

**A Literature Review on How Play Time Helps Improving Social Skills for Students with
Autism Spectrum Disorder**

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Abbreviations

ASD – Autism Spectrum Disorder

HF – High Functioning

HFA – High Functioning Autism

AS – Asperger’s Syndrome

PDD – Pervasive Development Disorder

PDD-NOS – Pervasive Development Disorder-Not Otherwise Specified

ZPD – Zone of Proximal Development

DD – Developmental Disorder

DLD – Developmental Language Disorder

TDP – Typical Developing Peers

ToM – Theory of Mind

WHO – World Health Organisation

NCCA – National Council for Curriculum and Assessment

NASP – National Association of School Psychologist

ERIC – Education Resources Information Center

EFA – Education For All

PRT – Pivotal Response Training

UNICEF – United Nations Children’s Fund

IPD – Integrated Play Groups

Abstract

Before coming to Norway, I was a teacher in a mainstream primary school in Indonesia for several years. During my years teaching there, I was assigned to be a contact teacher. In each class I was in charge of, there was at least one student with autism spectrum disorder (ASD). Due to the pupil's severity, after long discussion with parents, teachers and therapist, mostly these pupils were placed in mainstream school because they have mild autism. One of the characteristics of pupils with autism is difficulty in communication and making relationship with other people, including teachers and peers (Kirk, S. 2011). This condition made the student often isolated from peers. The lack of social skills is one of other characteristics of students with ASD. The isolation does not only happen during teaching time but also other activities during school hours for example play time both indoor and outdoor.

While I was teaching there I often observed them during "play time". I observed that these pupils with ASD, regardless their limitation in understanding social cues, have the interest to play. They could spend time playing by themselves as well as have the desire to play with their classmates. The classmates without ASD were also interested to play with them. This particular session catches my attention on how to maximize play time in order to improve student's social skills. I observed that the attraction shown by these pupils with ASD can be used for their own benefit, which is improving their social skills.

From that observation my interest towards play time arises. Play time is and accessible by teachers, peers and students with ASD. Every school is facilitated with things that pupils can use to play with or arena where students can play at. The main question I would like to address in this research is how to use play time to improve social skills of students with ASD. I hope that this thesis can give positive contribution for other educators in emphasizing play time for the development of their pupils with ASD.

The aim of this research is to have a platform easily accessed by educators to find different kinds of play which they can implement to their students with ASD in order to improve their social skills. Many articles study about the effect of play in improving social skills of students with ASD. By conducting a literature review study, I hope to gather different kinds of play time that give significant contribution in improving social skills of students with ASD. At the end this research can be used by educators as the source of different types of play to be implemented to students with ASD.

I. INTRODUCTION

1.1 Rationale

A Russian psychiatrist Lev S. Vygotsky had his eyes on play time and he expressed his main ideas about play in the 1933 lecture about “Play and Its Role in the Mental Development of the Child.

“When the child enters into culture, he not only takes something from culture, assimilates something, takes something from outside, but culture itself profoundly refines the natural states of behaviour of the child and alters completely anew the whole course of his development” (Vygotsky, 1997)

Vygotsky (1967) believed that play is a source of development which provides a background for changes in needs and is a consciousness of a much wider nature (as cited in Bodrova, E & Leong, D, 2015). Play is a dynamic and complex activity, which according to Vygotsky (1933/1976) represents an interactive social form of embodied imagination (as cited in Connery *et. al*, 2010). Within a cultural-history perspective, Connery (2010) emphasized that play, making meaning and creativity constitute distinct and interdependent processes in individual and collective experience. Vygotsky distinguished play from other activities based on essential characteristics, such as children create imaginary situation in play and play is always based on rules (Connery *et al.*, 2010). Play is just one expression of meaning making or semiosis that occurs across the life span which according to Vygotsky (1986) meaning making is the construction of knowledge into understanding with others within and across a variety of context and codes (as cite in Connery *et. al*, 2010). Connery *et al.*, (2010) explains that creativity appears to be a process that includes children’s play, imagination and fantasy, within Vygotsky’s developmental framework, and it is a transformative activity where emotion, meaning and cognitive symbols are synthesized.

Gammeltoft & Sollok (2007) explains that playing occupies a large part of a child’s life and the impulse to play is spontaneous but there are some groups of children who do not have a natural approach to playing, and children with autism is included in these groups. According to National Autistic Society (2006) the term ‘autism’ was first described in 1943 by an Australian-American psychiatrist, Leo Kanner, and has been broadened. Definition of Autism Spectrum Disorder, according to the U. S. Department of education (as cited in Kirk, S. 2011) is a developmental disability that significantly affects verbal and non-verbal communication and social interaction, usually evident before age of three and that adversely affects a child’s educational performance. Children with ASD usually show one or more of

these characteristics, such as having difficulty in social interactions and forming connection with others, avoiding eye contact, not sharing feelings with others, obsessing with regularity and being disturbed by changes, or sensitive to light, sound touch or other sensory information (Woolfolk et al., 2013).

A defining characteristic of people with autism is their difficulty in taking into account other people's social perspectives (Baron-Cohen *et al.*, 1985) and they seem to have difficulty in figuring out what others might be seeing, and they are at loss when it comes to comprehend what a person might be thinking or feeling (Wolfberg, J 1999). They also have difficulty in 'reading' emotions, intentions and thoughts of others and they lack or have an underdeveloped 'theory of mind' or ToM (Peeters, T 1977).

There is a wide range of research discussing various play time activities modified for students with ASD. These articles mostly have the interest in improving social skills of individuals with ASD. Ramos (2018) explains the effectiveness of Peer-Mediated Intervention (PMI) to improve social skills of students with ASD and they found out not only that PMI offers a change of perspective when they propose that peers themselves can assist the teacher in mediating the skills of their students in the classroom but also PMI contributes to changing the classroom atmosphere to be more positive. Barton (2011) emphasized on adapting circle time as a positive activity for students with ASD and they found that modifying and accommodating the environmental can help students with ASD to be more included in the society.

This thesis's main objective is to discover how play time can improve social skills of pupils with ASD. Three things highlighted from that objectives, they are: play, social skills and autism spectrum disorder. Therefore, this chapter will give a thorough explanation about the history and nature of play, social skills and autism spectrum disorder.

1.1.1 Autism Spectrum Disorder (ASD)

There are several things that I would like to elaborate in this section. The definition of ASD, characteristic of pupils with ASD, and autism in mainstream and inclusive school.

1.1.1.1 Autism Spectrum Disorder by Definition

The term autism was first introduced by a psychiatrist at Johns Hopkins University, Leo Kanner (1943), to describe a group of children who did not relate to others, had delays in speech development, engaged in repetitive behaviour and were upset by changes in routines (as cited in Kirk, S 2011). According to WHO or World Health Organization (2017) Autism spectrum disorder or ASD refers to a range of conditions characterised by some degree of impaired social behaviour, communication and language, and narrow range of interests and

activities that are both unique to the individual and carried out repetitively. In the National Dissemination Centre for Children with Disabilities (NICHCY, 2009) autism falls into one of 14 types of disabilities which shows a developmental disability that affects verbal and nonverbal communication and social interaction that generally evident before the age of 3, with characteristics such as repetitive behaviour, stereotyped movements, resistance to change and unusual reactions to sensory experiences (as cited in Henderson, A & Thompson, C, 2011).

WHO stated that over the past 50 years the number of children with ASD appears to be increasing globally and that 1 of every 160 children in the world has ASD (WHO, 2017). According to Kirk (2011) this increase happens due to the increase of awareness of the condition that children who had previously been labelled as “mentally retarded”, emotionally disturbed and so forth, are now correctly diagnosed as children with autism. This phenomenon has also been reported by WHO (2017) as the effect of improved awareness, expansion of diagnostic criteria, better diagnostic tools and improved reporting.

Rett syndrome, PDD-NOS Asperger’s syndrome is included in the categories of ASD. A person with PDD-NOS or Pervasive Development Disorder-Not Otherwise Specified shows some but not all symptoms of autism and usually have a group of disorders characterized by delays in the development of socialization and communication skills (Kirk, 2011). Rett syndrome on the other hand describes a condition where the person has a progressive neurological disorder in which the individual reveals a loss of muscle functions, hand flapping and autistic behaviour which appear when the child is 6 to 18 months old (Kirk, 2011). According to Samuel Kirk (2011) a person with Asperger’s syndrome or AS shows an observable development imbalance, with an average or superior intelligence and the tendency to be expert in narrow thing but yet falls behind on the social development. Samuel Kirk also described another category of ASD called childhood disintegrative disorders (2011) which causes the children to regress in their development, such as the child who once had the ability to speak but is no longer able to.

Scientist have not fully understood what causes ASD, but environmental and genetic influences seem to be the cause of it. National Institute of Environmental Health Science stated several environmental factors that researchers believe may be associated with autism, such as prenatal exposure to air pollution or certain pesticides, maternal obesity or diabetes, lack of nutrition during pregnancy, extreme premature birth and very low birth weight or any birth difficulty leading to periods of prenatal oxygen deprivation to the baby’s brain (2014).

Kirk (2011) added that some neurological dysfunction or genetic factors or a combination of both play a role in the causation of ASD.

1.1.1.2 Characteristics of Individual with ASD

There are several characteristics of individuals with ASD. In order to explain in detail I will divide them in four different groups: behavior, social interaction, communication and sensory sensibility.

a. Behavior

Each baby with or without autism is born with brain that is not fully developed yet and has only very few numbers of instinctual behaviour. Most human behaviour and understanding are learnt in the early years through a process of socialization (Jordan, R 2013). However, a person with autism has problem with socializing. Therefore, much of this early learning is missing or takes a different and unusual form (Jordan, R 2013). U.S. Department of Education describes a person with autism often associated with engagement in repetitive activities and stereotypes movements, resistance to environmental change or change in daily routines (as cited Kirk, S 2011) as well as lack of eye contact.

These characteristic of person with ASD have always been mentioned in many articles. But what I would like to highlight here is what is motivating them to show certain behaviour. Autism is a development disorder. A person with ASD do not share the same way of seeing or experiencing things. Rita Jordan (2013) said that when we see a child with autism behaving in a way that, in another child, would be a clear example of aggression, we should not read the behaviour too literally. Each behaviour of a person with ASD has its own meaning and function, no matter it may be considered as violent behaviour. Rita Jordan (2013) explained that instead of only focusing on minimalizing the occurrence of those inappropriate behaviours, we should work on understanding the behaviour, its meaning and function, so that we can prevent it the future.

There is also an explanation behind why a person with ASD can get easily upset when there is a change in daily routine due to their difficulty in developing trust. Rita Jordan (2013) said that children with ASD do not develop an understanding of people as people, so they do not learn to trust people (such as parents) in the way that is considered important in normal development, rather they put their trust in things and ordered events that they can understand and rely on, and this is why they are so attached to routines and get upset when their routines are disturbed.

b. Social interaction

Social interactions are defined as “abstract symbols in permanent movement” while language is more “static” but however no social interaction is ever exactly repeated and the meaning of social interactions is hardly ever explicit and there is a constant need to always analyse what one observing as a true meaning (Peeters, T 1997). A central problem in autism is the difficulty processing social information (Jordan, R 2013). A person with ASD lack of theory of mind or ToM, which normally have developed in a 4-year old child without autism Theory of mind is human being ability to understand the thinking and feelings of others (Kirk, S. 2011). Stephen M. Edelson (2019) said that theory of mind refers to the notion that many individuals with autism do not understand that other people have their own plans, thoughts and point of view that makes them having difficulty understanding other people’s beliefs, attitudes and emotions. The lack of ability to understand that other people think differently than them have caused them problems in relating socially and communicating with other people (Edelson, S 2019). According to Anita Woolfolk (2013) the deficit in theory of mind also causes them having difficulty in explaining their own behaviour.

Compared to typical children, children with autism spend less time in proximity to other children and are less likely to look at or talk to them (McGee *et al.*, 1997). Bauminger and Shulman (2013) said that it is likely that social development will occur in children with autism, though this may be more dependent on the mediation of others, such as peers or adults, and they say that high functioning children with autism also show differential interaction patterns depending on whom they are interacting with, using more complex interaction with peers without autism (as cited in Conn, C 2014).

c. Communication

People with autism constantly being faced with problems in communication and language. Wolfberg (1999) explains that at the early development they struggle to engage in joint attention with other people which begins at the age of 9 months when infants normally initiate communication through eye contact, physical gestures and vocalizations to attract attention, express emotion and share social events with adult family members. (as cited in Wolfberg, P 1999). Wolfberg (1999) continues that while some manage to develop speech early in development but they appear to lose this capacity, while others fail to develop speech or never speak but may on occasion unexpectedly utter a word or phrase. He also mentions those who develop the capacity for speech show unusual feature such as echolalia where children repeat words and phrases they have heard, either immediately or at some later time (1999). Baron-Cohen (1998) adds that people with autism who develops the ability to speak tend to be excessively literal in their interpretation and use of language that relates to their

lack of understanding of the nuances and subtle meanings of language expressions such as in the case of idioms (as cited in Wolfberg, P 1999). They also have problems with nonverbal aspects of communication such as conveying and comprehending intent with gesture, facial expression, eye gaze and intonation of voice (Wolberg, P 1999).

Another characteristic of communication for a person with autism is mutism. Mutism is a condition where the person have difficulty with all forms of communication, not vocal alone and they cannot be made to talk even with extremely persistent efforts (Bishop, D & Mogford, K 2008). Another communication abnormality is noted by Karen (1943, 1946) which is the absence of the concept “yes” and its corollary, affirmation by repetition. According to Bishop & Mogford (2008) children without autism reveal that even though they have an incomplete knowledge on how to deal with adult’s yes/no questions, they learn that response is required and it is not the case with children with ASD.

Peeters (1997) says that a serious problem of a person with autism is not understanding the power of communication and its function. These are the most important communication functions (Watson *et al.*, 1989):

1. Asking for something verbally or nonverbally
2. Demanding attention
3. Refusing
4. Making comments
5. Giving information
6. Asking for information
7. Communicating or expressing emotion

According to Peeters (1997) a person with autism can learn the first three functions more easily than the rest with the need to be taught when and how to use these functions.

d. Sensory sensitivity

Another huge problem faced by a person with autism is sensory integration or as Kirk (2011) calls as sensory processing disorder. There are two kinds of sensory processing disorders, such as hypersensitive and hyposensitive. Hypersensitive is where an individual is especially sensitive to sensory input that leads him to experience sensory overload while hyposensitive is where an individual seems to be unaware of or slow to respond to a stimulus that would normally be expected to elicit a response; sensory seeking, in which an individual exhibits an unusual behaviour such as craving for, or intense interest in, certain sensory experiences (Neil *et al.*, 2016)

Kirk (2011) describes the condition can be different in each child, some can be sensitive to sound, some are sensitive to touch and do not like to be hugged or touched, or visual sensitivity by seeking out or avoiding visual stimulation, oral sensitivity by limiting food repertoire, excessive chewing or mouthing objects.

1.1.2 Play

The term “play” indicates that it is not a serious aspect of development and it is often thought of as the opposite to work but it is in fact the “work” of the child and it is through play that the child develops most, if not all, the skills that will be needed to tackle the more “serious” aspects of life (Jordan, R 2013). In this section I am going to elaborate the influential theory of play, characteristics of play and different types of play and the relation between autism and play.

1.1.2.1 Influential Theory of Play

Pamela Wolfberg (1999) in her book of Play & Imagination in Children with Autism lists several influential theories behind the idea of play. These theory are adapted from the work of previous scholars and they are going to be mentioned below:

a. Classical Theory

This theory explains the existence of play and its purpose in development (Ellis, 1973) and according to this theory children let out their excess energy – energy that supposed to be used for daily survival activities – in play and. Karl Groo’s (1901) views play as an adaptation and survival. Wolfberg (1999) emphasizes children’s concern in the process of play rather than the attainment of product in which they practice and perfect skills for adulthood.

b. Romantic Theory

Jean-Jacques Rousseau (1956) regards play as natural childhood activity characterized by qualities of curiosity and joyfulness and building on the child’s natural interests and proclivities in play will gradually develop the child’s potential development.

c. Psychoanalytic Theory

Sigmund Freud (1920) offers an interpretation of play as a projection of the child’s inner or emotional life and that has a significant impact on the treatment of childhood disorders. He further explains that the act of play serves to satisfy drives, resolve inner conflicts and cope with anxiety-producing situations and thus play’s role is considered as the primary therapy to prevent and cure emotional problems. Erik Erikson (1950) also supports this theory by adding that play serves as an “ego function” independent of the child’s needs to resolve conflicts and play progresses through stages that mirror children’s psychological

development and that children create model situation in play to help them cope with the demands of reality.

d. Constructive Theory

Jean Piaget (1962) and Lev Vygotsky (1966, 1978) view play as the manifestation of the child's developing semiotic function that acquires higher-cognitive abilities to transform objects, roles and situation in play. Piaget's view is however different with Vygostky's because Piaget believes that play is a self-initiated activity that forms the basis for acquiring distinct ways of thinking and behaving. He argues that children derive satisfaction from the activity and from mastery over objects and events.

e. Sociocultural Theory

Vygotsky (1978) views play as a social activity in which the children construct shared meanings and transform their understanding of the skills, values, and knowledge inherent to their culture. According to him play creates a ZPD or zone of proximal development which is a distance between the child's actual development level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers or in which individual development occurs during joint problem solving with people who have skills in the use of cultural tools (1978).

1.1.2.2 Characteristics of Play

Pamela Wolfberg (1999) describes that while criteria for deciding whether or not a child is playing may seem obvious, defining play is a complex work. Garvey (1997), Rubin *et al.*, (1983), Smith & Vollstedt (1985) make general agreement on some of the characteristics that differentiate play from non-play behaviour and those characteristics are mentioned below (as cited in Wolfberg, P 1999):

a. Play is pleasurable

Children's facial expression such as smiling and laughter, although not essential, is an indicator of playful orientation. Children's delight in play exhibits other signs such as blissful humming or singing to oneself.

b. Play requires active engagement

Active engagement is reflected when children become more absorbed in play activities as they explore, experiment and create.

c. Play is voluntary and intrinsically motivated

The motivation to play or to engage in play comes from within the child, without motivation of wanting to get rewards and they freely choose what they want to do during the play.

d. Play involves attention to means over ends

Play focuses more on the process rather than the goal play itself. Goals within play are flexible, self-imposed and continually redefined within the context of the activity.

e. Play is flexible and changing

During play time children are free to change the direction of play, change the rules and the unexpected direction.

f. Play is a nonliteral orientation

This characteristic distinguishes play from non-play behaviour as children treat objects, actions or events “as if” they were something else. (Wolfberg, P 1999).

1.1.2.3 Types of Play

There are many types of play that children can participate in. The first four types are mentioned by Rita Jordan (2013). The first is exploratory play with toys. This type of play is aimed to help the child move from using toys and other objects purely for sensory stimulation and to adjust what they do to accommodate to the varied properties of the toys. The purpose of building up exploratory play is not to eliminate certain ways of relating to objects but rather to extend their variety and appropriateness so that the child begins to explore different play opportunities offered by different toys (Jordan, R 2013).

The second type is pretend play. Rita Jordan (2013) divides two aspects of pretend play; (1) functional play in which using objects as the real objects they represent such as toy cars, trains, tea set and all form of doll play (2) and symbolic play in which the child is pretending that one object is something else, or pretending the object is there or the object is not there even though it is really there. Pamela Wolfberg (1999) argues that there are two levels of pretend play, they are simple and advanced pretend. Simple pretend is described as reality-oriented or functional play, emerges at the age of 18 months old where typical children normally start to demonstrate the appropriate use of objects they are playing with. (Wolfberg, 1999). Advanced pretend also called as symbolic play or make-believe or imaginary play, emerges between 2 and 3 years old where the child is able to disengage from reality and entertain nontruths or things that do not exist or simply only in their imagination (Wolfberg, 1999). Leslie (1987) elaborates three fundamental forms of symbolic play that substitute objects which means using object to represent another (e.g., pretending that a banana is a telephone), attribution of absent or false properties (e.g., pretending that a dry table is wet)

and imaginary objects as present (e.g., pretending that an empty cup contains tea (as cited in Wolfberg, P 1999). Symbolic play, make-believe, role play, fantasy play, dramatic play are included in pretend play (Fein G, 1979).

The third type is social play. In this type of play the child does not play alone, but there is an involvement from another person, such as peers, siblings or adults. According to Rachel E. White (2012) social play is defined as play that occurs in the interaction of children with adults or other children. The fourth type is leisure activity. Rita Jordan (1999) describes this as a “free” or “leisure” times to do activities that children enjoy. Intrinsically motivated free play provides the child with true autonomy (White, R 2012). Wide range of activities are included in this type from watching video, listening to music, play in multi-sensory environment doing all sorts of physical activities in places such as playground.

National Council for Curriculum and Assessment (NCCA) describes different kinds of play for when the child likes to play alone, among them are solitary play when the child play alone, spectator play when the child watches others playing without joining in and parallel play is when the child plays side by side with another child with similar materials but without interacting. Based on the where play takes place, NCCA divides play in two, play inside and play outside.

Pellegrini (2009) states that physical play also known as locomotor play or exercise play involves physical activity in a playful context such as kicking, running, jumping and climbing (as cite din White, R 2012). NCCA elaborates that there are several kinds of play that falls into the category of physical such as physical play that involves children developing, practicing and refining bodily movement and control and, exploratory play that involves using physical skills and their senses to find out what things feel like and what can be done with them, manipulative play that involves practicing and refining motor skills and enhances physical dexterity and hand-eye coordination and the last one is constructive play that involves building something using natural and manufactured materials.

NCCA also adds creative play where children explore and use their bodies sand materials to make and do things to share their feelings, ideas and thoughts for example by dancing, painting and working with play-dough and language play that involves children using sound and words that includes spontaneous manipulation of rhythmic and repetitive elements.

According to Rachel E. White (2012) technology is more prevalent in children’s lives today than ever before and on average, children under three spend 3-4 hours per day engaged with screen media (Christakis, 2009), and by eight years of age, that number increases to 7.5

hours per day (Rideout, Foehr, & Roberts, 2010). For this reason, I argue that technology-based games is included as another type of play. Gee (2003) and Shaffer (2008) say that video and computer games can promote learning in a fun way because they are designed with specific educational goals in mind and according to Goldstein (2011), and Fischer & Gillespie (2003) it is because such technology-based games require children to make decision, present increasingly difficult challenges and encourage exploration, experimentation and creativity in problem solving (as cited in White, R 2012). Technology-based games vary from computer gaming, games in smartphone and ipad or tablets.

1.1.2.4 Autism and Play

Pamela Wolfberg (1999) highlights play as a spontaneous, flexible and imaginative activities and when children are given opportunity to play freely, Frith (1989) argues that children with autism are likely to pursue repetitive and stereotyped activities in social isolation. Frith (1989) also explains symbolic dimension as the dimension of play for students with ASD. Tiegerman & Primavera (1981) explains that the tendency to manipulate objects in a stereotyped fashion is a characteristic of play in autism, and Tilton & Ottinger (1964) add that while manipulating objects, children with autism produce fewer different combinations than children without autism (as cited in Wolfberg, P 1999). Sigman & Ungerer (1984) conclude that they produce less diverse functional play and fewer different functional play acts and Harris (1993) adds that even when children with autism are capable of genuine make-believe play when prompted, they have difficulty spontaneously generating and imposing their own pretend creation on a given context (as cited in Wolfberg, P 1999).

Children with autism also experience problems developing spontaneous social play with peers (American Psychiatric Association, 1994) and according to Lord (1984) and Wing and Attwood (1987) in free play situation they typically avoid and resist social overtures, passively enter play with little or no self-initiation, or approach peers in an obscure and one-sided fashion (as cited in Wolfberd, P 1999). Wolfberg (1999) similarly argues that there is evidence to suggest that children with autism are not simply devoid of any desire to interact with peers, but rather lack the social skills necessary to establish and maintain mutual focus in play and they cannot clearly communicate their interest in play as well as cannot interpret and respond to the social advances of peers.

Rita Jordan (2013) sees problems faced by children with autism from several cognitive abnormalities. The first is lack of ability to develop creativity. Children with autism are often found playing with the same toys in the same ways for extended periods of time because they do not engage with materials in a way children without autism would normally identify as

“playful”. Instead their pleasure lies in the continual repetition with its consequent predictability, rather than in producing the variations that are preferred by other children (Jordan, 2013). Rita Jordan (2013) argues that despite often having fairly good rote memories, memories for them often need to be cued or prompted and they sometimes have difficulty to search and produce memories spontaneously, which makes them enjoy predictability and repetition. In terms of attention, she argues (2013) that they can usually pay attention or concentrate on their own chosen play activities and that it takes longer time for them to switch attention to another toys or activities.

1.1.3 Social Skills

According to Conn (2014) children should not be viewed as incomplete, asocial or the passive recipients of socializing which influenced by adults around them but rather claims children as the “social actors” whose activities contributes to social processes and children’s own learning. Children’s world and culture are not a private world and it is heavily influenced by their engagement with people around them such as family members, teachers and friends (Conn, C 2014). This section is going to discuss about social skills including influential theories behind social development by some scholars, children’s social development from childhood up to adulthood, different kinds of social skills and how autism is related to social skills.

1.1.3.1. Influential Theories of Sociocultural Perspectives

There are a few scholars behind this theory, they are Bruner (1986) who says that the relationship between the individual and their environment is viewed as encompassing transactional arrangements rather than straightforward single interaction and one-way influences. Rogoff (2003) explains that socio culture is a process in which the communities of people participate in ways that are ongoing, two-way and multilayered (as cited in Conn, C 2014). Conn (2014) mentions the highlights of this theory such as the people’s daily and ordinary social routine, which mostly taken for granted and unnoticed but which are actually strongly rooted in historical and ongoing cultural practices and understanding and that there is no direct connection between inner self and outer world. Conn (2014) says that people’s interaction with each other and the environment involves a whole range of factors in personality, knowledge, understanding, experience, culture and affects. This theory believes the idea of a human being who actively participates in cultural processes and creatively producing shared understanding of the world (Prout and James, 1977) and that it is the individual who uses their experience to direct their attention towards something (as cited in

Conn, C 2014). Carmel Conn (2014) discuss several influential theories of sociocultural perspectives which will be mentioned below:

a. Sociocultural-history Theory

The founder of this theory is Lev Vygotsky, a Russian psychologist. He explains that human development is not the result of either biological or culture's influence but it occurs through the constant interaction of each, biological behaviour and social condition (Vygotsky, 1978). Language is mentioned as the main cultural tool that is used to mediate thoughts and behavior, to express both internal and external speech and to help shape our thinking (Vygotsky, 1978). Texts, maps, pictures and conventional sign systems are included in the culture tools (Conn, 2014) and Rogoff (2003) also argues that nonverbal communication, particularly in young children, should be considered as one of the cultural keys. According to Vygotsky (1978) cultural communities are constantly changing and an individual who participate in them also follow the direction of changes by continuing producing and reproducing culture, using and enhancing cultural practices in continually ongoing transactions with each other and with the environment (Conn, C 2014). Vygotsky mentions how cultural learning occurs within four time frames such as the biological inheritance of evolutionary time that leads to species change; the accumulation of cultural artefacts and traditions that occurs within historical time and that is passed on generationally; the learning that occurs across an individual's life span, and individual learning in micro-moments of time, and within all these four time frames, biological, cultural and individual aspects of human functioning are interlinked and together contribute to the overall process of human learning (Conn, C 2014).

b. Ecological System Model

The pioneer of ecological system model is Urie Bronfenbrenner. He explains that individual and environment where the individual is at are both interdependent systems (Bronfenbrenner, 1979). He identifies four systems in an individual life, the first and the smallest is microsystem that concerns the individual's intimate experiences and closest relationships, the second is mesosystem which means the relationship an individual has within a larger social system involving in the setting of home, school and local neighborhood, the third is exosystem that represents the local communities, social institutions and the wider social society and the last system is macrosystem that represents social values, traditions and norms (Bronfenbrenner, 1979).

1.1.3.2 Development of Social Skills from infancy up to adulthood

I adapt the psychological theory of Erikson of social identity. Erikson's theory emphasized the emergence of the self, the search for identity, the individual's relationships with others and the role of culture throughout life (Woolfolk, *et al.*, 2013). He divides the social development of human life into several different stages.

a. Preschool years

The preschool years is identified with three different stages. The first is trust versus mistrust. According to Erikson infants in the first year of life try to develop trust with family members for basic needs as a human such as the need for food and care. The second stage is autonomy versus shame and doubt that marks the beginning of self-control and self confidence and young children begin to grasp the idea of the importance of responsibilities for basic early self-care such as feeding, toileting and dressing (Woolfolk, *et al.*, 2013). The last stage is initiative versus guilt stage where the infants get more active and start undertaking, planning and moving for the sake to keep themselves active and always on the move (Woolfolk, *et al.*, 2013).

b. The early and middle school years

This stage normally begins at the age of 5 to 7 years old. At this age, children start entering a formal education system such as kindergarten. The adjusting transition moving from home to kindergarten requires the children to trust new adults, act autonomously in the more complex situation and initiate actions in ways that fits the new rules of school and during this transition they will experience the rapid cognitive development (Woolfolk, *et al.*, 2013). Woolfolk (2013) continues as the children move on from early to middle school year they increase their focus on grades and performance, more eager to make decisions and be more independent.

Adolescence

At this stage young children begin to develop the skills for abstract thinking and capabilities to understand other's perspectives which is going to confront the central issue of this stage: the construction of identity, that will provide them the basis for adulthood (Woolfolk, *et al.*, 2013). For those who have not achieved a sufficient strong sense of identity in the previous stage, they tend to being for being overwhelmed or swallowed up by another person and may retreat to isolation (Woolfolk, *et al.*, 2013)

c.

d. Beyond school years

According to Erikson, this stage highlights the need of human to build a more intimate relationship versus isolation. Intimacy refers to a willingness to relate to another human being on a deeper level and to build a relationship based on more than just mutual need.

1.1.3.3 Different Kinds of Social Skills

When we are talking about social skills, it is not solely referring to the ability to establish relationship with another human being and maintain them. It is far beyond that. National Association of School Psychologist or NASP (2002) defines social skills in four types, among them are survival skills, interpersonal skills, problem solving skills and conflict resolution skills. Survival skills include the ability to listen to others, follow direction and refrain from speaking (NASP, 2002). And NASP (2002) also says that one need the ability to ignore the distraction while listening to others. The second skills is interpersonal which refers to the ability of the person to share, ask for permission, join an activity and wait for turn (NASP, 2002). This is called interpersonal because the awareness to do so has to come from the person herself. Normally a person with lack of interpersonal skills will be considered as a person with no manner.

The third skill is problem solving. It refers to the ability to ask for help, willingness to apologize and accept consequences and the ability to decide what to do (NASP, 2002). One must be able to understand the situation she or he is in and understand what one needs. Knowing the condition and what is needed is not enough, one needs to know how to ask for help and in order to do so problem solving skill is needed. The last skill is conflict resolution skills which refers to the ability to deal with losing, being under pressure, being teased, dealing with shame, being rejected, being left out and etc (NASP, 2002).

1.1.3.4 Autism and Social Skills

The lack of ability to establish social relationship is one of the main characteristics of students with autism. Each person's social ability is different with another person. However, a person with autism normally fits into one or more of the three criteria of social subgroups by Wing and Gould which will be mentioned below.

The first subgroup is social aloofness. A person who belongs to this subgroup shows aloofness or indifference in most situations, poor eye contact, repetitive and stereotypic body movement, show little evidence to joint activity or mutual attention and can only form interaction with adults (Peeters, T 1997). The second subgroup is called passive interaction. A person in this group have more ability to accept the approach that comes from both adults and other children, they show spontaneous social approach even though it is limited, they are still

passive and it makes other children without autism initiate the interaction (Peeters, T 1997). The last subgroup is active but displays off interaction. According to Peeters (1997) they are more spontaneous in social approaches even though they spend time more frequent with adults than with children, they show poor eagerness to be a listener and have problem in shifting topics, normally only interested in routine of interaction rather than the content thus make the interaction seem odd.

Chamberlain (2007) and Locke (2010) argue that some children with autism are socially active but more often socially peripheral though not completely isolated, and this statement is supported by Sigman and Ruskin (1999) who say that high-functioning children with autism do participate in social engagement and according to Bauminger (2003) they show differential interaction depending on whom they are interacting with, using more complex interaction with peers without autism (as cited in Conn, C 2014).

1.2 Objective

This thesis is built on the available literature written by previous scholars. It is going to list different categories of play time from the available literature. It is aimed to be the platform accessible by educators when they want to use play time to improve the social skills of their pupils with ASD. However due to the wide variety of play that have been studied, I have decided to select the most discussed category only. Reason for selecting that certain category is because the main objective of this research is to understand how play time can be used to improve social skills of students with ASD. Analysing how each type of play time can improve social skills of students with ASD is time consuming and too broad. Therefore, in order to have a well written and focused thesis, I will select one category of play time. This thesis is also limited to only study articles whose participants are students who study from preschool up to high school. It does not matter if they study in special school, mainstream or inclusive school, as long as they are still pupils who attend preschool up to high school, not university students or adults.

The main research question I would like to answer is how play time can be used to improve social skills of pupils with ASD. In order to answer this main question, there are three sub questions I would like to elaborate in this thesis, they are:

1. How do empirical studies tell us what kinds of play time can be used to improve social skills of students with ASD?
2. How do empirical studies tell us the characteristics of selected play time?

3. How do empirical studies tell us how these selected play time improve the social skills of students with ASD?

This thesis has the limitation which is it only focuses on studying further the most discussed type of play. The three sub questions are arranged accordingly in the right order to find out which type of play is the most discussed. The first sub question is rather board because it does not mean to name or list all the articles that have been written by previous scholars but is meant to introduce the readers of different kinds of play that have been studied by previous scholars. In order to find out what kinds of play there are, abstracts of articles should be read. After that each article is grouped accordingly to the similar category of play. By grouping each article I am able to find out which is the most discussed type of play.

The second sub question is only focused on the most discussed play. The characteristics of each play will be mentioned, such as sample size, gender, participants' age and participants' diagnosis. The last sub question is then meant to determine whether the selected play can manage to improve the social skills of students with ASD. In order to answer the last sub question, the article should elaborate the procedure of play, the findings or result of study, advantage and disadvantage of selected play and things that can be done to maximize the result.

II. METHOD

2.1 Protocol and Registration

Before going further into the detail of research methodology, this research is using the protocol of PRISMA Extension for Scoping Reviews (Prisma-ScR) (Tricco *et.al.*, 2018) as the guidelines. This research applies a literature review as the methodology. Arlene Fink (2014) described a literature review research as a systematic, explicit and reproducible method for identifying, evaluating and synthesizing the existing body of completed and recorded work produced by researchers, scholars and practitioners. A literature review research is essential for identifying what has been written on a subject or topic, determining the extent to which a specific research area reveals any interpretable trends or patterns, aggregating empirical findings related to a narrow research question to support evidence-based practice and so on (Pare, Trudel, Jaana & Kitsiou, 2015).

There are two approaches in undertaking a literature review research, they are narrative and systematic review. This research chose the narrative approach. A narrative review provides a summary of a small selection of studies in order to support empirical research, it is often difficult to replicate and can be biased because the review may not be comprehensive (Smith, J & Noble, H, 2015). Sylvester et al (2013) added that the narrative review is the “traditional” way of reviewing the extant literature and is skewed towards a qualitative interpretation. Kuziemyky (2017) explained that in conducting a narrative review, a researcher may selectively ignore or limit the attention paid to certain studies to make a point. Davies (2000) supports Kuziemyky’s explanation by stating that narrative review attempts to summarize or synthesize what has been written on a particular topic but does not seek generalization or cumulative knowledge from what is reviewed.

They said that the type of review or approach undertaken is influenced by the purpose of the review and resources available (2015). By doing a narrative review I am able to draw a summary of articles which discuss various play that can be used for educators as a platform to access different types of selected play time that can help improve social skills of students with ASD. To this argumentation Pare (2015) also argue that when appropriately conducted, review articles represent powerful information sources for practitioners looking for state-of-

the-art evidence to guide their decision-making and work practice (as cited in Kuziemsky, 2017).

2.2 Eligibility Criteria

Exclusion criteria is needed to sort out the irrelevant articles. Exclusion criteria is determined to limit the scope of discussion in this research. Exclusion data is determined before starting data collection. Samples are gathered from three different databases, they are ERIC, PsycINFO and Proquest. These are the following criteria that are implemented in each database:

1. Articles not written in English

Articles that are originally not written in English are excluded. Even though the English translation is provided, I prefer to exclude them to avoid bias that might occur in the translating process.

2. Articles that are not peer-reviewed

Peer-reviewed articles refer to articles that are written by experts and before publishing those articles are reviewed and checked by another experts to ensure the quality. Therefore, to ensure the quality of samples I am going to study in this thesis I will exclude those that are not peer-reviewed.

3. Articles published before 2000

In 2000 The Education for All was reaffirmed in World Education Forum in Dakar, Senegal to show the world's commitment to achieve universal access to free, quality and compulsory education (UNICEF, 2007). Based on this, I argue that there are a more up to date articles written in educational field that is aligned with the goal of EFA of Education for All, which is why I will exclude articles written before 2000.

2.3 Information Source

Because this research is doing a literature review it does not need to rely on persons as participants of the research to be interviewed or observed. Rather, the samples to be studied are articles or journals written by previous scholars. There are many databases nowadays that provide access both free and limited to these articles. I purposely gathered only articles from three databases which are ERIC, PsycINFO and Proquest. Below I will describe reasons to why I only use these three databases.

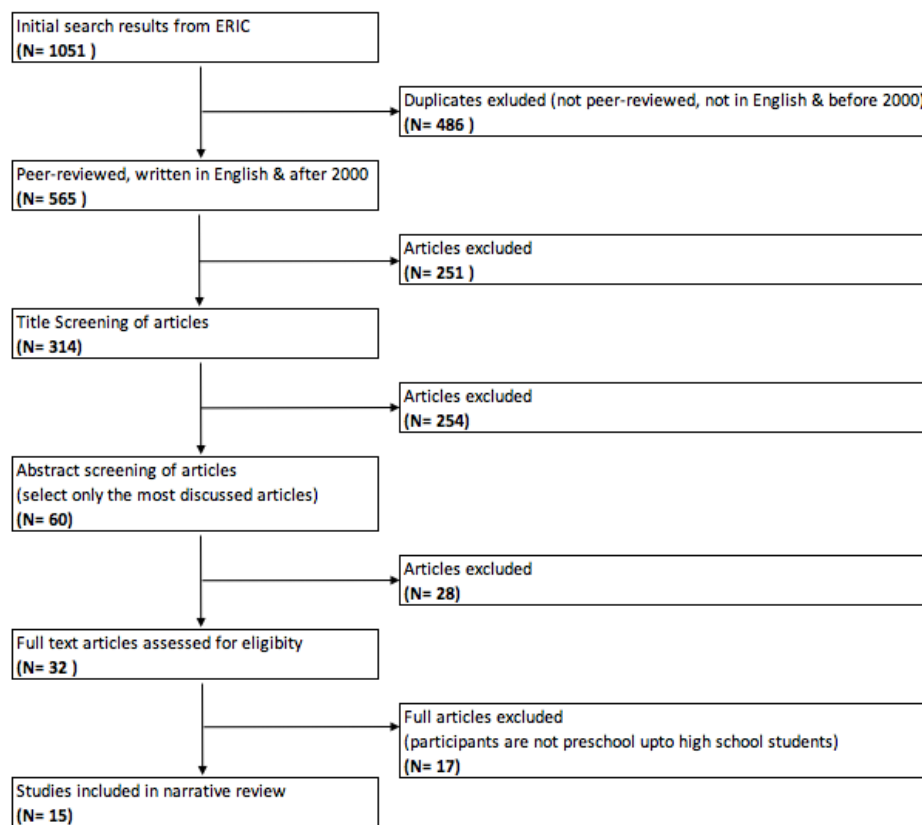
The first database is ERIC or Education Resources Information Center. This online library is chosen because of its wide collection of education articles which are mostly free. The

majority of my samples are also gathered from ERIC. The second database is PsycINFO. It is the largest database for peer-reviewed articles in behavioural science and mental health. While the third, Proquest is the largest database that provides multidisciplinary journals. As this research is working on how play can help to improve social skills for students with ASD, these three databases are the best options that specialize on education in general and autism in specific.

2.4 Search

Below is the sample of search strategy from ERIC database. It shows in the beginning there are 1051 articles. By the end there are only 15 articles left.

Figure 1. Search strategy from ERIC



2.5 Selection of Source of Evidence

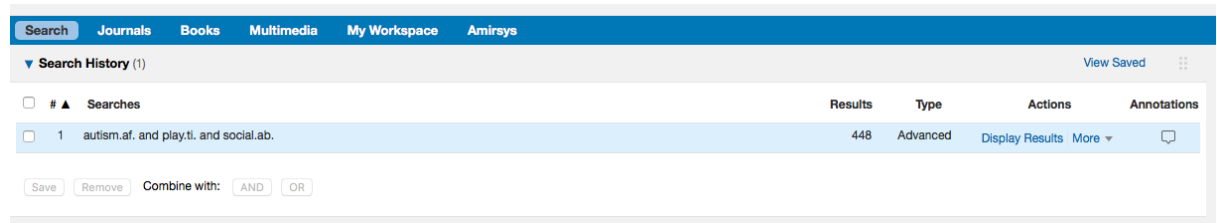
Both exclusion and inclusion criteria are predetermined as it ensures enhanced objectivity and avoid biases or mistakes (Kuziemyky, C 2017). According to Levy & Ellis it consists of evaluating the applicability of the material identified in the preceding step

(as cited in Kuziemsky, C 2017). There are several steps in selection of source evidence, as mentioned below:

1. Step 1

There keywords are typed in in the database, “autism”, “play” and “social. I am using free text words and subject heading search. The first keyword “autism” is put under “all fields” but the second and third terms “play” and “socials” are both put under “title” because these words are put in “all fields”, it can show unnecessary articles that do not talk about play or social skills at all.

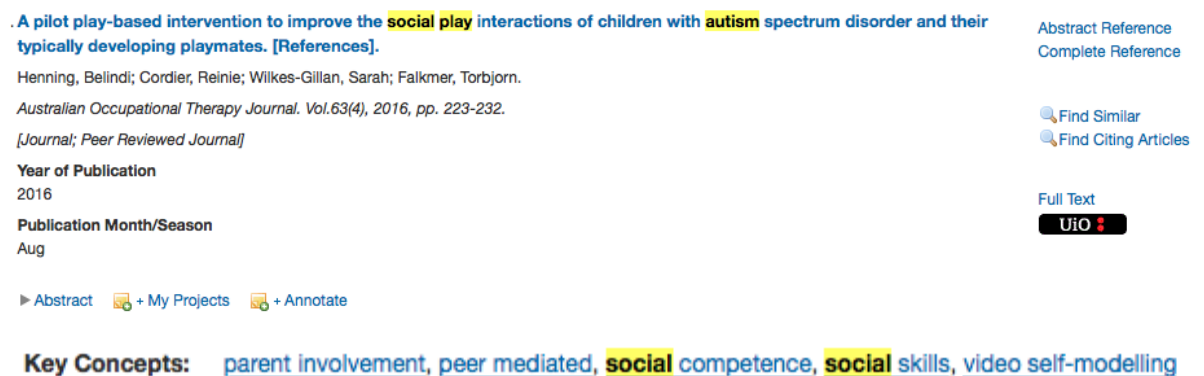
Figure 2. Screenshot from PyscINFO



2. Step 2

Primary screen is done by reading the titles and article’s keywords. When the article mentions the three keywords, it will be added to the list together with the weblink of each article.

Figure 3. screenshot from PsycINFO



3. Step 3

Secondary screen by reading the abstract. While reading the abstract I highlight what type of play is being discussed in each article. Each of them is to be grouped according to the similar type of play. The reason in grouping them into the similar type of play is because of the limitation of this research which only to study further the most discussed type of play and in order to find out which type of play is the most discussed I present the table below.

Figure 4. Categories of play

No.	Categories	ERIC	PsycINFO	Proquest	TOTAL
1	Pretend Play	60	37	11	108
2	Lego	9	4	0	13
3	Theatrical & Musical	8	3	0	11
4	Social Story	10	0	0	10
5	Theraphy or Intervention-based Play	33	28	0	61
6	Technology Based	34	3	0	37
7	Social Play	6	19	0	25
8	Free play	13	8	0	21
9	Peer Involvement	34	11	1	46
10	Playground	12	5	1	18
11	Physical Play	10	1	0	11
12	Family Involvement	35	12	0	47
13	Others	49	6	0	55
14	Total	314	137	13	464

4. Step 4

By this step, I will only focus on studying the most discussed type of play, which is pretend play. Among them symbolic play, make-believe, role play, fantasy play, dramatic play are included in this category as another term or pretend play. The inclusion criteria in this step is to only include articles that discusses about type of play time to improve social skills for students with ASD. After reading the abstracts, I found out that only 45 of the articles can be included.

Figure 5. Pretend play and their participants

No.	Title	Year	Participants	Included
1	Teaching Pretend Play to Young Children With Autism	2012	3 year old in preschool	Yes
2	Assessment of Pretend Play in Prader–Willi Syndrome: A Direct Comparison to Autism Spectrum Disorder	2014	School aged	Yes
3	The relation between social engagement and pretend play in autism	2012	mixed age	Yes
4	Picture Me Playing: Increasing Pretend Play Dialogue of Children with Autism Spectrum Disorders	2010	Preschool	Yes
5	Dysregulation of pretend play and communication development in children with autism	2005	Mixed children with school age	Yes
6	Teaching Reciprocal Imitation Skills to Young Children with Autism Using a Naturalistic Behavioral Approach: Effects on Language, Pretend Play, and Joint Attention	2006	School aged	Yes
7	I would like to play but I don't know how: a case study of pretend play in autism	2006	Second grade student	yes
8	USING VIDEO MODELING TO TEACH RECIPROCAL PRETEND PLAY TO CHILDREN WITH AUTISM	2009	Preschool	yes

5. Step 5

This is the last step of data collection process. There are only 46 articles left at the step. Abstracts and methodology part, specifically in “participants” section, of each article will be read. There is only one inclusion criteria left at this step, which is the article’s participants have to be in the school aged range, from early childhood up to high school. If they do not go to school yet or if they have finished high school and now study in higher education such as university, the articles will be excluded. The school setting is not taken into consideration, it can be in the mainstream, inclusive or special school. As long as the participants are not family members such as siblings or parents, they will be included.

Those 45 articles have now gone down to 21 articles. The rest articles are excluded because of several reasons. Among them are 5 articles with parents and children with ASD as the participants, 3 articles with university and undergraduate students as the participants, 5 theoretical-based articles that do not have participants, 1 longitudinal study article whose participants were still 12 months on the first study but the second study were already in

preschool age, and the rest of them have participants who are infants who do not go to preschool yet. The majority of those 21 articles come from ERIC database while Proquest's articles are all excluded.

Figure 6. Distribution of pretend play

Database	Total Before Inclusion	Total After Inclusion
ERIC	32	15
PsycINFO	10	6
Proquest	3	0
Total	45	21

These 21 articles will be read in order to describe their characteristics. To answer the second sub question, which is about characteristics of selected play, there is a table needs to be filled as shown below. Chronical age, sample size and gender of the participants are mentioned because they are important characteristics that readers need to know about the participants being studied in the articles. Level of education is mentioned so that educators who will access this research in the future can easily find the type of play that focuses on the same level of education with their students. Diagnosis is mentioned here because the articles' participants are not only students with ASD. Many articles have participants who are the typical developing children or children with other disorder for example development language disorder (DLN). Those participants, even though they are not individuals with ASD, are still mentioned in the table because they are part of the participants being studied. In diagnosis criteria I then mention what kind of condition or type of autism do the participants have. For example, some articles have participants who are high functioning, PDD-NOS or Asperger's syndrome and some articles have participants who are verbal, or minimally verbal, or have no physical disorder and etc. All this diagnosis criteria is important to mention to highlight the specific condition of participants.

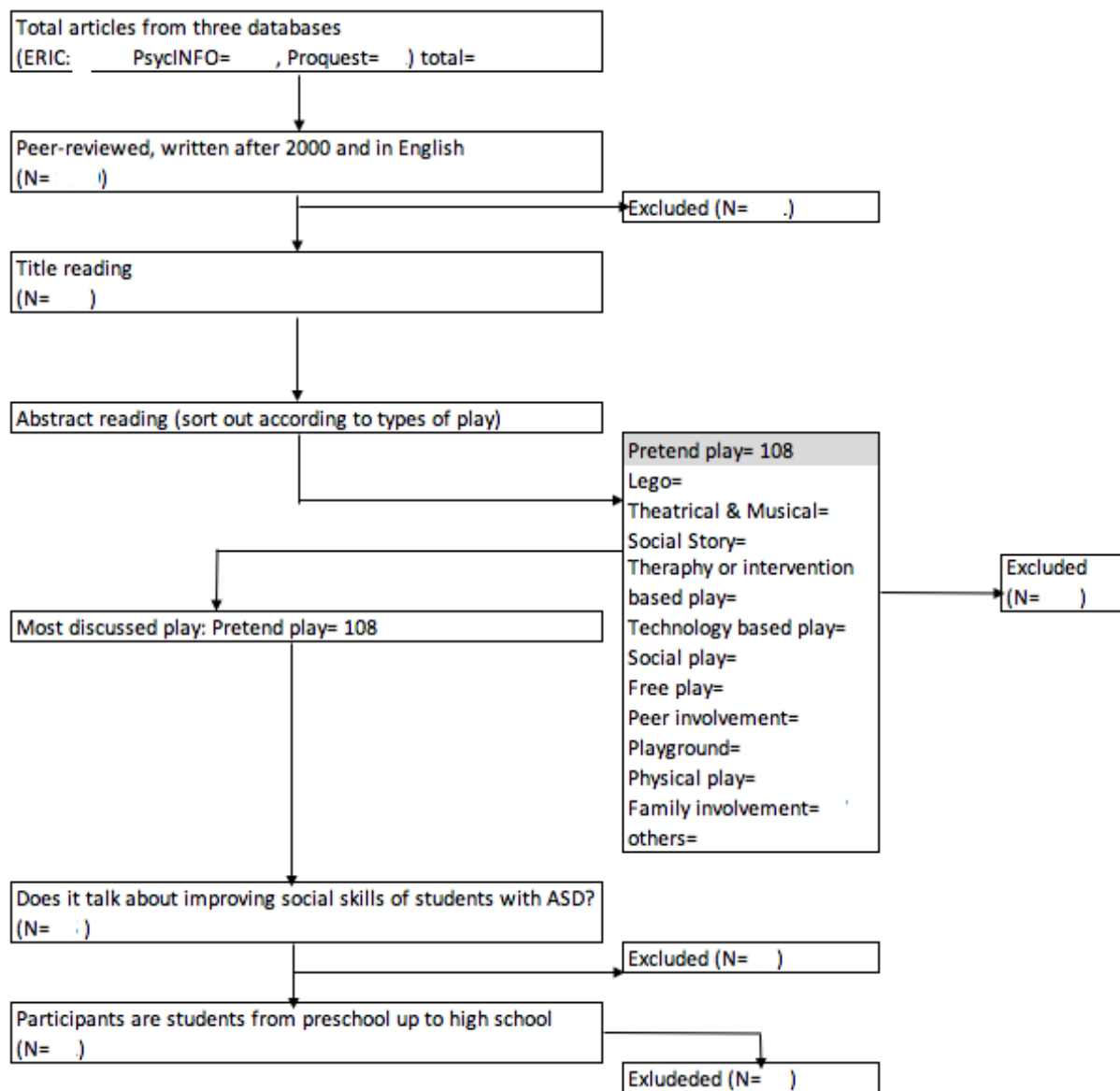
Figure 7. Table sample of characteristic of play for sub question 2

No.	Title

	Author and Year						
	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
1							
No.	Title						
	Author and Year						
	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
2							
No.	Title						
	Author and Year						
	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
3							

2.6 Data Charting Process

Figure 8. Flow Chart



2.7 Data Items

There are 21 articles left to be discussed and all of them belong to the pretend play category. These articles are included because they have the inclusion criteria which is the participants are students from preschool up to high school, written in English and before 2000, peer-reviewed and discuss about improving social skills of students with ASD.

Below is the list of 21 articles.

Figure 9. List of 21 pretend play (final)

No.	Title	Year	Participants	Included
1	Teaching Pretend Play to Young Children With Autism	2012	3 year old in preschool	Yes

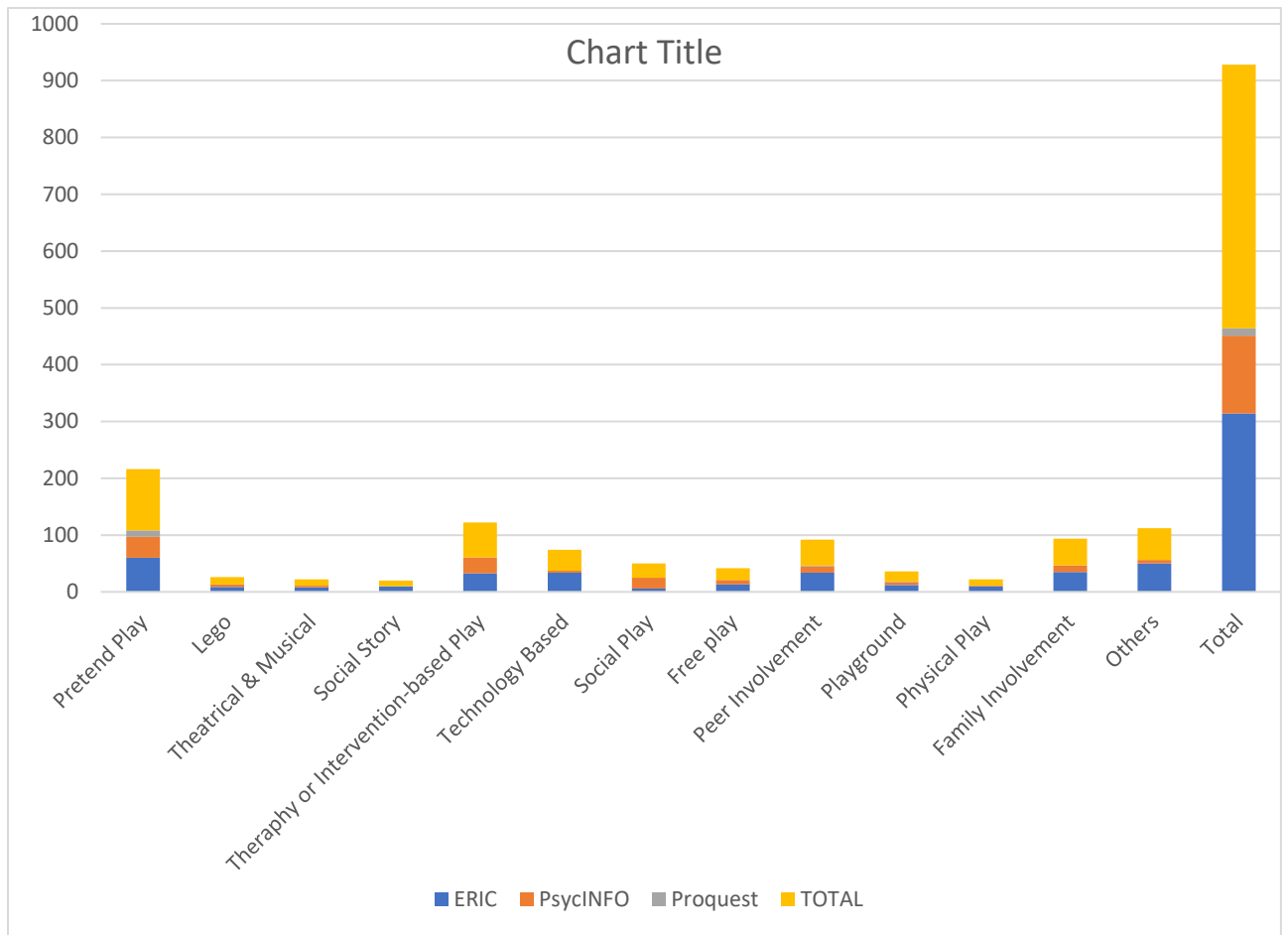
2	Assessment of Pretend Play in Prader–Willi Syndrome: A Direct Comparison to Autism Spectrum Disorder	2014	School aged	Yes
3	The relation between social engagement and pretend play in autism	2012	mixed age	Yes
4	Picture Me Playing: Increasing Pretend Play Dialogue of Children with Autism Spectrum Disorders	2010	Preschool	Yes
5	Dysregulation of pretend play and communication development in children with autism	2005	Mixed children with school age	Yes
6	Teaching Reciprocal Imitation Skills to Young Children with Autism Using a Naturalistic Behavioral Approach: Effects on Language, Pretend Play, and Joint Attention	2006	School aged	Yes
7	I would like to play but I don't know how: a case study of pretend play in autism	2006	Second grade student	yes
8	USING VIDEO MODELING TO TEACH RECIPROCAL PRETEND PLAY TO CHILDREN WITH AUTISM	2009	Preschool	yes
9	The Role of High Level Play as a Predictor Social Functioning in Autism	2009	School aged	yes
10	Social Validation of Symbolic Play Training for Children with Autism	2006	School aged children with ASD and without ASD, adult university student	Yes
11	Symbolic Play of Preschoolers with Severe Communication Impairments with Autism and Other Developmental Delays: More Similarities than Differences	2011	School aged	yes
12	Symbolic Play in School-Aged Minimally Verbal Children with Autism Spectrum Disorder	2017	School aged	Yes
13	The Power of Symbolic Play in Emotional Development Through the DIR Lens	2017	6,5 year old	Yes
14	Brief report Children with autism's response to novel stimuli while participating in interventions targeting joint attention or symbolic play skills	2011	preschool	yes
15	Play Behavior and Attachment in Toddlers with Autism	2007	mixed age	Yes

16	Effect of a Motor-Based Role-Play Intervention on the Social Behaviors of Adolescents With High-Functioning Autism: Multiple-Baseline Single-Subject Design	2012	High school students	yes
17	The role of high level play as a predictor social functioning in autism.	2009	school aged	Yes
18	Impact of the Learn to Play program on play, social competence and language for children aged 5–8 years who attend a specialist school	2012	school aged at special school	Yes
19	Supporting children on the autism spectrum in peer play at home and school	2003	playgroup	Yes
20	Modest size RCT indicates that short-term joint attention and symbolic play intervention improves shared positive affect in social interactions for preschool children with autism	2012	preschool	Yes
21	Integrated Play Groups: Promoting Symbolic Play and Social Engagement with Typical Peers in Children with ASD Across Settings	2014	school aged	yes

2.8 Synthesis of Results

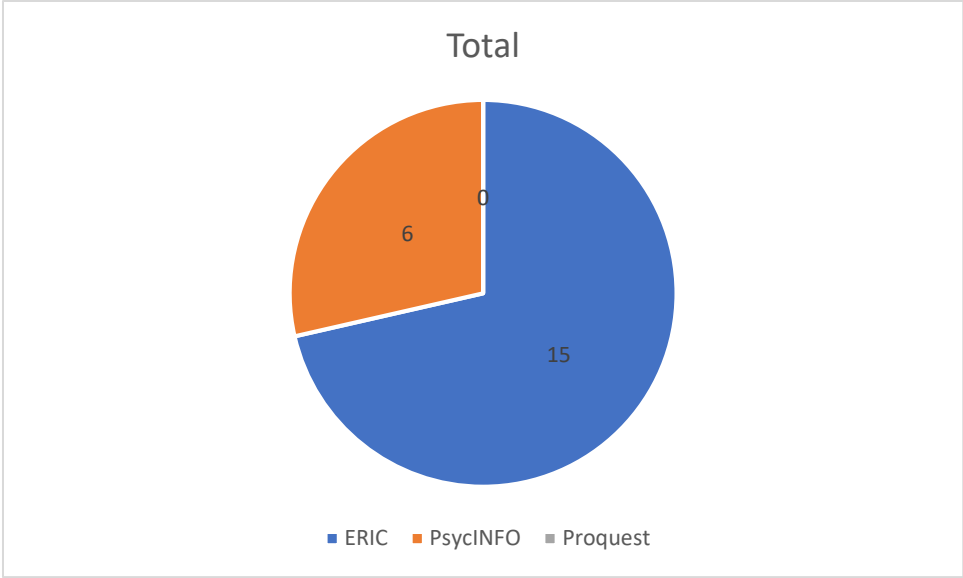
After the third step of data collection, there are 464 articles that the abstract needs to be read. I read the abstract in order to find out what type of play is being studied in that article. I then group them based on the similar type of play.

Figure 10. Diagram of Category of play



From the chart it is shown that the most discussed play is pretend play, with the total of 108. Pretend play is then selected to be studied further. Not all of the 108 are discussed, because there are more inclusion criteria that need to be followed. After following the inclusion criteria as mentioned above, there are only 21 articles left as mentioned in 2.7 data item section.

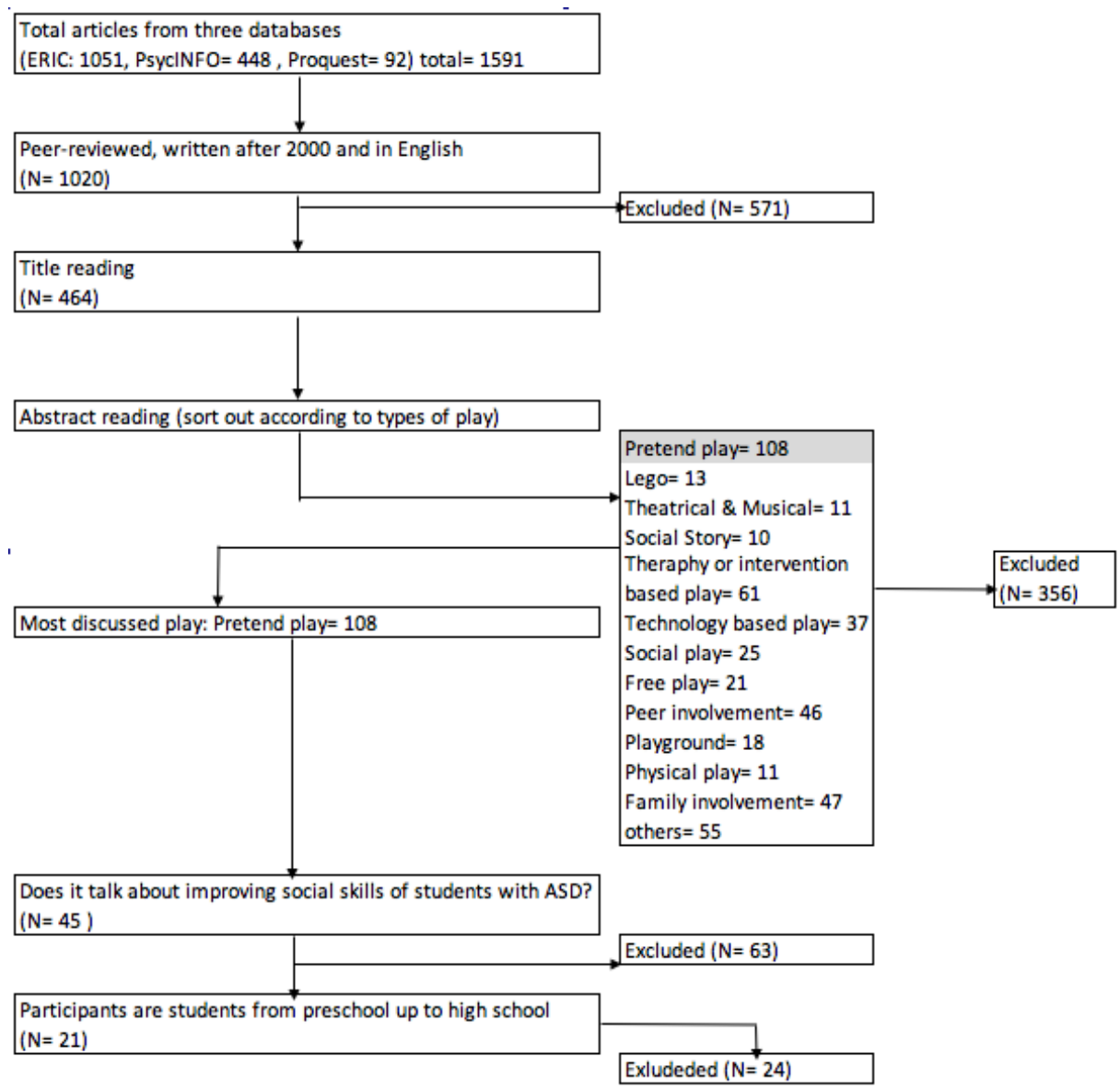
Figure 11. Diagram of final result of pretend play



III. RESULTS

There are 1591 articles at the beginning. With inclusion criteria such as written in English and after 2000 and it has to be peer reviewed, the number goes down to 1020. The titles are read to determine if the article talks about autism, play and social skills. There are 571 articles excluded which makes the result goes to 464. The abstracts of these 464 are read to determine what type of play is being discussed in each article.

Figure 12. Flowchart of source of evidences



From the chart it is shown that the most discussed play is pretend play with the total of 108 articles. These articles are being extracted again by following more inclusion criteria such as whether the article discusses about improving social skills of students with ASD and whether the participants are students in preschool up to high school. The final number of articles are now only 21 left.

There are three sub questions in this thesis. The first sub question how empirical studies tell us what kinds of play time can be used to improve social skills of students with ASD. As mentioned in data collection, there are 5 steps to be done. On the third step all the articles are sorted out and grouped into several categories. These categories are made based on the similar kinds of play time discussed in each article. As you can read, the first sub question does not ask about what are play, but what kind of play time that can be used to improve social skills of students with ASD. By grouping them in the similar type of play, I have already answered the first question. Then I will total the number of articles for each category.

The second sub question is how empirical studies tell us the characteristics of selected play time. It has been mentioned before that I will not study all the articles closely but will select the most discussed category and study it closely. After finding out the total article of each category, the category that has the most number occurs. After selecting one category, there are still two more steps left in data collection process, which are step 4 and step 5 (as mentioned above). Only articles whose samples are students in either mainstream or inclusive school setting and study from early education up to high school will be studied in to answer the second sub question.

To answer the last sub question, how these selected play time improve the social skills of students with ASD, I will read the whole article thoroughly. To answer the sub question, I will summarize each article by answering these questions:

- a. What is the procedure of the selected play time?
- b. What are advantages and disadvantages of implementing the selected play time?
- c. Does the play manage to improve the social skills of students with ASD or result?
- d. What can be improved to maximize the result?

In this chapter the three sub questions are going to be answered one by one. Each sub question is formed accordingly to help fulfil the objective of this research. Each of them also has different focus. For example, the first sub question focuses on a more general type of play activity, the second sub question focuses on the characteristics of selected articles and the last

sub question focuses on elaborating how play time help the improvement of social skills.

3.1. What Kinds of Play Time Can be Used to Improve Social Skills of Students with ASD?

From the three databases there are 464 articles collected. These articles are the result of three main key search, they are “autism”, “play” and “social”. To answer the sub question, each title of the 464 articles are read together with the keyword or descriptors. One article normally studies one particular kind of play. By knowing what kind of play are being studied in one article, articles with similar type of play will be grouped in one category. There are 13 categories found, they are:

1. Pretend play

According to Doris Bergen (2001) pretend play requires the ability to transform objects and actions symbolically, it is carried out through interactive social dialogue and negotiation and it involves role taking, script knowledge and improvisation. Socio dramatic play, symbolic play, make-believe, role play, fantasy play, dramatic play are another name of pretend play and therefore included in this category. This type of play is the most discussed with the total of 109 articles.

2. Play with LEGO

Many scholars studied the impact of playing LEGO for students with ASD and LEGO normally are being used by children to play with. Therefore, it is included in the category. LEGO is a set of interlocking plastic building blocks that need to be constructed (www.LEGO.com). There are 13 articles discuss about LEGO.

3. Social Stories

According to National Autistic Society, Social Stories was created by Carol Gray in 1991, they are short descriptions of a particular situation, event or activity which include specific information about what to expect in that situation and why. 10 articles study about social story and all of them are from ERIC.

4. Technology-based play

Play activity that requires the use of technology such as computer, smart phone, tablet and ipad are included in this category. This type of games can be played both alone or with other people. 37 articles belong to this category.

5. Free play

Normally older children who do not need to be supervised by teachers or parents do this. The children choose freely what they want to play with, how they want to do play it and with whom they want to play with and Rita Jordan (2013) also refers it as leisure activity. This kind of play does not have any rules. There are 21 articles that belong to this category.

6. Social play

Social play refers to when the child interacts in play activities with another person, for example with adults or children.

7. Peer involvement

This type of play requires the participation of peers to play with the student with autism. Peers are referred to pupils who study in the same classroom with the pupils with autism. The peer can also individuals with autism as well as without autism. There 47 articles in this category.

8. Family involvement

There are many types of play activity that involve participation of family members, from the mothers, fathers to siblings. And 47 of the articles belong to this category.

9. Playground

According to Corsaro and Hohannesen (2007) playground games tend to be on going and children use the same game themes again and again with some themes lasting for several years. There are 18 articles that belong in this category.

10. Physical play

In this activity the children moves around to use their body movement to kick, climb, run, jump or do other things that their physical body parts can do. It can be done both outdoor and indoor. 11 articles are found to be in this category.

11. Therapy or intervention-based play

Play activity that is initiated by teachers or therapist is included in this category for therapy or intervention purpose. Among them are JASPER (Joint Attention, Symbolic Play, Engagement and Regulation), Pivotal Response Training and Childl-Centred Play. There might be some overlapping in this category, for example JASPER is also a part of symbolic play and therefore can be included in the pretend play category. But I decided to put it in this

category because the nature of JASPER itself is the therapy. And the other reason to put a therapy or intervention-based play in its own category is because it is initiated by other people. This group is second largest number of articles with the total of 61 articles.

12. Theatrical & musical play

Because I use the “play” as key search, several articles that discuss about how theatrical and musical play can be enjoyed by children with ASD also appear in the search result. That is why I put them all in one category. 11 articles are included in this category.

13. Others

There are a few articles that do not belong in any of the category above. Therefore, I put them in this category. They mostly talk about play in general without naming any specific type of play. They are included because one of the three main keywords to search is “play”, that is why all types of play are shown in the database, including play in general.

3.2 Characteristics of Selected Play Time

From the 13 categories, the category that has the largest population of articles is pretend play category with the total of 109. I draw a limitation to only study further the category that is most discussed. So the most discussed category, which is pretend play, is then selected to be discussed further in the second sub question. But not all the 109 articles are going to be discussed. There are several inclusion criteria that needs to be implemented, as mentioned in chapter 4 such as whether the article discusses about improving social skills for students with ASD, whether the participants of the article are in the school aged range namely from preschool up to high school. As the result of these inclusion criteria, the total of 109 has now dropped down to 21 articles only.

Chronical age, sample size and gender of the participants are important to mention because these are basic information that need to be highlights from the participants. Level of education is mentioned so that educators who will access this research in the future can easily find the type of play that focuses on the same level of education with their students. The 21 articles’ participants are not only students with ASD. Some articles are comparison studies which compare students with different disabilities. Many articles have participants who are the typical developing children or children with other disorder for example development

language disorder (DLD). Those participants, even though they are not individuals with ASD, are still mentioned in the table because they are part of the participants being studied. But in all of the 21 articles, the focus group is participants with ASD, while the other group is either for comparison or as peers who play with participants with ASD. In diagnosis criteria I then mention what kind of condition or type of autism do the participants have. For example, some articles have participants who are high functioning, PDD-NOS or Asperger’s syndrome and some articles have participants who are verbal, or minimally verbal, or have no physical disorder and etc. All this diagnosis criteria is important to mention to highlight the specific condition of participants.

Figure 13. Characteristic of selected play

No .	Title	The Relationship Between Social Engagement and Pretend Play in Autism					
	Author and Year	Hobson J, Hobson R, Malik S, Bargiota K & Calo S (2012)					
1	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
	Pretend Play	6	Girls	2 years 11 months up to 9 years 8 months		Previous clinical diagnosis of ASD	Atypical autism, Asperger’s disorder and PDD-NOS
		21	Boys				
		3	Girls			ASD	
		11	Boys				
		3	Girls				
13	Boys	Developmental Disorder	Varying aetiology				
2	Title	The Role of High Level Play as a Predictor Social Functioning in Autism					
	Author and Year	Manning M & Wainwright L (2009)					

	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
	Pretend play	30	80 % male	7 - 9 years	Primary School	ASD	High Functioning Autism (HFA)
		33	20% female			Developmental Language Disorder (DLD)	
3	Title	Picture Me Playing: Increasing Pretend Play Dialogue of Children with Autism Spectrum Disorders					
	Author and Year	Murdock L & Hobbs J (2010)					
	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
	Role Play	10	Boys	55 - 75 months	Preschool	ASD	PDD-NOS
2		Girls					
4		Boys	Typical Developing Children				
4		Girls					

4	Title	Social Validation of Symbolic Play Training for Children with Autism					
	Author and Year	Stahmer A, Schreibman L & Powell N (2006)					
	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
	Symbolic Play	6	Male	4 years	Shcool aged	Autism	-
0		Female	3 months				

				- 7 years 2 months			
	4	Male		2 years 5 months	Not mentioned	Typical developing children	-
	2	Female		- 4 years 9 months			
	63	Mix		18 - 22 years	Undergradua te psychology students	Typical developed adult	The role as naive observer
5	Title	I Would Like to Play Too But I Don't Know: A Case Study of Pretend Play in Autism					
	Author and Year	Hess L (2006)					
	Type of Play	Sampl e Size	Gend er	Chronic al Age	Level of Education	Diagnosis	Diagnosis Criteria
	Role Play	1	Boy	10 years old	Second grade school	Autims	Verbal
6	Title	Dysregulation of Pretend Play and Communication Development in Children with Autism					
	Author and Year	Blanc R, Adrien J, Roux S & Barthelemy C (2005)					
	Type of Play	Sampl e Size	Gend er	Chronic al Age	Level of Education	Diagnosis	Diagnosis Criteria
	Symbolic Play	21	Mix	44 - 140 months	Preschool to school age	Autims	4 mild autism and 17 severe autism

		14		40 - 104 months		Global cognitive impairment	Display no social or relationship behaviour
		15		28 - 62 months		Typical developing children	-

7	Title	Symbolic Play in School-Aged Minimally Verbal Children with Autism Spectrum Disorder					
	Author and Year	Chang Y, Shih W, Landa R, Kaiser A, Kasari C (2017)					
	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
	Symbolic Play	58	Mix	5 - 8 years old	School aged	Autism	Minimally verbal
8	Title	Assessment of Pretend Play in Prader-Willy Syndrome: A Direct Comparison to Autism Spectrum Disorder					
	Author and Year	Zyga O, Russ S, Ievers-Landis C & Dimitropoulos A (2014)					
	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
	Pretend Play	14	Mix	10 years old	School aged	Prader Willy Syndrome	Verbal
10		Autism				PDD-NOS and Asperger's Syndrome	

9	Title	Teaching Reciprocal Imitation Skills to Young Children with Autism Using a Naturalistic Behavioural Approach: Effects on Language, Pretend Play and Joint Attention					
	Author and Year	Ingersoll B & Schreibman L (2006)					
	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
	Pretend Play	5	Mix	29 - 25 months	Preschool	Autism	
10	Title	Using Video Modeling to Teach Reciprocal Pretend Play to Children with Autism					
	Author and Year	Macdoland R, Sacramone S, Mansfield Rm Wilts K & Ahearn W (2009)					
	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
	Pretend Play	2	Boys	5 & 7 years old	Preschool	Autism	Verbal
2		Mix	5 years old	Typical developing peers		-	
11	Title	Symbolic Play of Preschoolers with Severe Communication Impairments with Autism and Other Developmetal Delay: More Similarities than Differences					
	Author and Year	Thiemann-Bourque K, Brady N & Fleming K (2011)					
	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
	Symbolic Play	6	Girls	3 - 6 years old	Preschool	Autism	Minimally verbal and can speak
29		Boys					
11		Girls					

		27	Boys			Other Developmental Delays	approximately 20 words (both spoken and signs)
12	Title	The Power of Symbolic Play in Emotional Development Through the DIR Lens					
	Author and Year	Wieder S (2017)					
	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
	Symbolic Play	4	Mix	4 - 7 years old	School aged	Autism	Diverse
13	Title	Brief report Children with Autism's Response to Novel Stimuli While Participating in Interventions Targeting Joint Attention or Symbolic Play Skills					
	Author and Year	Gulsrud A, Kasari C, Freeman S Paparella T (2011)					
	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
	Symbolic Play	28 7	Boys Girls	33 - 54 months	Preschool	Autism	No history of seizures and no sensory or physical disorder
14	Title	Play Behaviour and Attachment in Toddlers with Autism					
	Author and Year	Naber F, Kranenburg M, Ijzendoorn M, Swinkels S, Buitelaar J, Dietz C, Daalen E & Engeland H (2007)					
	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria

	Symbolic and Funtional Play	23				Autism	PDD-NOS
		18	Mix	48 months	Preschool	Non Autism	Developmen tal Disorder
15	Title	Effect of a Motor-Based Role-Play Intervention on the Social Behaviors of Adolescents With High-Functioning Autism: Multiple-Baseline Single-Subject Design					
	Author and Year	Gutman S, Raphael-Greenfield E & Rao A (2012)					
	Type of Play	Sampl e Size	Gend er	Chronic al Age	Level of Education	Diagnosis	Diagnosis Criteria
	Role Play	7	Mix	15 - 21 years old	High school student in specialized high school	Autism	High Funtioning
16	Title	The Role of High Level Play as a Predictor Social Functioning in Autism					
	Author and Year	Manning M & Wainwright L (2009)					
	Type of Play	Sampl e Size	Gend er	Chronic al Age	Level of Education	Diagnosis	Diagnosis Criteria
	Pretend Play	30	7 - 9 years old	Mix	School aged	Autism	High Funtioning
33		Developmen tal Language Disorder (DLD)					
17	Title	Impact of the Learn to Play Program on Play, Social Competence and Language for Children Aged 5-8 years Who Attend a Specilist School					
	Author and Year	Stagnitti K, O'Connor C & Sheppard L (2012)					

	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
	Pretend Play	19	Mix	5 - 6 years old	School aged at specialist school	Autism	Intellectual Disability
18	Supporting Children on the Autism Spectrum in Peer Play at Home and School						
	Author and Year	Yang T, Wolfberg P Wu S & Hwu P (2003)					
	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
	Pretend / Symbolic Play	1	Girl	7 years 11 months	School aged	Autism	Midlyly impaired verbal functioning
1		Boy	6.5 months				
3		Mix	7 years	Typical developing peers			
19	Title	Modest Size RCT Indicates that Short-term joint Attention and Symbolic Play Intervention Improves Shared Positive Affect in Social Interaction for Peschool Children with Autism					
	Author and Year	Charman T (2012)					
	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
	Symbolic Play	52	Mix	Preschool age	Preschool	Autism	-
20	Title	Integrated Play Groups: Promoting Symbolic Play and Social Engagement with typical Peers in Children with ASD Across Settings					

	Author and Year	Wolfberg P, Dewitt M, Young G & Nguyen T (2014)					
	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
	Symbolic Play	41	Boys	5 - 10 years old	School aged	Autism	Participants represent diverse ethnic, cultural and socioeconomic backgrounds
		7	Girls				
21	Title	Teaching Pretend Play for Young Children with Autism					
	Author and Year	Barton E & Pavilanis R (2012)					
	Type of Play	Sample Size	Gender	Chronical Age	Level of Education	Diagnosis	Diagnosis Criteria
	Pretend Play	1	Boy	3 years old	Preschool	Autism	

3.3 How Play Improve Social Skills of Students with ASD

After listing necessary characteristics of each selected play in the previous second sub question, in this part I will study further how the selected play manage to improve social skills of student with ASD. In order to do that I will summarize each article by answering these questions:

- a. What is the procedure of the selected play time?
- b. Does the play manage to improve any social skills of students with ASD or article's findings?
- c. What are advantages and disadvantages of implementing the selected play time?

- d. What can be improved to maximize the result?

Article 1

The Relationship Between Social Engagement and Pretend Play in Autism (Hobson J, Hobson R, Malik S, Bargiota K & Calo S (2012)).

- a. What is the procedure of the selected play time?

The participant is given a standardized measure of pretend play to measure three things such as their ability to substitute different objects or person attribute an imagination to an object or person and make relation to an absent object or person. Each of them is videotaped while being accompanied by an adult. This adult should not interfere the child and should let the child plays by himself. There are 4 things that are scored such as their self-awareness to create new meanings, how well they are in investing in symbolic meaning, their creativity and whether they are able to enjoy and have fun in the play time.

- b. Does the play manage to improve the social skills of students with ASD or result?

This is article does not specifically study one specific play which can help improve social skills of students with ASD, but rather observes how well children from three groups (autism, developmental disorder and previous clinical diagnosis of ASD) can perform pretend play and the correlation with their social engagement. But it is still included because it studies about pretend play. The findings in this article show that the autism group has lower score in the quality of pretend play than the other two groups. This group show lower ability to engage in social interaction compare to the other two groups. These findings do not fit to answer whether the selected play manages to improve social skills of students with ASD.

- c. What are advantages and disadvantages of implementing the selected play time?

The play mentioned here is very simple, it is only used as the platform for children to play freely while the adult takes score of pretend play and social interaction. Based on this reason, I am not able to mention any advantage or disadvantage of implementing the selected play, because the examiners of this article only let the child play freely while they collect data needed.

- d. What can be improved to maximize the result?

This article's findings are only for comparison purpose among three groups of participants. The findings are not meant to find out how effective the play time in helping to improve social skills of students with ASD. As mentioned previously that this research is meant to be a platform for educators to have easy access for various play time which can help

improve social skills of students with ASD. In order to achieve that, I wish that the article can provide more findings that are more relatable to the purpose of this research.

Article 2

The Role of High level Play as a Predictor Social Functioning in Autism (Manning, M & Wainwright, L, 2009)

a. What is the procedure of selected play time?

This study compares two groups of children, high functioning autism (HFA) and developmental language disorder (DLD) to find out the relationship between the quality of play and social skills. In order to find the comparison, each group is being videotaped for 25 minutes in a play session. The first 10 minutes participants play by themselves with puzzle box and the last 15 minutes an unfamiliar adult examiner joins in and starts engaging with the participants. Before the examiner steps in, the HFA group spend less time to play compare to the DLD group. The DLD group also has higher social score than HFA. However, once the examiner joins in, the differences of social score between the two groups are not significant anymore. The examiner is supposed to follow the child's lead and if the child is not initiating any pretense play, the examiner should increase bids for play activity for the rest of the session.

b. Does the play manage to improve the social skills of students with ASD or result?

The article mentions that the social score for the HFA group increases once an unfamiliar adult who acts as an examiner steps in. The examiner's job is to stimulate engagement while following the child's lead and helps the child to warm up socially and helps the child to feel more comfortable. After a short period of time since the examiner joins in, the HFA group is recorded to spend more time playing and their social score is also increasing. It indicates that this type of play, pretend play, with the help of adult, is able to improve the social skills of students with ASD.

c. What are advantages and disadvantages of implementing the selected play time?

The social score of HFA group is increased after the examiner steps in. This can be the advantage of this play time. In daily life the role of examiner can be replaced by adults. Children are surrounded by adults such as teachers and parents. Teachers can take role at school while parents take role in home setting. The fact that a child's life is surrounded by adults in his daily basis life which makes this type of play is effective and easily executed and requires minimal demand.

The disadvantage of this play time comes from the result of the study. It does not specifically follow up the continuous progress of this group. It does show the increase social score for HFA group with the presence of the examiner but it does not show what happen afterwards when the 25 minutes videotape session is finished. It means that there is the possibility that that social score result can also go down again once the examiner is removed. The improvement that solely happens because the involvement of adult can be a good thing but yet can also be a disadvantage when the adult is not around.

d. What can be improved to maximize the result?

This article only shows the result from a 25 minutes videotape session. I am also aware that this article is meant to show the quick result of how significant the difference can happen before and after the presence of adult. While the social score is proven to be increasing with the help of examiner, the article does not mention at all what happen afterwards when the examiner is not around. There is a possibility that the social score is decreasing again because of the dependency of HFA children with the presence of adult to boost their social skills. Therefore, I suggest to figure out the way of maintaining the social score of HFA group to still be high without the help of examiner. A continuous study focusing on what happen when the examiner is removed is necessary to also raise the awareness of parents and teachers, who later will act as the examiner or adult in the child's daily life, to prepare them with a more long lasting result of social skills.

Article 3

Picture Me Playing: Increasing Pretend Play Dialogue of Children with Autism Spectrum Disorder (Murdock, C & Hobbs, J, 2010)

a. What is the procedure of selected play time?

There are 12 participants with ASD that are divided into two groups. Each group is accompanied by 4 different typical developing peers. They are taught to do Picture Me Playing which is a pictorially enhanced, script based intervention targeting character role play through a narrative vignette (Murdock & Hobbs, 2010). One group is called intervention group that will receive treatment first and the other is called comparison group because of its function to compare the result of each group. Keep in mind that the comparison group will also receive treatment or intervention at the end.

During intervention the children in each group have 60 minutes group sessions that is divided into four section which makes each section lasts for 15 minutes only. The first 15 minutes session the Picture Me Playing story is read to the children in in the intervention

group. Teacher will role-play the act and the next role-play is acted out by two children with ASD with one typically developing peer. The second 15 minutes the story is reread and the next two children with ASD take turn to role-play with one typically developing peer. The third 15 minutes the story is reviewed and again modeled for the children and this time the teacher does not adhere rigidly to the story dialogue or events but the children are encouraged to invent unique dialogue and events in addition to producing the scripted utterance that have been practiced (Murdock & Hobbs, 2010). And in the last 15 minutes session all participants engage in role play again.

Beside the 60 minutes group session, there is a 5 minutes individualized session where each participant can practice again with one typically developing peer. The last part is generalization where each of them is given 10 minutes play opportunity with the typical developing peer they have been playing with but this time there is no scripts, dialogue or instruction given.

b. Does the play manage to improve the social skills of students with ASD or result?

This article records the number of instances PD (Pretend Dialogue). PD is the utterances that serves dialogue or verbalizations of the characters or action figure (Murdock & Hobbs, 2010). It does two kinds of comparison, the between-subject and within-subject comparison. The between-subject is meant to compare the PD score of the intervention and comparison group. The result shows there is no significant difference between these two groups before they receive intervention. But once intervention is given, the PD score in intervention group increase up to 260% while in the comparison group it increases up to 136%. In within-subject comparison, before intervention all the 12 participants with ASD show 78 total instances of PD and after intervention they show 313 instances of PD. To ensure the stability of this score, this article also compare PD score of the intervention session with generalization session where the participants do not receive any instruction or scripts. The total of PD in intervention session of all groups is 456 and 458 in generalization session. It shows that the participants manage to maintain the score without any instruction and scripts to guide them.

Based on this finding, it is proven that this method does successfully increase the play dialogue for children with ASD and they manage to maintain the skills they have acquired. This article is aimed to teach children with ASD how to play and it is taught by role-playing play dialogue. The target is to increase play dialogue so children with ASD know how to play and know what to say during play. So even though this article's aim is not solely focused on improving social skills of children with ASD but I decided to include this article because it equips them with play skills and dialogues that are applicable for socializing and familiarizing

them with social cues. Besides that, this technique also does not involve the presence of an adult which increase the possibility to maintain the learned skills anytime during play session. Hence I argue that this article manages to improve the social skills of students with ASD.

c. What are advantages and disadvantages of implementing the selected play time?

This play procedure in this article is very detailed which makes it one of its advantage. It does follow up the after effect of the treatment. Another advantage is it does not require the presence of adult. It trains the children to practice their play skills slowly with peers with the help of dialogue, scripts and instructions and once they are familiar enough they are not given any instruction and they still manage to perform the learned skills. It means that this type of play aim the children to not depend on the adult's help. But it also has several disadvantages. It is considered to be time consuming because there are 60 minutes of group sessions, 5 minutes of individualized session and 5 minutes generalization sessions. In total it requires 70 minutes. It is a very long session to teach how to play. And because of its long session it is only applicable to a small group to ensure that every child gets the turn to practice the role-play.

d. What can be improved to maximize the result?

This article is very detailed, it predicts what will happen as well as prepares the possibility of all the result. It does not only record the score during intervention but also after the intervention where participants receive no instructions. However due to its long period of session I wish that a shorter version of session can be provided. Also the participants are only students with PDD-NOS, which means there is no prove that it will work with students who have different type of autism. Therefore, I wish that the participants are more diverse in order to accommodate this need.

Article 4

Social Validation of Symbolic Play Training for Children with Autism (Stahmer A, Schreibman L & Powell N, 2006)

a. What is the procedure of the selected play time?

The 6 children with autism are given PRT or Pivotal Response Training to enhance their symbolic play skill. Stahmer (1995) refers PRT as a naturalistic, behavioral technique to increase motivation and responsivity in children with ASD (as cited in Stahmer *et.al.*, 2016). The authors consider play is symbolic if the child substitute one object for another, attribute properties to an object or using absent objects and further they classify the child to reach the complexity of play if the child can perform a sequence of at least 3 actions related to the

same pretend theme (Stahmer *et. al.*, 2006). The children with autism are videotaped before and after receiving training while the typical developing children are videotaped without receiving training. All the videos are presented to the undergraduate psychology students who act as the naïve observers. Their job is to rate the child's overall play ability, amount of creativity and spontaneous, amount of enjoyment, interaction skills and complexity of play.

b. Does the play manage to improve the social skills of students with ASD or result?

The aim of this article is to compare improvement in symbolic play gained by children with autism prior to and post training. It is shown that their creativity, enjoyment, social interaction and play complexity increase after receiving training. And when observed individually it is shown that 4 out of 6 children with autism show increase in score, 1 does show a slight increase and the last child shows no differences. This article also predicts that by the end of the training, those naïve observers won't be able to differentiate the children with ASD from the typical developing children because both groups show the same rate. After the training, the autism group is able to play longer. I am aware that this article does not specifically talk about play time but more about teaching or training children on how to play in order to improve their social validation. However, the indication of playing longer post training does not guarantee that it improves the children's social skills. Therefore, I argue that this article does not have enough proof to make me conclude that it can improve social play of children with ASD.

c. What are advantages and disadvantages of implementing the selected play time?

One major advantage of this play is that even though it does require the presence of an adult to teach the children with autism on how to play, as soon as the training finishes and the adult is not around anymore, these children are still able to perform as trained. However, this method's results only show the increase in time, which means that after the training these children are able to engage in play activity longer. It does show that even though they are able to play longer, their quality of play does show slight improvement though not significant and does not go beyond the typical developing children's rate. It makes me conclude that this method only works to make the children play longer but not to make them play better.

d. What can be improved to maximize the result?

Since it fails to show improvement of the quality of play for children with autism, I urge further examination to be given to find out more about what can be done to maximize the increase in quality of play for this group.

Article 5

I Would Like to Play Too But I don't Know How: A Case Study of Pretend Play in Autism
(Hess, L 2006)

a. What is the procedure of the selected play time?

This case study includes an adult telling simple daily-event stories to a ten years old boy. In every page the adult discusses the feeling of each character in the story and invites the child to predict what will happen next. After finish telling the story, a puppet who does not get to hear the story wakes up and the child shall tell the story to the puppet since it misses the story. Each story book that is told to the child has a blank page where the adult can rewrite the child's version of the story when he retells it. After that both the adult and the child engage in role-play.

b. Does the play manage to improve the social skills of students with ASD or result?

The child attends this story telling and role-play for 12 sessions. The article's findings show that the child's ability to focus is improving in the last session. If in the beginning he has many non-role-play utterances, these utterances drop to zero by the end of the session which means his social routines with the characters increases. He also increases his self-initiated comments from 40% to 75% in the last session which indicates that he is now able to create new utterances and express himself without following the story's rules, and it means that he does not depend so much on the adult's cues anymore and that he demonstrate his ability to engage independently in play. These findings make me conclude that this type of play does help the child to improve his social skills, which is the survival skills.

c. What are advantages and disadvantages of implementing the selected play time?

This activity can be done easily as long as there is another partner's involvement. The adult's role can be replaced by either sibling, peers, parents or anyone in the child's life which makes it its advantage. One thing that stands the most in this play activity is that the child is not just being told a story and being asked to role-play it, but also to retell his own version of story. It is a very important part because the child is given opportunity to express his own interpretation of the story. However, the article mentions that the adult's scaffolding is still required even by the end of the session, which indicates that the child is constantly relying on the adult's help. This can be the disadvantage because the child's performances is now depending on the other's help. It is undeniable that adults such as teachers or parents can perform their task very well, but such performance may not be the same when siblings or peers are being used to tell the story. Another disadvantage is it can only be applicable to

students with ASD who are verbal because it only has one participant. There is no prove that it will work to children who are nonverbal or minimally verbal.

d. What can be improved to maximize the result?

Within the 12 sessions, I wish that the study can minimize the involvement of adult from session by session. It is important so that the child can adjust himself instead of relying on the adult's scaffolding. For example, the first 3 sessions the child can be given adult's scaffolding, the second 3 sessions that scaffolding can be slightly lessen, the third 3 sessions it can be lessen even more and until the last 3 sessions the adult's scaffolding can be removed completely.

Article 6

Dysregulation of Pretend Play and Communication Development in Children with Autism
(Blanc R, Adrien J, Roux S & Barthelemy C, 2005)

a. What is the procedure of the selected play time?

Three kinds of play are selected for the three groups of children to engage, they are sensory-motor activity, (using the child's body), functional activity (play with object and explore its social use) and symbolic actions (for example using banana as a phone or a block as a car). There are two sessions of 10 minutes play time where the autism, global cognitive impairment and typical developing group should engage. The first session is a free play where they receive no instruction and it is more spontaneous. The second session is more semi-structured where they receive prompting from the adult.

b. Does the play manage to improve the social skills of students with ASD or result?

During the first spontaneous play session the autism group engage the most in sensory-motor play and able to initiate functional play but show almost no symbolic play. The other two groups engage more in symbolic play and even initiate more functional activity than autism group. It also shows that the autism group demonstrate a spontaneous level of communication skills. During the second session where they are prompted by adults, the autism group's initiation in symbolic play increases significantly, the functional play stays the same while the sensory-motor play decreases drastically. The other two group show a relatively same symbolic and functional play, especially the typical developing group show almost no sensory play. After receiving prompting by adult, the autism group demonstrate a more elementary spontaneous level of communication behavior. However even though their level of spontaneous communication is higher their linguistic capacity or level of language remains the same.

This article shows that the autism group achieves more complex and varied play activity, initiate more communication even though with limited linguistic capability and able to express their symbolic play within a structure, guided situation which is prompted by adult. I then conclude that this article manages to prove that their type of play can improve the social skills of children with autism.

c. What are advantages and disadvantages of implementing the selected play time?

There are two advantages I want to highlight from this article. The first its practicality. It does not require long and complicated steps of play. It only requires the presence of an adult to prompt or direct and guide the children with autism during play time. The adults can be anyone from teachers to parents or even siblings and peers. The second advantage is it can be done anywhere. As long as the adult is around, the children with autism can continuously engage with the adult hence receive prompting. However, its advantage can also turn to be disadvantage. The improvement solely relies on the help of adult. If that help is taken away, there is no guarantee that the children still want and able to engage in symbolic and functional play or will they come back to their comfort zone, the sensory-motor play. The observation of this article takes place in a quiet and simple room with no distraction elements where each child is seen individually. So the result recorded from this article may not be relevant during everyday life for example school or house setting where distraction elements do exists everywhere.

d. What can be improved to maximize the result?

I wish that this article also observes the children in their normal daily setting. It can be done in their classroom where they are playing with peers and teachers or in the playground where it is not quiet and there are many distraction elements. Reason to this is because the result of this study, I argue, is not applicable in a daily life setting due to its observation setting which takes place in quiet room with no body inside but an adult. In order for it to be applicable in the children's daily life, for example school, I urge the study to also observe them in their natural setting.

Article 7

Symbolic Play in School-Aged Minimally Verbal Children with Autism Spectrum Disorder (Chang Y, Shih W, Landa R, Kaiser A & Kasari C, 2017)

a. What is the procedure of the selected play time?

The participants are given JASPER or joint attention, symbolic play, engagement and regulation. It was a 6 months training that is divided into two intervention stages and each

stage lasts for 3 months. In the first intervention stage children receive an hour play intervention twice a week accompanied by interventionist. The interventionist follows the children's play interest and initiate meaningful communication which can lead to the children giving respond and joint attention. After the first stage is completed, the children's performances are assessed to rank their respond to the given intervention. The second stage of intervention continues and each child receives the same treatment only that those who get low rank will receive it three or more times a week instead of two.

b. Does the play manage to improve the social skills of students with ASD or result?

It is proven that the 6 months intervention resulted in improvement of not only the diversity of play but also level of play. They also demonstrate more symbolic play and as the symbolic play skill does not determine receptive language but predicts expressive language, it means that the more symbolic play these children display the more expressive they get in language skills. Considering that the 58 participants are minimally verbal with ASD, their improvement in expressive language skills indicate improvement in play skills. With their limitation as minimally verbal children with ASD, the improvement in expressive language which they gain from the JASPER intervention and symbolic play can be good use in social interaction with other people.

c. What are advantages and disadvantages of implementing the selected play time?

This intervention is based on following the child's interests and lead in playing. This is the advantage. It is important for the children with ASD to establish trust with the person who will train them, and by following their interests can be a good starting point. However, its disadvantage is the long session. It takes 6 months to complete the two sessions. And its intensity is even higher on the last 3 months for those who get low rank.

d. What can be improved to maximize the result?

Since its disadvantage is its long and time-consuming session, the thing that can be done to improve is to shorten the length of each session. If it is done twice a week for an hour for 6 months, it can probably be shorten down to half an hour every session.

Article 8

Assessment of Pretend Play in Prader-Willy Syndrome: A Direct Comparison to Autism Spectrum Disorder (Zyga O, Russ S, Ievers-Landis C & Dimitropoulus A, 2014).

a. What is the procedure of the selected play time?

The first 5 minutes of the session the participants observed in this article are shown video of "Make-Believe Play" activity that is based on their level of language development.

This activity is to observe the children's creative use of toys with no instruction given. After seeing the video, with all toys are on display, each child can choose their own toy and play freely and individually for 5 minutes. The purpose of the first session is to make the children familiar with the use of toys and warm them up for the next session. In the second 5 minutes the children play through observation and it requires two puppets, play partners of one boy and one girl and three small blocks. The children use those properties and the play partners as they wish and their level of ability to create a more complex story, to use fantasy within their play and to enjoy the play itself.

b. Does the play manage to improve the social skills of students with ASD or result?

After being warmed up in the first session, when the play partners are included in the second session, the children in both groups spend more time in symbolic play and show a higher frequency of symbolic acts and their functional play abilities also increases. They are not only able play with the play partners but also include them in the story line being told in the first sessions. These findings indicate that by providing simple scaffolding such as giving introduction to use toys and play partners can help to increase the children's play abilities and higher symbolic acts. The findings also show that they are able to include the play partner to play along in their invented version of story, which means that the scaffolding provided does help to improve the children's social skills.

c. What are advantages and disadvantages of implementing the selected play time?

The idea of getting the children to warm up before the actual play time is very simple but yet effective. It does not take long procedure with so many steps to follow. It can be done anywhere right before the children engage in playing. This article's highlights is the warm up process and the simplicity of this process is the advantage. The disadvantage of this activity is that it is limited only for children with ASD who are verbal. It is not applicable or at least not proven to be applicable yet for a more severe type of autism.

d. What can be improved to maximize the result?

I wish that the article can include a more diverse participants with different severity of autism. It should include children with autism who are not only verbal but also nonverbal. to this is because this warm up play idea is very efficient and doable everywhere, but yet the article's limitation makes it not to be proven applicable yet. I wish to know whether this warm up play idea also works for other types of autism.

Article 9

Teaching Reciprocal Imitation Skills to Young Children with Autism Using a Naturalistic Behavioral Approach: Effects on Language, Pretend Play and Joint Attention (Ingersoll B & Schreibman L, 2006).

a. What is the procedure of the selected play time?

Each child is being placed in a treatment room that has a one-way mirror and 50 different sets of toys. There are two sessions in this article, baseline and treatment. Baseline session is when the children come three days a week to do a 20 minutes play session for 8 times during these three days. During each 20 minutes play time, there is a therapist who models an action with a toy each time so there are around 20 actions in that 20 minutes session. The therapist models four types of actions, familiar actions with the same toys that the child plays with, novel action with the same toy, familiar actions with a different toy and novel action of that different toy (Ingersoll & Schreibman L, 2006). Its purpose is to catch the child's attention. The second session is treatment which consist of 5 phases. In the first phase there is no actions modeled, the second phase only familiar actions are modelled, the third familiar and novel actions are modeled, the fourth familiar and novel actions are modeled with the same toy and familiar actions are modeled with a different toy and in the last phase familiar and novel actions are modeled with the same and different toys (Ingersoll & Schreibman L, 2006).

b. Does the play manage to improve the social skills of students with ASD or result?

The findings show that during baseline all children show low to moderate of object imitation and imitative language. But after treatment session, they show better object imitation. They show more spontaneous pretend play. It shows changes in the children's language both imitative and spontaneous language. Not only that, it shows increasement in joint attention and the use of eye contact. T participants are able to display eye contact, spontaneous language, spontaneous pretend play and joint attention, it means that this play manages to improve the social skills, which is survival skill.

c. What are advantages and disadvantages of implementing the selected play time?

There are not many advantages that I can list from this article other than it follows the children's interest or chosen of toys and continue the sessions based on that chosen toy. There are several disadvantages I can list. The first it is very time consuming. Another disadvantage is its limitation on only teaching children to imitate the action. While it might help the children to a certain degree of engaging in play activity if the children are already familiar with the situation after many repetition of imitating the actions, those imitation might not be applicable in different situation in which the children are not trained yet to imitate.

d. What can be improved to maximize the result?

Since the aim of this study is to create a platform accessible for educators to engage children with ASD in play time that can improve their social skills, I wish that this article's study can be adjusted so it does fit to a school setting. It takes quite long time and only doable in the therapy setting where the child has a one and one interaction with the therapy. But that is not the case at school or classroom settings. There are other children who also need the educators' attention and the educator cannot solely focus their time for one child and other students are neglected. Shortening the length of sessions so it is applicable in classroom setting is a way to maximize the result of this article.

Article 10

Using Video Modeling to Teach Reciprocal Pretend Play to Children with Autism
(Macdoland R, Sacramone S, Mansfield Rm Wilts K & Ahearn W, 2009).

a. What is the procedure of the selected play time?

Prior the play, two adults are videotaped acting out a pretend play of three different play sets, such as A Fisher-Price Little People airport, A Fisher-Price Little People Animal Sounds Zoo and a Playskool Grill. Each child with autism is being paired with different typical developing peer. After seeing the video, each child with autism and his partner are allowed to play for 4 minutes with the toys. There is an adult joining the play but does not give instruction to the children.

b. Does the play manage to improve the social skills of students with ASD or result?

Before the children watch the video acted by the adult, there is only little appropriate play and engagement between the child with autism and his typical developing peer. But after watching the video, both of the child with autism and peer can extend sequences of reciprocal pretend play. They engage verbally and manage to follow the sequences together. It is a prove that with the help of video modelling which teach the children on how to pretend play, their social skill is improved and they manage to engage in play, which is proved by the findings that display a higher occurrence of play between children with ASD and typical peers. Letting children to jump into social situation without preparing them on how to act is not the best way to help improve their social skills because they are often left behind and neglected and therefore fail to learn any play or social skills while actually being in the social situation. So, preparing them in advance can be a warm up for them before entering the play and therefore make them more capable to interact with others socially in a play context.

c. What are advantages and disadvantages of implementing the selected play time?

This activity's advantage is that anyone can do it. Anyone from teachers to parents can videotape themselves acting out sequences of play sets and let the children with ASD watch it. For example, if the children are going to play outside in the playground, the teachers can prepare them by showing related of what can happen in the playground so that the children with ASD can prepare themselves better before going to the playground and play with others. However, seeing that the children only learn of what he should do in play time from that video, it is possible that they will meet a surprise element which is missed in the video tape. For example, if suddenly another child who happens to him or his peer fall down in the playground accidentally. If this is not videotaped yet, the children with ASD is not familiar with this condition and therefore does not how to respond to it and it can be the disadvantage. Another disadvantage is that the participants in this article is only students with ASD who are verbal, so there is no prove that students with ASD who are nonverbal or minimally verbal can benefit from this study.

d. What can be improved to maximize the result?

This article's result can be improved by not only acting out the normal sequences but also extending the videotape to certain unexpected things that might occur in the play set. It can help the children with autism to be more prepared for the unexpected things that can happen anytime and therefore is not overwhelmed anymore when that happened but rather knows how to respond to it.

Article 11

Symbolic Play of Preschoolers with Severe Communication Impairments with Autism and Other Developmental Delays: More Similarities than Differences (Thiemen-Bourque K, Brady N & Fleming K, 2011).

a. What is the procedure of the selected play time?

Each child is accompanied by an adult to play for 15 minutes. There are 5 different play sets displayed separately on the table and the child should play with each play set for 3 minutes so the total play time is 15 minutes. The first set is unstructured it means the child gets no instruction and freely chooses any play sets. The second until fifth play sets are semi-structured where the adult model a symbolic play act of the remaining play sets. The adult can only touch and play with the toys that the child has played with for 3 minutes and imitate the child's action on that toys. But the adult is not allowed to touch toys that are not used by children or to show any new action to avoid giving prompt to the child.

b. Does the play manage to improve the social skills of students with ASD or result?

Both groups show relatively low symbolic play acts and functional play. The article's aim to find similarities between the two groups is indeed successful. It manages to find more similarities than differences. The only difference it finds is that the autism group show more ability to play in a conventional way such as puzzle, nesting cups and shapes matching. But, does play activity mentioned in this article manage to improve the social skills of students with ASD? That remains unanswered because there is no observation taken to determine whether the play time provide any differences to the social skills of the autism group. And it still is included in this research to show readers that not all play are able to perform good result.

c. What are advantages and disadvantages of implementing the selected play time?

I argue that it has very practical play activity that educators can implement in their classroom to improve social skills of students with ASD and it can be the advantage. It only requires different sets of toys and each child plays with each set of 3 minutes where the adults give no prompting but only imitating the child's action. But the study that is done in this article is not sufficient enough to prove its ability to improve social skills for such group of students. This article's disadvantage is its incomplete study.

d. What can be improved to maximize the result?

I wish that the authors of this article can study the case further to provide more information on how to improve social skills of students with ASD. I wish that the authors can make the findings of the study to be more applicable for public use. In order to do that, they can study what happen when the child play freely without instruction on the first play set and then compare the result to when the adult imitates the child's action on the second until the fifth play sets. Observe if there is anything changes. By doing that this study can then be more applicable to be used.

Article 12

The Power of Symbolic Play in Emotional Development Through the DIR Lend (Wieder, S 2017).

a. What is the procedure of the selected play time?

This article does not specifically choose one particular play activity but rather focuses on DIR Model which can be implemented in any type of play activity the children engage in. DIR Model stands for developmental capacities, Individual Differences and Relationship and Interactions and these three are to be initiated by adult when the children play. Developmental capacity means that when the child plays, the adult makes sure there is the process of shared

attention and the process of forming attachment between the child and adult, intentional two-way affective communication, complex social problem solving, emerging sense of self, emotional thinking and sense of reality. The Individual Differences means that during play the adult acknowledges the diverse abilities each child has in sensory modulation, processing, affective processing and motor planning and sequencing. Moreover, the adult shall accommodate these differences. The Relationship and Interaction means that these two stimulate the children's initiation and intention through play to enter the world and follow their curiosity and be confident to explore, express themselves, learn, discover and many other things. Together these three are combined to help emotional development of children with ASD.

b. Does the play manage to improve the social skills of students with ASD or result?

There are 4 participants in this article. The first child's mother encourages her to pretend play the "eating pizza". With this simple pretend play, now she can substitute the pizza with other food which indicates that she is able to comprehend the purpose of pretend play. The second boy who is terrified to go on a camping trip is encouraged by her mother to role-play what will happen in the camping before he goes there. Through play he is able to express his fear and solve problems that he thinks can possibly appear. He is still scared to go camping but he is now able to express his feeling and let others know about it and he displays effort to solve problems. The third boy loves to be a king and through playing he explores a new character as pretend to be a king. He is not only able to act out as a king but expresses different emotional experiences when he is playing the king role. It indicates that the child's emotional development now is expanding. The last boy loves superhero and asks his mom to buy him superhero outfits. Day by day he switches outfits from Superman, Batman, Spiderman and etc. He admires these characters because of their compassion to help the weak people and he acts out to be them by helping others. The boy turns out to be a victim of bullying in the school. Wearing these superhero outfits does not immediately make him brave enough to stand up for himself against the bullying. He manages to express his fear for the bully he receives. The mother also reports that he now is able to express his needs of help and still show compassion to help others just as he imitates what these superheroes do. These findings prove that during play time with the help of DIR models, the social skills of children with ASD can improve significantly in many aspects. He is now able to make friends. He is able to express his feelings including his fear to go camping. He tries to solve the problems and deals with struggles he is currently facing.

c. What are advantages and disadvantages of implementing the selected play time?

This article focuses not only the symbolic play but more on DIR Model that can be implemented during any play. It highlights how powerful symbolic play can be when paired with DIR Models. In this case, I then will name any disadvantage or advantage based on the combination of these two. The advantage is it highlights the importance of positive relationship between the child with ASD and any adult in their life such as parents or teachers. It does not require complicated steps or procedure, the strong relations between these two is a solid start. This article does not mention deeply about the implementation procedure of DIR Models. It mostly talks about what DIR Models are but only talks a little about how to implement it.

d. What can be improved to maximize the result?

However, I wish that the article can spend more time explaining the procedure of implementing the play time with the help of DIR Models. It mostly only describes what DIR Models are and its informative facts. It lacks in thorough procedures. I can only conclude the procedures from the 4 children they study separately who each has different condition. Therefore, I wish that the author can establish a more thorough procedures that can be applied to different range of severity of autism.

Article 13

Brief report Children with Autism's Response to Novel Stimuli While Participating in Interventions Targeting Joint Attention or Symbolic Play Skills (Gulsrud A, Kasari C, Freeman S Paparella T 2011).

a. What is the procedure of the selected play time?

The 35 participants are picked randomly to be assigned to either one of two interventions called joint attention or symbolic play skills. Which either intervention the child is assigned to, the first half part of it is a direct teaching of developmentally appropriate joint attention or symbolic play skills and the rest of intervention is the time for practicing skills being taught during free play time. The activities involve in joint attention intervention is to learn to show or point objects and to share attention between people and objects by using eye contact. In this intervention there are auditory-visual probes, such as a spider crawling on the wall and making noises or a loud bouncing ball, and auditory probes such as loud music or a sound of knocking door. These probes are activated three times during intervention. In symbolic play interventions children are being taught how to do pretend play and functional play with toys in appropriate ways and sequences.

b. Does the play manage to improve the social skills of students with ASD or result?

When given probes during the direct teaching session, these children in joint attention intervention are able to engage longer in joint looks with another person and they are able to perform it as well during the free play time. Probes are assigned to be the things that can happen unexpectedly in real life. The findings indicate that they are able to engage more in joint looks which means that these children practice responding socially when there is unexpected thing happen in real life. However, the children who are assigned to symbolic play intervention does not show any significant improvement in terms of the quality of play and ability to engage more with others. This article does not focus on specific play activity but rather the joint attention and the probes. Even though the probes manage to increase the children's ability to perform more and longer eye gaze, that it is not enough to improve the social skills of these children. I argue that even though eye gaze or joint looks is the early indication showing that the children pay attention to others around them, it is not enough. Therefore, I conclude that this article does not have suitable findings or result that fits into making conclusion whether the selected play can improve the social skills of students with ASD maximally.

c. What are advantages and disadvantages of implementing the selected play time?

Creating probes is an easy thing to do and it is its advantage. It can be done quickly to make children with ASD pay attention to others. Whenever the children with ASD show hard time are distracted or not socially isolated, the probes can be used easily to get them socially engaged, even though just with eye gaze or joint looks. But there is disadvantage of practicing it, which is its lack in producing a more complex outcome. The outcome of practicing this selected play is very limited to only increase joint looks, nothing further outcome is reported. When educators practice the probes, they have to be aware that they will not get anything other than a longer eye gaze.

d. What can be improved to maximize the result?

Based on its disadvantage, I wish that the author can take longer time to study what can possibly happen with the help of probes. I wish that the author can report what actually happen after these children engage in longer eye gaze, whether they are able to take part in play with other people or whether they simply just watch other people play. Observing it longer might produce better and more complex outcome.

Article 14

Play Behaviour and Attachment in Toddlers with Autism (Naber F, Kranenburg M, Ijzendoorn M, Swinkels S, Buitelaar J, Dietz C, Daalen E & Engeland H, 2007).

a. What is the procedure of the selected play time?

Each of the 41 participants is left with their mother. They are given the same set of toys such as toy car, ball, puzzle, dolls etc. The mother can join the child playing but is not allowed to give any verbal or body gestures initiation.

b. Does the play manage to improve the social skills of students with ASD or result?

This article aims to see the differences between children who has strong attachment versus disorganized attachment with their primary caregiver, the mother. The children who has a more secured attachment with their mother are able to spend more time playing and display a higher level of play as well as more symbolic play behavior compares to children with disorganized attachment with their mother. It indicates that despite having known to be lacking in social skills, if the children with autism have a secured relationship with their mother, the secured relationship with their mother can help contribute to a better play skill, for example more symbolic play, longer play time and a higher level of play. However, these findings are not enough for me to conclude that it manages to improve the social skills of students with ASD. It does show an increasement of quantity of play time and quality of play, but there is does not have suitable findings that can make me conclude whether this selected play can improve any of the social skills such survival, interpersonal, problem solving and conflict resolution skills as mentioned in chapter 2.

c. What are advantages and disadvantages of implementing the selected play time?

This article only needs the presence of the mother as the primary caregiver to help the child plays better and it is its advantage because the presence of a mother is something that can easily be provided for the child as long as they live together. It shows how big the impact of quality of play if there is a secured relationship between a child and a mother can. The disadvantage is that the observation is taken place in a quiet room where there is only the child and the mother. The child is not in the natural setting which makes the findings are unlikely to be relevant when the child is placed in their natural setting with many distractions, presences of others and other unexpected things that can possibly happen.

d. What can be improved to maximize the result?

This article does mention about the importance of having a secured relationship between a child and a mother which effects the level of play. But I wish that the article can study more to find out how much a secured relationship with the primary caregiver can contribute to better social skills such as ability to listen and follow directions, ability share, to express the needs which is mentioned in chapter 2. I also wish that the observation can take place not only

in a quiet room but also in the child's natural setting in order to find out if the child can still perform the same when other elements such as other people, distractions and objects are all around him.

Article 15

Effect of a Motor-Based Role-Play Intervention on the Social Behaviors of Adolescents With High-Functioning Autism: Multiple-Baseline Single-Subject Design (Gutman S, Raphael-Greenfield E & Rao A, 2012).

a. What is the procedure of the selected play time?

Each of the 7 participants is paired with a peer who has the similar age with them. The intervention is taken place once a week for an hour after school time. It is a role play intervention with 7 modules such as healthy self-care habits that is elated to social engagement, social skills needed in classroom, lunchroom and gym, building and keeping friendship, social skills in supporting sport team memberships, social skills in community and exploring dating. The module that that is given to them is based on their interests. The first part of the program is warm up games activities where the participants can practice using movements to express and interpret their emotions through games. The second part is role play activities. In this session they are encouraged to use their motor behaviors such as facial expressions, body gestures and tonal inflection to express their ideas and feelings as well as to interpret other's intentions and emotions. The role-play examples are related to student's life such as asking peers to study together and joining others to eat together in the canteen and etc. The intervention normally takes place in the school in school environments such as classrooms, hallways, gym, canteen or library. Once they began to show improvement and able to grasp the role -play, the intervention is moved to public places such as public transportation, public park or convenient store.

b. Does the play manage to improve the social skills of students with ASD or result?

The findings show that the participant show improvement in both verbal and nonverbal behaviors after intervention. there are three phases in the intervention. It is reported that they not only show improvement in the targeted behavior but also maintain it throughout the end of the session. Post intervention, the teachers and parents of these participants report that they notice improvement in their social performance, for example they are able to practice the taught skills in the school settings with their peers. Based on these findings, I hereby conclude

that this selected play manages to improve the students social skill and more over manages to maintain the result post intervention.

c. What are advantages and disadvantages of implementing the selected play time?

This selected play time has several advantages such as the warm up activity. The warm up activity is necessary to help them getting familiar with the situation and the other peer. The second is it is held in the actual place where such situation takes place, for example practicing the role play of joining to eat together in the canteen, initiating conversation in the hallways, ordering food in the pizza shops and etc. Having them practicing role-play in the actual place exposes the them to real life situation where there are elements such as others' presences, unexpected things and etc. The only disadvantage is that the result is only applicable to children with high functioning autism. Because the participants are students with high functioning, there is no prove that it can be implemented to students with other types of ASD.

d. What can be improved to maximize the result?

The findings of this article is very impressive. It does not only show the improvement in the students' social skills but the gained skills are maintained post intervention. And because its participants are only high school students with high functioning autism, I wish that the author can have another comparison study with other participants who have different types of autism. By doing so it helps educators to know to which other group of autism this program can be implemented.

Article 16

The Role of High Level Play as a Predictor Social Functioning in Autism (Manning M & Wainwright L, 2009)

a. What is the procedure of the selected play time?

There are two groups in this article, autism and developmental language disorder (DLD). Each participant is engaged in a 25 minutes videotaped play which consists of two sessions. The first session lasts 10 minutes where the child plays with a puzzle box. Out of these 10 minutes, the child spends the first 5 minutes playing alone and the last 5 minutes an adult plays with the child. These 10 minutes puzzle box play is not examined because it is only meant as a warm up session. The next 15 minutes is spent by the adult and child transition into playing a more age appropriated toys. The first 5 minutes is spent with non-directive play and the last 10 minutes the adult follows the child's lead as possible as he can and at the same time intensifying attempts for symbolic and imaginary play. Pretend play and social functioning are both observed in this session.

b. Does the play manage to improve the social skills of students with ASD or result?

The findings show that the DLD group spend more time playing and conversation and have higher social rating than the autism group. There is no significant differences displayed in functional play, symbolic play in both groups. Even though the social rating of autism group is still lower than DLD group, the autism group shows improvement in social activity after spending time with the adult. The adult prompts the child for more age appropriate play and to intensify symbolic, pretend and high-level play. These prompting gives result in a higher occurrence of social activity in the autism group. Based on these findings, this selected play time is proven to improve the social skills of children with autism, such as survival skills, even only to a slight degree.

c. What are advantages and disadvantages of implementing the selected play time?

This article's advantage is the involvement of adult can be implemented easily. Any adult in the child's life can be used to prompt the child. However, this article's observation is taking place in a quiet place with no distraction elements. It means that the result might not be the same when the child is in a real situation with many distractions around him. Also, the involvement of adult is the reason why these participants can show improvement in the social skills, which makes them depends on the adult's involvement. This can be the disadvantage of this play because without the adult there is no prove that they can perform as good as when the adults are around.

d. What can be improved to maximize the result?

Since the observation takes place in a quiet room, I wish that there is another study to be done in the child's natural settings such as school, classroom, playground, home and etc. These natural settings can be made as the comparison of how effective this selected play is in different situations.

Article 17

Impact of the Learn to Play Program on Play, Social Competence and Language for Children Aged 5-8 years Who Attend a Specialist School (Stagnitti K, O'Connor C & Sheppard L, 2012).

a. What is the procedure of the selected play time?

The participants are divided in small groups of four to seven children and accompanied by two adults. They are taught "Learn to Play" video modelling. According to Stagnitti (1998), this program is a child-led play-based intervention to help the child self-initiate play and develop pretend play skills in order for them to fulfil their role as a player (as cited in Stagnitti *et.al.*, 2012). There are four play stations set for each small group and each group should stay

at one station only. The first station is doll play where they can practice basic caring such as changing nappies, feeding etc. The second is transport play which includes cars, trains, houses and streets. The third is construction play such as bricks, Lego, human and animal figures in various settings such as zoo, shops, restaurants, fire stations and etc. The last station is home corner which include cleaning, shopping, dinner and etc. they are trained to model the play activity, talk about the play while the play is happening, use emotions and engage the child emotionally while playing, imitating and repeating the play.

b. Does the play manage to improve the social skills of students with ASD or result?

This program is aimed to increase the pretend play ability, play conversation, social skills and language development. The findings in this article show that the social interaction and play of the child is improving throughout the program. Not only able to engage longer in play and explore various functions of toys, they are also able to initiate play with peers. They also show improvement in expressive language. This program proves that by improving play skills with “Learn to Play” program can help improve not only the social interaction but also expressive language and quality of play.

c. What are advantages and disadvantages of implementing the selected play time?

This play program takes place in the specialist school, which means that it takes place in the child’s natural settings. Doing it in the child’s natural setting is the advantage because it makes the child be familiar with the situation around him and makes the findings from this article be relevant and applicable in the child’s daily life.

d. What can be improved to maximize the result?

The findings show improvement in things such as social interaction, quality of play and expressive language. However, these findings are only recorded throughout the program. There is no further report about how effective it is outside the program being taught. Therefore, I urge that in order to maximize the result of this findings, teachers or parents should be encouraged to report the performance of these participants while they are in their natural settings. Only by doing so it can be proved that the skills taught from the program, such as pretend play ability, language skills and play conversational, is practiced by these participants.

Article 18

Supporting Children on the Autism Spectrum in Peer Play at Home and School (Yang T, Wolfberg P Wu S & Hwu P, 2003).

a. What is the procedure of the selected play time?

Each of the two participants with autism is paired with the typical developing peers. There are two phases they are baseline and intervention phases. In baseline phase, the children play freely, which means they can choose any toys to play with and receive no instructions. For intervention phase, they play by following the rules of IPG or Integrated Play Groups Models. IPG Models or integrated play group models is a play session that establishes consistent schedules, routines and rituals and it includes highly motivating manipulative/sensory, functional play, sociodramatic, imaginative and interactive play (Yang, *et.al.*, 2003).

b. Does the play manage to improve the social skills of students with ASD or result?

During baseline phase, both participants spend much period of time in isolate play which decreases significantly during intervention phase, which means that they are able to engage in social play with the peers. Both of them also show significant increase in manipulation play, symbolic play, functional and pretend play in intervention phase. Parents and peers of respected participants are interviewed to report the participants' progress in their daily life. Parents report that they witness improvement in social and play behavior while peers report that they now enjoy playing with these participants compare to before they join the play program. All of these findings indicate that this selected play not only success to improve social skills of students with autism, such as survival and interpersonal skills, but as well the taught skills can last even after the play program is completed.

c. What are advantages and disadvantages of implementing the selected play time?

The advantage of this play is that it is done in the children's natural settings such as classroom, play grounds, home or communal settings. It makes the children are exposed to the real situation around them. The only disadvantage is that it takes so long to accomplish the play program. It takes 6 months and each session of the program requires a long intensive hour.

d. What can be improved to maximize the result?

This selected play by far is the most advanced and well discussed because it is not only taking place in the children's natural settings but also there is a follow up interview with parents and peers to prove how long the result can last. The only thing I wish to be done is to have a larger sample that represent more types or condition of autism, such as high functioning, PDD-NOS, Asperger's syndrome and etc.

Article 19

Modest Size RCT Indicates that Short-term joint Attention and Symbolic Play Intervention Improves Shared Positive Affect in Social Interaction for Preschool Children with Autism (Charman T, 2012).

a. What is the procedure of the selected play time?

All participants are randomly divided into two groups based on the treatment they will receive, joint attention or symbolic playgroup. Each participant has a one to one session for 30 minutes every day with an unfamiliar adult in the preschool setting. By following the child's lead, the adult plays together with the child while giving prompting, shaping reinforcement, commenting, expanding and repeating back in order to have the child engage in joint attention or symbolic play act activities.

b. Does the play manage to improve the social skills of students with ASD or result?

Both joint attention and symbolic play group show higher rates of shared positive affect or quality of joint attention interaction with unfamiliar adult after 12 months intervention program. The findings also show improvement in socially engaged imitation such as imitation with eye contact. The article proves that with the help of another person who provides positive engagement, whether he is a familiar or unfamiliar person in the child's life, it brings positive result in helping the child to be more open and able to share positive affect. With these findings I conclude that this selected play manages to improve social skills in showing positive engagement, eye contact and imitation of students with autism.

c. What are advantages and disadvantages of implementing the selected play time?

The advantage of this activity is that it is using the help of an adult who is unfamiliar still bring positive result to the child's social skills improvement. It indicates that it does not solely rely on the primary care giver in the child's life such as mother or father, anyone can guide accompany the child to play. The disadvantage is that the study takes 12 months to be completed. This study is completed in 12 months in order to get such result. 12 months program is very long especially if the outcome of study can be considered a very basic social skills such as imitation in eye contact.

d. What can be improved to maximize the result?

This program I argue to be something that can be done easily by educators to help improving social skills for students with ASD. However, I wish that the activities can be more varied in order to produce a more varied outcome as well. This play program takes 12 months to complete with such basic social skills to be improved by the end of the program. Therefore, I wish that these 12 months sessions can be designed better and more complex in order to have more advanced social skills.

Article 20

Integrated Play Groups: Promoting Symbolic Play and Social Engagement with typical Peers in Children with ASD Across Settings (Wolfberg P, Dewitt M, Young G & Nguyen T, 2014).

a. What is the procedure of the selected play time?

The 48 participants are divided into 28 groups with each group consists of 2 children with autism. Each of these groups is paired with 3 typical peers. They meet twice a week for a 60 minutes plays session in a playroom at elementary school which has many facilities such as high interest sensory, constructive and socio-dramatic play materials. The session consists of 10 minutes warm up of greeting and play preparation, 10 minutes of closing ritual such as clean up and farewell. The 40 minutes is a guided participation play where they receive nurturing play initiations, scaffolding play, guiding social communication and guiding play within ZPD of Zone of Proximal Development. Each child with ASD is also paired with 2 unfamiliar typical peers to have a 15 minutes unsupported play where they are presented three sets of play to play with for 5 minutes for each set. The sets are motor play with various kinds of balls, constructive play with blocks and Lego and thematic play with doctor or hairdresser kit.

b. Does the play manage to improve the social skills of students with ASD or result?

The findings show that there is a significant decrease in not-engaged play behavior and an increase in symbolic-pretend play throughout the play session. Improvement in play skills affect their ability to have a better symbolic meaning to objects, understand more roles of play. These children with ASD who are normally having problem in social understanding and engaging with typical peers, in this case they are able to engage in play with typical peers and find more common things to play with these typical peers. These findings make me conclude that the selected play manages to improve social skills of students with ASD such as survival skills and interpersonal skills.

c. What are advantages and disadvantages of implementing the selected play time?

The play in this article takes place in the children's natural setting, a play room in the elementary school. By doing so in that place the children are exposed to things that they normally encounter in their daily life, which can be the advantage of it. The only disadvantage is that the play is done as an after-school program. Even though the findings show positive outcome, it does not have a follow up interview from the parents or educators to report if they can observe any changes in the child's social skills when they are engaged in daily activities.

d. What can be improved to maximize the result?

I urge the interview to be done for the parents and educators after completing the play sessions. It is needed to reveal whether or not the children are able to practice what they have learnt in their life. The result of this article can be positive but yet it can be determined how far the child can apply the taught skills in the real life. Therefore, by interviewing parents and educators, such data can be gathered.

Article 21

Teaching Pretend Play for Young Children with Autism (Barton E & Pavilanis R, 2012).

a. What is the procedure of the selected play time?

The participant is a 3 years old preschool boy with ASD. His teacher starts by observing the boy's play behavior with his peers. His teacher wants to figure out what toys he usually plays with and target a play behavior according to his preferred toys. After observing for several days, the teacher figures out that he likes to play with blocks and at the water play. Based on this, she decides to target functional play with pretense and object substitution behaviors such as teach him to pretend the blocks are cars or trains (object substitution) and feed water to the animals with plastic spoons and cups (functional play with pretense). During free play, the teacher follows the child's lead but also provides prompting in order to get the boy's attention to observe and interact with other children.

b. Does the play manage to improve the social skills of students with ASD or result?

After several sessions, the boy began to respond to prompting given to him. If at the beginning of the session the boy only responds to hand-over-hand prompts, he now is able to engage independently in pretend play with spoons, cups and other toy foods. Once he shows improvement in pretend play, the teacher starts pairing him with other typical peers. The findings show that with improvement in pretend play, he is now able to engage in natural environment by using and understanding peers while interacting with peers. Even his parents at home report that he is now able to engage independently playing with his brother, something that he has never done before. These findings prove that by teaching pretend play to the boy, it improves his play skills, his understanding in language, and it affects his ability to engage with typical peers. Therefore, I conclude that this play is able to improve social skills of student with ASD because now they are able to engage with peers even siblings at home.

c. What are advantages and disadvantages of implementing the selected play time?

The first advantage of this play is that the educator does not overwhelm the child by immediately pairing him with the typical peers. The educator began slowly by equipping him

with necessary skills in pretend play when the boy is playing alone. Once he shows improvement, the educator then increases the challenges by pairing him with typical peers. The disadvantage of this play is that it is a single case study with one participant, which makes the outcome of this article is very specific and hard to be generalized to other children with autism who have different condition with this boy.

d. What can be improved to maximize the result?

Since this article only has one participant, there is one thing that can be done to maximize the result, which is by increasing the number of participants. Participants who have different types of ASD with different levels of severity will make the result of this study to be more complex and hence can be easily implemented by educators who have students with ASD in their class.

IV. DISCUSSION

The participants that were studied in the 21 articles above are diverse (as can be seen in Figure 13). With 11 article whose participants are students in primary school, 9 articles with participants in preschool and 1 article whose participants are high school students. These students also study in various school setting, from mainstream, inclusive as well as special school setting. The participants' diagnosis in each article is also vary. 3 articles have participants who are diagnosed with High Functioning, 3 articles with PDD-NOS participants, 1 article with participants who have mild and severe autism, 1 article with Asperger's syndrome and 1 article with Prader Willy Syndrome. There are also 2 articles whose participants' diagnosis and cultural as well as ethnic background are diverse. There is 1 article whose participants have no sensory or physical disorder. There are 2 articles with participants who have mild impaired verbal function.

From what being mentioned above, the articles that are being studied in this research represent participants with various conditions and diagnosis of students with autism and represent all different level of school from preschool up to high school. The participants also represent both boys and girls even though most of the participants are boys. This thesis is hoped to be a platform for educators to access types of play that can be implemented to their students with ASD. With the wide variety of participants represented in this thesis, I argue that this thesis can provide good information for educators who are in need of implementing play for various diagnosis and level of education of students with ASD.

The strong aspect of this thesis is that it represents participants with different types of autism which makes is more applicable for educators. Another strong aspect of this thesis is that it highlights the findings of each article being studied and draws a summary of whether or not the selected play in each article manages to improve social skills of students with ASD. This thesis does not only present different types of play which are proven to improve social skills of students with ASD, but also present articles which, according to the findings, are not able to social skills of students with ASD. With these data, I hope that the educators who will access this thesis in the future can figure out which are the best type of play to be implemented to their students.

The weak aspect of this thesis comes from its limitation. As mentioned before that this thesis has limitation in which it does not study all of the 464 articles gathered but only study the most discussed type of play, which is pretend play. This has been the weak aspect of my thesis because there are many types of play which have been encountered in this thesis, such as pretend play, social play, free play, technology-based play, outdoor play, imaginative play and etc. All of those types of play have to be extracted because of the thesis' limitation to study further the most discussed play which is pretend play.

The result of this thesis can be implemented by educators who have students with ASD in their classroom whose social skills need to be improved. This thesis studies articles that have wide variety of participants from preschool up to high school who study in either mainstream, inclusive or special needs school with various severity and diagnosis of ASD. It means that any educators, regardless their school setting, can easily find the suitable type of play to be implemented to their students.

There are wide number of studies written by previous scholars who focuses on one specific type of play, which become the samples studies in this thesis. Those studies mostly focus on one specific type of play that can be implemented to individuals with ASD and their objectives are to improve social skills of these individuals. However, there are not many similar thesis written previously that study a literature review. Seeing how big the number of articles written on one specific type of play, further literature review researches should be done more in the future because this kind of review can draw summary of many articles and highlight their characteristics so that educators who want to implement it can easily select which type of play that is most suitable for the condition of their students.

V. CONCLUSION

This research studies a narrative review on the topic of play being used to improve social skills of students with ASD. The review found 13 different types of play in total, among them are pretend play, free play, technology-based play, physical play and etc. Pretend play is recorded to be the most discussed play among all categories of play. From 464 articles which study about play, 21 of them specifically talks about pretend play. This research's limitation is that it only studies further the most discussed type of play, which is pretend play. There might be the more effective play which can work better to improve social skills of students with ASD, for example in physical play, free play, social play and etc. However, such thing cannot be found out in this thesis because of its limitation.

These articles have participants with various diagnosis and are students from preschool up to high school. It is recorder that most of the 21 articles manage to improve social skills of students with ASD. Some of them however are not able to do so. For each article I give feedback on what can be done better to improve the result of study.

This research is aimed to be used by educators who need to find the suitable type of play that can be implemented to their students with ASD to help improving their social skills. The participants' characteristics that are quite board can hopefully make this research more applicable in the future.

The main conclusion of this research is there are many articles that have been written by previous scholars focusing on one type of play and specific group of students. These articles have their own strength and weakness or in this research they are called advantage and disadvantages. The outcomes of each article is also different from one another, there are some that really manage tom improve social skills of students with ASD significantly and there are some that do not manage to do so.

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Appendix 1

Figure 14. Table of 21 articles with weblink

No.	Title	Year	-
1	Teaching Pretend Play to Young Children With Autism	2012	https://journals.sagepub.com/doi/pdf/10.1177/1096250611424106
2	Assessment of Pretend Play in Prader–Willi Syndrome: A Direct Comparison to Autism Spectrum Disorder	2014	https://link.springer.com/content/pdf/10.1007%2Fs10803-014-2252-1.pdf
3	The relation between social engagement and pretend play in autism	2012	https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.2044-835X.2012.02083.x
4	Picture Me Playing: Increasing Pretend Play Dialogue of Children with Autism Spectrum Disorders	2010	https://link.springer.com/content/pdf/10.1007%2Fs10803-010-1108-6.pdf
5	Dysregulation of pretend play and communication development in children with autism	2005	https://journals.sagepub.com/doi/pdf/10.1177/1362361305053253
6	Teaching Reciprocal Imitation Skills to Young Children with Autism Using a Naturalistic Behavioral Approach: Effects on Language, Pretend Play, and Joint Attention	2006	https://link.springer.com/content/pdf/10.1007%2Fs10803-006-0089-y.pdf
7	I would like to play but I don't know how: a case study of pretend play in autism	2006	https://journals.sagepub.com/doi/pdf/10.1191/0265659006ct299oa
8	USING VIDEO MODELING TO TEACH RECIPROCAL PRETEND PLAY TO CHILDREN WITH AUTISM	2009	https://files.eric.ed.gov/fulltext/EJ832375.pdf
9	The Role of High Level Play as a Predictor Social Functioning in Autism	2009	https://link.springer.com/content/pdf/10.1007%2Fs10803-009-0899-9.pdf
10	Social Validation of Symbolic Play Training for Children with Autism	2006	https://files.eric.ed.gov/fulltext/EJ843638.pdf
11	Symbolic Play of Preschoolers with Severe Communication Impairments with Autism and	2011	https://link.springer.com/content/pdf/10.1007%2Fs10803-011-1317-7.pdf

	Other Developmental Delays: More Similarities than Differences		
12	Symbolic Play in School-Aged Minimally Verbal Children with Autism Spectrum Disorder	2017	https://link.springer.com/content/pdf/10.1007%2Fs10803-017-3388-6.pdf
13	The Power of Symbolic Play in Emotional Development Through the DIR Lens	2017	https://insights.ovid.com/crossref?an=00011363-201707000-00006
14	Brief report Children with autism's response to novel stimuli while participating in interventions targeting joint attention or symbolic play skills	2011	
15	Play Behavior and Attachment in Toddlers with Autism	2007	https://link.springer.com/content/pdf/10.1007%2Fs10803-007-0454-5.pdf
16	Effect of a Motor-Based Role-Play Intervention on the Social Behaviors of Adolescents With High-Functioning Autism: Multiple-Baseline Single-Subject Design	2012	
17	The role of high level play as a predictor social functioning in autism.	2009	https://link.springer-com.ezproxy.uio.no/content/pdf/10.1007%2Fs10803-009-0899-9.pdf
18	Impact of the Learn to Play program on play, social competence and language for children aged 5–8 years who attend a specialist school	2012	https://onlinelibrary-wiley-com.ezproxy.uio.no/doi/epdf/10.1111/j.1440-1630.2012.01018.x
19	Supporting children on the autism spectrum in peer play at home and school	2003	https://journals-sagepub-com.ezproxy.uio.no/doi/pdf/10.1177/1362361303007004009
20	Modest size RCT indicates that short-term joint attention and symbolic play intervention improves shared positive affect in social interactions for preschool children with autism	2012	https://www-tandfonline-com.ezproxy.uio.no/doi/pdf/10.1080/17489539.2012.692933?needAccess=true
21	Integrated Play Groups: Promoting Symbolic Play and Social Engagement with Typical Peers in Children with ASD Across Settings	2014	https://link.springer-com.ezproxy.uio.no/content/pdf/10.1007%2Fs10803-014-2245-0.pdf

