was used as a checklist during the observation, served as keywords that helped to code the data, which to identify what are the social skills involved when children participated in a cooperative play. The behaviors of the pre-school children when they were playing with the selected toys were recorded and compared to the list of behaviors on the SSS; this way, their behaviors were validated through the SSS system.

The results were verified by applying the double entry approach; that is, by playing the observation videos multiple times. This was to prevent any oversight of the participants' behaviors and making sure in getting precise results. Also, all the researchers had a thorough discussion to corroborate the findings and ensure the quality of the results are reliable. Table below shows the social skills identified.

4.0 RESULTS

This study attempted to answer the following question: "How do educational toys contribute to social skills development in pre-school children?" The results of the observation data analysis discuss the children's social competence (cooperation, self-control, assertion) when playing with the selected toys.

4.1 CHILDREN'S COOPERATION

When playing with toys or games that required the children to compete or win, the participants had the tendency to show cooperation when they applauded their friends for doing something well. Through these games, the children began to comprehend the goal of playing, which was not just about winning or losing. This situation was observed when the children played with Polar Stack N' Pack, Percy the Penguin and Listen Lotto.

Another example of cooperative behavior was observed when the children actively supported their peers upon request. For instance, QA demonstrated cooperation by assisting NA in locating the specific parts NA had asked for. This act of support not only helped NA complete their task but also reinforced positive social interactions among the children. Additionally, AD displayed contentment and encouragement when AM emerged victorious in the game of Polar Stack N' Pack. Rather than fostering rivalry, this moment became an opportunity for the group to celebrate each other's achievements. AM, AD, and QA collectively cheered for NA, motivating them to persist in the game. This collective encouragement highlighted how playing with friends can create valuable opportunities for children to develop cooperative behaviors.

Further cooperative tendencies were evident during their engagement with Lego Classic. While constructing with Lego blocks, the children frequently praised each other's creations. This positive reinforcement not only boosted their confidence but also inspired them to openly share ideas and express their creativity. Such exchanges enriched their collaborative

experience, fostering a supportive and inclusive environment. Figure 9 illustrates the key components of cooperation, as observed in these interactions.

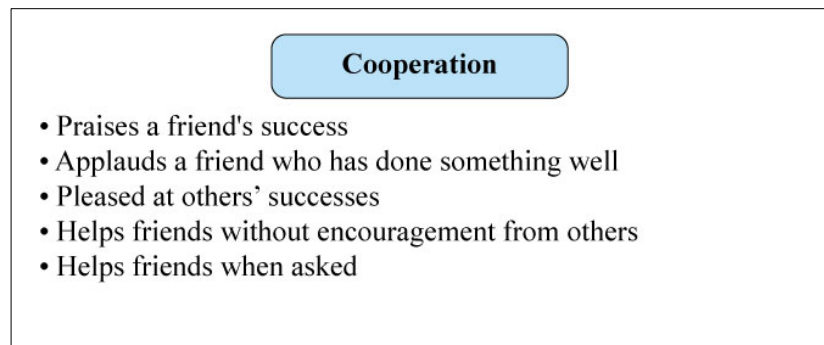


Figure 9: Cooperation during observation.

4.2 CHILDREN'S SELF CONTROL

A child's self-control refers to not interrupting another's speech, to borrowing toys from others, to sharing toys with others, and to his or her reaction when he or she has to wait for something. This reaction was demonstrated when the participants played with toys that had free play features, which showed the children's ability to borrow and share their toys with no negative attitude. For instance, NA asked if he could have four tyres from AD for building the LEGO blocks. AD replied politely that she was ready to share the small tyres with NA.

When children engage with toys and games that require turn-taking, they naturally practice waiting, observing others, and understanding the flow of social interaction. For example, while playing with the Polar Stack N' Pack and Percy the Penguin game, children demonstrated their ability to patiently await their turn. These games are designed with clear rules that dictate when each participant can contribute, reinforcing the concept of turn-taking. Such structured activities create opportunities for children to manage their impulses, fostering a sense of fairness and respect for others' participation.

In addition to these structured games, turn-taking behaviors were also evident during more flexible play activities, such as building with LEGO blocks. For instance, one observed interaction involved NA patiently waiting for AD to finish using the manual book before taking it to construct her desired objects. This instance demonstrates self-control, as NA resisted the urge to interrupt AD and instead awaited her turn to access the shared resource. Such moments are crucial in developing the ability to manage frustration, delay gratification, and navigate social exchanges effectively.

Figure 10 listed the self-regulation components, highlighting the ways in which turn-taking during play fosters patience, cooperation, and respect for social boundaries. By engaging in these play-based interactions, children develop vital skills that contribute to their overall emotional and social growth.

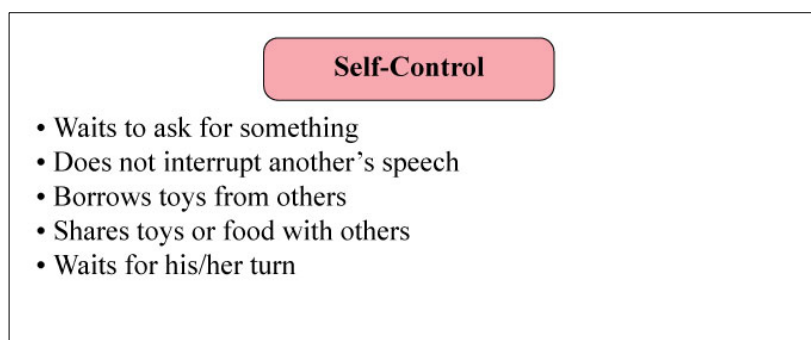


Figure 10: Self-control during observation

4.3 CHILDREN'S ASSERTION

The children's assertion was particularly evident during their engagement with role-play toys, which appeared to foster both social interaction and confidence in communication. These toys, designed to simulate real-life scenarios, encouraged the children to express their thoughts more openly and engage in meaningful conversations with their peers. By immersing themselves in pretend-play activities, the children were able to practice initiating conversations, making decisions, and negotiating roles within their play groups.

Notably, during interactions with role-play toys such as the Breakfast and Utensils Set, the children displayed positive social behaviors that reflected their growing confidence. For instance, they actively approached their peers to initiate joint play, demonstrating assertive behaviors that involved both verbal communication and non-verbal cues such as eye contact. These behaviors were particularly evident when the children were required to share resources, assign roles, or engage in collaborative storytelling. Such interactions provided valuable opportunities for the children to practice expressing their preferences, negotiating ideas, and asserting their viewpoints in a supportive environment.

A clear example of this was observed when AD exhibited excitement and gratitude after NA offered some milk during their pretend breakfast scenario. This exchange highlighted how role-play toys can promote assertive behaviors by encouraging children to acknowledge and respond positively to social gestures.

Additionally, more pronounced displays of assertion were observed when the children engaged in structured board games that required cooperation and communication. These activities prompted the children to participate actively in group settings, reinforcing their ability to assert themselves with confidence. The children willingly joined play groups when invited by the researcher, further demonstrating their comfort in social interactions.

Figure 11 illustrates the Social Skills Scale (SSS) components of assertion observed in the study, showcasing how role-play toys and peer interactions contributed to the development of these essential social skills.

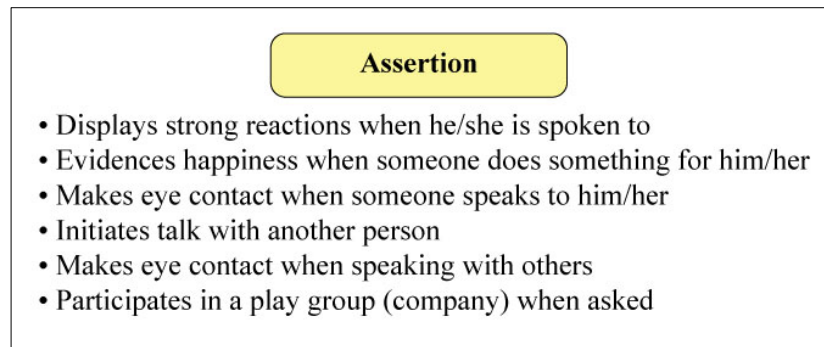


Figure 11: Assertion during observation

4.4 TOYS WITHOUT ROLE PLAY AND PEER INTERACTION

The observation of the Plush Craft Pet toy highlighted the influence of isolated play materials on children's social engagement. Unlike toys designed to promote role play or peer interaction, the Plush Craft Pet lacked features that encouraged cooperative or communicative play. This was evident during the final observation session, where children were instructed to use this toy. Despite being seated in close proximity to one another, the children engaged with the Plush Craft Pet independently, focusing solely on their own projects rather than interacting with their peers.

This behaviour demonstrates that isolated toys can limit opportunities for social exchange, even when children are physically positioned together. The participants remained engrossed in their individual tasks, showing minimal interest in observing or engaging with their friends. As a result, positive social behaviours such as sharing, turn-taking, and cooperative problem-solving, which are key indicators in the Social Skills Scale (SSS), were notably absent.

This observation underscores the importance of toy design in fostering social interactions. Toys that incorporate collaborative elements or invite imaginative role play are more effective in promoting engagement between peers. In contrast, isolated toys, like the Plush Craft Pet, may inadvertently discourage social connection, reinforcing solitary play behaviours even within group settings. This evidence showed the needs of toys design with the play concepts of involving peer interactions to allow children in engaging discussions with people around them.

4.5 EXPERTISE INTERVIEW-DATA VALIDATION

The data of interview are expecting to validate the results obtained in Phase 1 and Phase 2. The purpose of the interview is to have a better understanding towards the context of this research as well as to obtain another source of data for further validation. The results are discussed based on the questions asked during the interview sessions accordingly.

The results of the interview showed that those preschool years are crucial as the timing to develop the social skills of preschool children which are as earlier as they started to interact with people and friends:

“...the best timing for the children to develop the social skills is during their preschool years...”
(E02, 27/2/2019)

“...the social skill is developed as soon as human can communicate.” (E01, 11/1/2019)

“Actually, the social skills will cover the other developments. That’s why they need to master the social skills in a good way. There’s a lot of ways to develop the social skills. In fact, if the children can conduct some simulation in the class also, we can call it as social skills development.” (E01, 11/1/2019)

This further validates the needs of developing social skills of preschool children as social development will further contribute to the other aspects of children’s development. The results aligned with the intentions of this study in proving the significance of developing social skills during the preschool age.

Both experts agreed that play is the key method to develop the social skills of children, as playing provides the chances for children to interact with others and allows them to learn from the experience:

“Besides that, play also give an opportunity for the children to learn and improve the social skills. For the children who are socially isolated, play will offer important occasion for them to develop the skills.” (E02, 27/2/2019)

“Through play, but we have to provide some of the toys for them to play together...” (E01, 11/1/2019)

Therefore, this can be verified that the use of appropriate toys can give positive impacts towards the developments of preschool children. Experts stated through the experience in playing, children will learn to have empathy and get the chance to have positive interaction with others.

“I think educational toy plays an important role in developing the children social skills. I think toys is the tools, is very important for the children to learn about themselves, to learn about environment and to develop any skills that they need in their life.” (E02, 27/2/2019)

From the interviews, six themes are further developed based on the codes identified. The themes are served as the results to cross validate the data obtained from Phase 1 and Phase 2 which further used as the attributes to highlight the toys features for social skills development. Table 4.1 below shows the themes identified from the interview on the features and attributes that will help in developing social skills of preschool children.

Table 3: Results from interview

Themes	Codes	Quotes
Shareable	Limited resources	“limited resource will force them to communicate, will force them to give and take, and tolerate and play together.” E01
	Toys with parts.	“Other activities maybe they can put the children into groups and give the children parts such as puzzles or blocks and teach them how to interact with other people and how to cooperate during the play activities.” E02
Multiplayers	Many persons to play	“Ok for example, boardgames or blocks. Because most of the boardgames required more than one person to play, so it will urge the children to interact with others.” E02
	Do not play alone	“I think if the children just play the blocks alone, it might not develop their social skills. That’s why if you want to choose the types of toys, you must make

		sure the toys encourage collaboration with others.” E02
Win-Lose System	Lose and playing fair	“Then playing with the board games, children can learn how to do the work in team, handling lose and playing fair with their friends.” E02
Allow Express	Toys for children to talk about	“So that will generate the social skills more, because they have something to talk about.” E01
	Verbalise	“Ok, so playing the blocks in the group will encourage the children to interact with their peers. They can verbalise what they have build and intend to build.” E02
Promote active play	Open ended toys	“...the toy must be open-ended, I mean that toys can be played by variety of ways.” E02
	Low tech or no-tech toys	“Low tech or no-tech toys are better to enhance children social skills.” E02
Sensory Trigger	Multi-sensory	“...if it can be used in a multi-design, multi-sensory, maybe you can used in on a lot of development.” E01
	Colourful and with sounds	“Ok as normal children they attract more to the toys that are more colorful, that can have extra special features like sound, maybe a little bit glitter.” E01

This triangulation process allowed for the identification of key toy design attributes that present opportunities for development. These attributes were carefully aligned with the components of the SSS framework, ensuring they cater to the developmental needs and learning objectives appropriate for preschool-aged children.

5.0 DISCUSSION

This research adds value to literature and practice by providing evidence that the application of educational toy designs improves the social skills development of pre-school children. Therefore, the design of toys with the attributes this study has suggested will certainly benefit children in terms of their social interactions with their peers.

Although play is not the only way to cultivate the social skills of pre-school children, it is still a necessary and beneficial activity for children to develop their skills. Children are not just having fun when playing, but are concurrently nurturing their empathy through cooperation when they try to be humble and understanding towards friends who are losing. A healthy play environment should thus be implemented in all pre-schools to allow children more opportunities for positive interactions with each other. More ‘learning through play’ strategies that integrate role playing and peer interaction attributes should also be inculcated in the National Pre-school Curriculum.

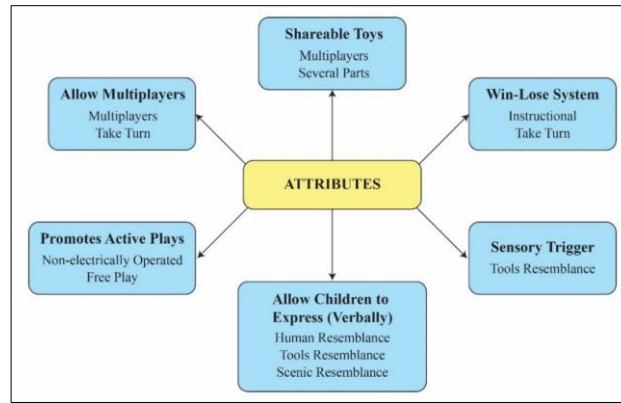


Figure 12: Attributes and components for educational toys designs

Figure 12 shows the attributes with the components categorised that should be considered when selecting or designing the educational toys for the social skills development of preschool children. The first criteria were developing the social skills of preschool children include toy designs that are required to trigger the sensory of children. By having this criterion in the toy, it will create enjoyment while children are playing, thus enabling children to have strong interests to continue playing with the toys. Sensory trigger enables long lasting pleasure for children's play and thus making them to practice with more social interactions.

Multiplayers in toys design is the basic criteria that allow children to have peer interactions with each other. In order to make sure children play together, multiplayer games or toys are designed to enable children to go through the process together. The educational toys should be designed with shareable attributes allowing children to play these toys with their friends. Shareable toys must have several parts that allow multiplayers. By having this attribute, children will have to be cooperative with others as this move will cultivate empathy while playing. Children will learn to tolerate due to the limited resources in the context of toys parts provided. Since most of the games have the win-lose system, it is beneficial for the preschool children in developing their social skills in the aspect of children's cooperative and empathetic behaviours. By having this attribute in the toy design, allowing children to learn while they appreciate winning and losing in their lives, which brings out children's empathic behaviours, which is in-conjunction with the cooperation components in social skills of preschool children.

As one of the key components of social skills require children to have positive interactions, it is important to have the toys that allow children to express themselves verbally when they are playing. By having this attribute inside the toys, children will consequently develop their initiating behaviours, as they will learn to approach others through playing. For instance, when children playing with construction or toy blocks, they will verbalise what they have built and intend to build by sharing with their friends. Active play is one of the attributes that should be highlighted to make sure the children are having positive attitudes towards their play behaviours. This attribute can be determined from the toy features of non-electrically operated and free play. Active play can make sure children are not passive thus giving positive impacts when playing with the toys that are used for social skills development.

6.0 CONCLUSION

Despite its contribution to the body of knowledge on children's social skills development in Malaysia, this study is not without limitations. Given the small sample and observational nature of the current study, more research is needed to gain an in-depth understanding of the relationship between toys and social skills development. Future studies on

educational toys and development should be conducted with more elaborate methods and samples.

Further, this study's findings draw the conclusion that educational toys with the attribute of peer interaction are more crucial to the development of social skills. This is due to the nature of social development that demands interaction between humans. It is with reason that children who play alone, without social interaction, are unlikely to develop their social skills. It is thus important for children to learn to play with their peers as it allows them to socialize. Therefore, it is verified that the use of toys with peer interactions are able to support the social skills development of preschool children.

Additionally, this study highlights concerns about the increasing reliance on electronic toys in children's play environments. While electronic toys may offer some educational benefits, they often promote linear play patterns that limit children's play flexibility and creativity. Unlike traditional toys that encourage open-ended exploration and imaginative play, electronic toys tend to provide structured, predictable outcomes, reducing opportunities for children to engage in social negotiation, problem-solving, and cooperative play. This characteristic may hinder the development of crucial social skills that emerge through spontaneous and dynamic peer interactions.

Open-ended play, in contrast, offers more possibilities for children to experiment, explore, and create their own narratives. Such play encourages flexible thinking, decision-making, and social adaptability, which are essential for fostering creativity and collaboration. By allowing children to set their own rules, test ideas, and adapt their play scenarios, open-ended toys create richer learning experiences that nurture critical social and cognitive skills. Consequently, caregivers and educators should prioritize toys that foster diverse and flexible play experiences, particularly those that encourage collaboration and social engagement.

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 Pre-school Children. *Journal of Health Science*, 3(1), 5–11.
- Bartolotta, T. & Shulman, B. (2010). *Child Development* [Online]. Retrieved from http://samples.jbpub.com/9780763747237/47238_CH02_Shulman.pdf
- Beeghly, M. (1993). Parent-infant play as a window on infant competence: An organizational approach to assessment. In K. MacDonald (Ed.), *Parent-child play: Descriptions and implications* (pp. 71–112). Albany, New York: State University of New York Press.
- Bergen, D. (2001). *Pretend play and young children's development* [Online]. ERIC Digests. Retrieved from <https://files.eric.ed.gov/fulltext/ED458045.pdf>
- British Toy and Hobby Association. (2018). *The value of play*.
- B. Escabarte, D., & D. Gallardo, R. (2024). Peer Relationship and Social Skills Development among Grade 6 Teachers. *International Journal of Innovative Science and Research Technology (IJISRT)*, 9(6), 27–31.
- Chen, C. (2024). The Influence of Peer Relationships on Children's Social Development. *International Conference on Global Politics and Socio-Humanities*, 45(1), 221–225.
- Coelho, L., Torres, N., Fernandes, C., & Santos, A. J. (2017). Quality of play, social acceptance and reciprocal friendship in pre-school children. *European Early Childhood Education Research*

Journal, 25(6), 812-823.

- Darling-Churchill, K. E., & Lippman, L. (2016). Early childhood social and emotional development: Advancing the field of measurement. *Journal of Applied Developmental Psychology*, 45(Jul-Aug), 1–7.
- Elkind, D. (2008). The power of play. *American Journal of Play*, 1(1), 1-6.
- Fromberg, D., & Bergen, D. (Eds.). (1998). *Play from birth to twelve: Contexts, perspectives and meanings*. New York: Routledge.
- Goldstein, J. (2012). *Play in children's development, health and well-being* [Online]. Toy Industries of Europe. Retrieved from <https://www.ornes.nl/wp-content/uploads/2010/08/Play-in-children-s-development-health-and-well-being-feb-2012.pdf>
- Halim, M. L., & Lindner, N. C. (2013). *Gender self-socialization in early childhood* [Online]. Encyclopedia of Early Childhood Development, 1–5. Retrieved from <http://www.child-encyclopedia.com/sites/default/files/textes-experts/en/2492/gender-self-socialization-in-early-childhood.pdf>
- Hoffman, A. (2013). *Five toys that can help with social development* [Online]. Retrieved from <http://www.friendshipcircle.org/blog/2013/04/09/five-toys-that-can-help-with-social-development/>
- Kawulich, B. (2012). Collecting data through observation. In C. Wagner, B. Kawulich, & M. Garner (Eds.), *Doing social research: A global context* (pp.150-160). New York: McGraw Hill.
- KidsMatter. (2014). *Early Childhood Evaluation Report* (pp.49-53).
- Klemenović, J. (2014). How do today's children play and with which toys? *Croatian Journal of Education*, 16(1), 181–200.
- Lillard, A., Lerner, M., Hopkins, E., Dore, R., Smith, E., & Palmquist, C. (2013). The impact of pretend play on children's development: A review of the evidence. *Psychological Bulletin*, 139(1), 1–34.
- Lim, P., & Bahaiddin, A. (2015). *Physical environment and learning through play: Case studies in Malaysian pre-schools*. Social Sciences Postgraduate International Seminar Proceedings, 400–408.
- Lowe, N. (1988). *Games and toys in the teaching of science and technology* [Online]. Science and Technology Education Document Series, ED.88/WS/36. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000080586>
- Loy, J. S., & Rahman, R. (2019). Reviews of educational toys designs in cultivating social competence of preschool children. *Alam Cipta: International Journal of Sustainable Tropical Design Research and Practice*, 12(1), 69–7
- Lynch, S. A., & Simpson, C. G. (2010). Social skills: Laying the foundation for success. *Dimensions of Early Childhood*, 38(2), 3–12.
- Mack, N., Woodsong, C., MacQueen, K. M., Guest, G., & Namey, E. (2011). Qualitative research methods overview. In *Qualitative research methods: A data collectors field guide* (pp. 1–12). North Carolina, USA: Family Health International.
- Martin, S., Brady, M., & Williams, R. (1991). Pre-school 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.

- Ministry of Education Malaysia (MOE). (1991). Pre-school - Ministry of Education Malaysia. Retrieved from <https://www.moe.gov.my/index.php/en/kurikulum/prasekolah>
- Muhamad Ridza, N. S., Ahmad, Y., & Vadeveloo, T. (2024). Early Childhood Care and Education (ECCE) in Malaysia: The Talent Gap. *International Journal for Studies on Children, Women, Elderly and Disabled*, 22, 1–9.
- Mustafa, L., Nor, M., & Azman, A. (2013). Pre-school education in Malaysia: Emerging trends and implications for the future. *American Journal of Economics*, 3(6), 347-351.
- National Education Goals Panel. (1995). Reconsidering children's early development and learning: Toward common views and vocabulary [Online]. Retrieved from <http://www.bu.edu/wheelock/files/2018/05/National-Education-Goals-Panel.pdf>
- Nhung, C. T. H. (2024). Research on Toy Systems to Develop the Affection and Social Relationships of Preschool Children. *East African Scholars Journal of Education, Humanities and Literature*, 7(06), 202–207.
- Nwokah, E., Hsu, H., & Gulker, H. (2013). The use of play materials in early intervention: The dilemma of poverty. *American Journal of Play*, 5(2), 187–218.
- Öngören, S. (2022). Preschool Teachers ' Practices to Support Children ' s Social Development. *International Journal of Progressive Education*, 18(2).
- Parlakian, R. (2003). *Before the ABCs : Promoting school readiness in infants and toddlers*. Washington DC, USA: Zero To Three.
- Parten, M. B. (1932). Social Participation among Pre-School Children. *The Journal of Abnormal and Social Psychology*, 27 (3): 243–269.
- School Malaysia. (2019). *Early childhood care and education (ECCE) in Malaysia at a glance* [Online]. Retrieved from https://www.schoolmalaysia.com/resources/education_system.php
- Shahaeian, A., Razmjoe, M., Wang, C., Elliott, S. N., & Hughes, C. (2017). Understanding relational aggression during early childhood: An examination of the association with language and other social and cognitive skills. *Early Childhood Research Quarterly*, 40(September), 204–214.
- Shamsudin, I. D., Kadar, M., Rasdi, H. F. M., Brown, T., Bacotang, J., & Dzainudin, M. (2023). Pretend play of young children in the Malaysian context. *International Journal of Early Years Education*.
- Steedly, K., Schwartz, A., Levin, M., & Luke, S. (2008). Social skills and academic achievement. *Evidence for Education*, 3(2), 1-8.
- Thompson, R., & Lagattuta, K. (2006). Feeling and understanding: Early emotional development. In K. McCartney & D. Phillips (Eds.), *Blackwell handbook of early childhood development* (pp. 317–337). Malden, MA: Blackwell Publishing.
- Toy Industry Association. (2013). Toy Industry Product Categories. UNICEF. (2018). *Learning through play* [Online]. Retrieved from <https://www.unicef.org/sites/default/files/2018-12/UNICEF-Lego-Foundation-Learning-through-Play.pdf>
- Van Kleeck, A. & Schuele, M. (2010). Historical perspectives on literacy in early childhood. *American Journal of Speech-Language Pathology*, 19(4), 341–355.
- Yates, T., Ostrosky, M., Cheatham, G., Fettig, A., Shaffer, L., & Santos, R. (2008). *Research synthesis on screening and assessing social-emotional competence*. Nashville, TN: Vanderbilt University, The Center on the Social and Emotional Foundations for Early Learning.