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## **Behaviour Change and Education: Evaluation in Teaching Play Skills in Children with Autism Spectrum Disorder at Centre-based Setting**

### **Abstract**

This essay describes and evaluates the effectiveness of play skills intervention. The play skills intervention, such as video or live modelling, systematic prompting strategies, pivotal response training, and social story are evaluated based on study literature. Furthermore, a practical reflection of Applied Behaviour Analytic based intervention to build play skills through play date in three school-age children (9-13-year-old) with ASD who participate in intensive behavioural therapy also included.

Keywords: play skills, autism spectrum disorders, video modelling, least-to-most prompt, pivotal response training, social story.

### **Introduction**

As modality to learn and socialise, play skill is a fundamental skill for every child. When most of the typical developmental children naturally grow their play skill, children with Autism Spectrum Disorders (ASD) have difficulties in developing it. Social skill is one of the issues that children with ASD need to improve, as Ulke-Kurkcuoglu (2015) noted that a critical problem in individual with ASD is the deficits in socialisation and communication. Considering the explanation from DSM 5 (Diagnostic and Statistical Manual of Mental Disorders), ASD criteria are reflecting on some issues: social initiation and response, non-verbal communication, social awareness and insight (and concept of social relationship), atypical speech, movement and play, preoccupations with object and topics, rituals and resistance to change, and atypical sensory behaviours (Carpenter, 2013). Bennet (2011) explained that many children with autism do not initiate to play with other kids and show passivity to attempt to join playing with other children. In order to deal with these issues, Some strategies are widely used in many settings to improve their play skills for children with autism. The idea of this essay is to evaluate which strategy is effective for being implemented for enhancing the play skill.

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**Commented [RA2]:** 1. The citation doesn't explain the reason, yet it expands the issues you mentioned  
2. Rephrase. There ARE two issues, which are socialisation and communication

**Commented [RA3]:** Several

**Commented [RA4]:** ..,which are...

**Commented [RA5]:** Is this your own words? Few of them should follow singular/plural form consistency, such as atypical speeches with atypical behaviours.

**Commented [RA6]:** Rephrase:  
While attempting to play with other children

**Commented [RA7]:** Omit this

**Commented [RA8]:** Rephrase  
To be implemented in enhancing their play skill

## Literature Review

Play develops many areas in children's development. For example, social competence can bring opportunity for children to establish a friendship, make children learn and express the different form of language, and rules through play (Philips & Beavan, 2012). Understandably, play has a significant role in developing children's development. It is suggested that the intervention is needed to apply for them who lack on this skill. Kasari, et al. (2013) stated that intervention is necessary for the reason to help children with ASD to develop their skills in play skills and social play (such as playing with a social partner).

The evaluation of intervention could begin with interpreting the definition of its term. One of classic definition comes from Garvey (1977) as cited by Mastrangelo (2009) who explains that play has particular characteristics;

be pleasurable and enjoyable, have no goal imposed from outside, be spontaneous, be voluntary and intrinsically motivating, involve some active engagement on the part of the player, attend to the means over the end production of the action or activity, be flexible and changing, and must have nonliteral orientation.

Mastrangelo (2009) expressed that the definition above has changed in the case of behaviorally-based intervention. This view comes from the discrepancy in the behavioural intervention that the setting is more structured, direction mostly from the adult, oriented on goal, and considered involuntary because many of behavioural approaches require an adult to prepare the activity and decide the toys to play with rather than the point that Garvey (1977) as cited by Mastrangelo (2009). Mastrangelo (2009) conclude that it makes hard to determine whether the play has intrinsically come from the child, or the skill is not progressing because the child is not showing real motivation when someone else choosing the toys. However, any interventions may bring discussion and sometimes disapproval from other approaches view. Related to this issue, Kasari, et al. (2013) also mentioned that interventions in play skills, especially in children with autism, may determine critical to developing the result including social abilities, language, and cognitive. In-Considering many views within this scope, the important thing is to see the benefits of its intervention for the children. Indeed, as long as the child progressing his skills with the implementation of a particular intervention, then it is

**Commented [RA9]:** What intervention? It is better if you provide the term beforehand

**Commented [RA10]:** Apply=Used? Confusing adjective Is this a method?

Who is them? No clear object.

**Commented [RA11]:** No clear reference to define. What skill?  
Use *play skill* instead

**Commented [RA12]:** Helping

**Commented [RA13]:** Make it simpler. Is social play a part of play skills?

**Commented [RA14]:** Most of your citations are in past form. Should this one follow?

**Commented [RA15]:** Mostly adult-directed <<noun phrase

**Commented [RA16]:** Goal-oriented

**Commented [RA17]:** Most of your citations are in past form. Should this one follow?

**Commented [RA18]:** Does not show any progress

**Commented [RA19]:** The toys have been mentioned two times, yet I haven't seen any explanation on this. It's better to write a sentence defining the relation of toys with behavioural approaches

**Commented [RA20]:** Likely to cause controversy

**Commented [RA21]:** Rephrase; double verbs

**Commented [RA22]:** The intervention to children?

**Commented [RA23]:** Confusing. Does it mean "By using a particular intervention, the child will have some progress which is beneficial for them"?

beneficial to be applied.

A further point comes from the report (Wong, et al., 2014) that due to the increasing prevalence of ASD, scientific basis intervention is now providing the evidence about its effect. Many kinds of approach are commonly used to teach play skill to children with ASD. Unfortunately, some of the approaches are not empirically validated (Weiss, M., LaRue, R., Newcomer, A., 2009). Play therapy is one of the closest examples, which has not validated scientifically even though there is some indication of its effectiveness (Parker & O'Brien, 2011). Looking at another view from play therapy, the behavioural approach has produced many strategies that are reviewed scientifically based on its evidence to see the effectiveness of the strategy for children with autism. In the next section, there will be describe and evaluate description and evaluation in which some strategies that are widely used to improve play skill in children with ASD.

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### Critical Evaluation

In this essay, explained four categories of strategy to enhance the play skill in children with ASD; video or live modelling, systematic prompting strategies, pivotal response training, and social story.

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To begin with, Video or live modelling that is known as an evidence-based strategy in teaching individual with autism (Ulke-Kurkcouglu, 2015). The difference between video modelling and live modelling is based on the media that the learner access, either video or direct modelling from the instructor. In the video modelling, a learner watches the video modelled by an adult, peer, or oneself that displays the target behaviour, then the learner expected to demonstrate the same behaviour by imitating the video (Ulke-Kurkcouglu, 2015). Odluyurt (2013) found that video modelling techniques and direct modelling education have the same similar effectiveness in the study of teaching games to children with ASD in an inclusive environment. Based on the writer's practical experience, video modelling is not a practical way of teaching social skill if the learner does not have the prerequisite such as the focus on the video that shows to him, and understanding for complex movement, for example in teaching Hokey Pokey dance. In line with this, Jung & Sainato (2013) mentioned that

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Commented [RA28]: Imitate the behaviour shown in the video (emphasizes the imitating process!)

Commented [RA29]: Some examples that depict the inclusive environment?

Commented [RA30]: Break this into two sentences.

Based on the writer's practical experience, video modelling is not a practical way of teaching social skill. If the learner does not have the prerequisite such as an ability to focus on the video that shows shown to him or to understanding complex movement, it might be not as practical as it seems to teach social skill, for example encouraging the learner to follow Hokey Pokey dance.

without the combination of other teaching strategies, video or live modelling would not effectively teach play skill to children. The adult demonstration, which is presented before the video is presented, is also needed to provide a clear aspect of target behaviour (Weiss, et al., 2009). Moreover, additional strategy by using verbal instruction to imitate the video and providing reinforcement for appropriate behaviour to children who is not able to learn the play skill just by watching the video can be an option (Jung & Sainato, 2013).

Commented [RA31]: The subject is too long

Systematic prompting strategies, for instance, least-to-most prompting shows as a procedure that begins with a demonstration of the least restrictive prompt for the learner, and the type and intensity of the prompt are changed as needed, then gradually skipping to the most restrictive prompt (Ulke-Kurkcouglu, 2015). There must be a procedure to strengthen the behaviour, as Cooper, et al. (2014) explained that the target behaviour would not occur without the occurrence of reinforcement. Least-to-most intrusive prompting strategies usually followed by reinforcement, and proven to be effective if combined with other kinds of teaching procedures (Jung & Sainato, 2013, Ulke-Kurkcouglu, 2015). Comparing with another strategy, Ulke-Kurkcouglu (2015) found that there is no difference regarding the effectiveness of least-to-most prompting compared with video modelling for teaching children with ASD chain pretending-play skills. Markey & Miller (2015) discover that combination of least-to-most prompting and video modelling were acknowledged in teaching an individual with autism to access online library catalogue to help them finding books for leisure or academic activities. Similar to video or live modelling, it suggests that systematic prompting strategies would be more beneficial when it is combined with other strategies.

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Commented [RA33]: Dynamically changed?

Commented [RA34]: This is ok because it shows the definition (compared to the prev. one)

Commented [RA35]: Be careful with modals. By using must you have to provide a strong argument

Commented [RA36]: Pretend-play skill sounds weird. Ignore this if you think the term is commonly recognized

Commented [RA37]: Discovered?

Commented [RA38]: Is Suggested?

Pivotal response training (PRT) is a behavioural intervention with the natural approach which was developed by Koegel and colleges (Genc & Vuran, 2013, Stahmer, Schreibman, & Powell, 2006). PRT is applied in children with ASD to increase the motivation and responsivity (Koegel, O'Dell, & Koegel, 1987, cited from Stahmer, Schreibman, & Powell, 2006). Talking about the practical use, a comparison study by Lydon, et al. (2011) as cited from Jung & Sainato (2011) showed that PRT and video modeling successfully increasing the pretend-play skills in 5 children with autism, but PRT showed generalisation in play actions while video modeling does not. A study by Stahmer,

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Schreibman, and Powell (2006) identified that after intervention using PRT, the play skill presented significantly better even though **it** still have not reach typically developing children's play skills. It is concluded that PRT, with its naturalistic way, would improve the child motivation and could be used effectively without combination with other strategies.

Social stories defined **as concise descriptions of expectations in the context of a story that is used to prepare the learner regarding the situation that he/she will experience** (Weiss, et al., 2009). The function of social stories ~~can be for~~ are to ~~increase~~ or ~~decrease~~ the target behaviour (Weiss, et al., 2009). Based on the experience, social stories **is helpful** to explain a particular thing that the child prohibited to do, such as to tell a 13-year-old boy that when playing with peers, he is not allowed to touch specific body parts **of his friend**. The effectiveness will be increased if ~~its~~ **it is** combined with other strategies, for example using **positive reinforcement** when the child is playing nicely. Research by Bozkurt and Vunan (2014) found that social stories showed the higher effectiveness of 65.62% compared **to** when the social stories presented alone for 18.75 %. Weiss, et al. (2009) explained that it is a real challenge to implement social story with other kinds of intervention because multiple treatments limit the degree of which treatment is responsible for the effect. This view could be critically used to understand other kinds of intervention with combining strategies **ies**.

**Commented [RA40]:** What do you mean?  
Expected descriptions which is concisely written?

**Commented [RA41]:** Rephrase  
Prepare as in what?  
To give the learner a glimpse?

**Commented [RA42]:** ARE

**Commented [RA43]:** Simplify this by using kinds of positive reinforcement itself

### Description of Practical Experience

This report **is practised** based on ~~præactical~~ **the writer's** experience ~~during~~ **while** working in a centre with Applied Behaviour Analytic approach in Jakarta, Indonesia. A small group consisted of three school-age children with ASD, one girl and two boys, Josh (13 years old), Ana (8 years old), and Roy (10 years old). They attended intensive behavioural therapy with 20 hours per week in 5 sessions centre-based with 1:1 setting. Due to enhance their social skills, which is the lowest scored in their assessment (based on Vineland Adaptive Behaviour) for socialisation domain compared with interpersonal relationships and coping skills, play and leisure time subdomain take place in ~~the~~ one hour program per each session. During ~~the~~ social time, the children accompanied by each therapist, to provide prompt and positive reinforcement when the targeted behaviour occurred.

This program intends to make the children engage with their peers and mastered encourage them to do some games with peers, specifically to do Simon Says, Hokey Pokey, Pinocchio Song as social participatory dance and some competitive games (such as Relay Race). The teaching procedures for those targets are based on the combination of video and live modelling, systematic prompt strategies, and with the following of positive reinforcement and shaping procedure. The combination of strategies is necessary because there are deficiency and strength of the children's prerequisite skill. For example, when these children showed a video of Hokey Pokey and with modelling from the therapist, they were able to present some dance, but not in the same form of movements rather than just dance freely. After the given of selected prompt, kids were able to follow the movement more appropriately.

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The intervention started with grouping the children in a small room at the centre. Firstly, the children were given freely access the toys or games that they like, and ability to play beside other children. The next step is the lead therapist offering a toy or game or activity, such as building train's track, watching a preferable video guided by the lead therapist (this activity allows children to mand for his favourite videos). After they are engage sitting close to each other, the children get prompt to share the toys or activities in the group. Schedule of reinforcement is varied and provided regarding the prerequisite play skills that the child has.

Commented [RA45]: Perform?

Commented [RA46]: Literally?

Commented [RA47]: ????????????????

Commented [RA48]: Their?

Commented [RA49]: Make it passive?

Commented [RA50]: Is this an instruction?

The threat of teaching this skill is the presence of unwanted behaviour. For instance, Josh has shown some challenging behaviours such as throwing the puzzles that they are working with, to other kids' face to gain the therapist's attention. The consequence of that behaviour is Josh has to copy text (from his material academic target) as positive punishment of his aggressive behaviour. To reduce the unwanted side-effect when applying punishment, differential reinforcement procedures also take place as it is better to focus on reinforcing the wanted behaviour (Cooper et al. (2014). Extinction procedure has been done, with extinction burst episode to throwing other stuff in that room. To protect them from aggressive behaviour that Josh showed, Ana and Roy had to move out from the place. Other procedures have also been done, such as time-out. Ana was crying during the playtime with the function to escape the activity. As

Commented [RA51]: Had?

Commented [RA52]: Too opinionated. Are you sure this is appropriate?

Commented [RA53]: were

Commented [RA54]: Is this considered as a challenging behaviour?

Commented [RA55]: As a consequence, Josh were asked to copy...

Commented [RA56]: Had?

Commented [RA57]: What does it mean? Rephrase.

Commented [RA58]: Had?

Commented [RA59]: What's this?

Commented [RA60]: For the purpose of..

consequences, she has to follow the procedure to sit on the chair until she calms and stops crying. This procedure was successfully decreasing her crying episodes. Reinforcement was also provided when Ana engage appropriately and willing to follow the therapist prompt to play.

Commented [RA61]: I only see one consequence, which is sitting procedure

Commented [RA62]: Had? \*\*\*\*\*be consistent with tenses\*\*\*\*\*

Commented [RA63]: Engaged? Performed?

Commented [RA64]: Were able?

With the combination of those strategies, the children met the targets and could perform the taught activities fluently, and they can generalise the skills into the other games, or improve the same game. Another achievement is the children display social initiation to the peers. For example, Josh used to go to Roy's room and greet him spontaneously, "Hi Roy, let's play!" or sometimes Roy came to Josh's therapy room to invite him to play. Similarly with finding from Nikopoulus & Keenan (2004) that defined social initiation as the child approaching, emitting vocalisation to ask to play or with gestural language. Furthermore, it is opening the door of friendship, and accordingly, Weiss, et al. (2009) mentioned that establishing a friendship, play date, or social group will direct to improvement in social skill. Regarding the self-stimulatory behaviour, it was rarely found after the target met. Accordingly, Greenberg, et al. (2016) found that self-stimulatory and passivity have a negative correlation with engaging behaviour in painting. Similarly, stereotypy decreased when the child engages in a higher level of increased functional play behaviour-increased and vice versa (Lang, et al., 2009).

Commented [RA65]: Better use 'were able to'

Commented [RA66]: Tense?

Commented [RA67]: Able to display

Commented [RA68]: Where is it refer to?

Commented [RA69]: Example?

## Conclusion

Back to the definition of play from Garvey (1977 as cited by Mastrangelo, 2009), even though some opinions mentioned that behavioural approach less likely meet the definition rather than developmental strategies, the behavioural strategies scientifically proved and widely used to teach play skills. After the intervention, children with ASD will also meet the criteria of having play skill after the generalisation and maintenance of the skills. The combination of strategies is extensively increasing the effectiveness of the intervention, in particular with the use of reinforcement and other strategies to increase the behaviour.

Commented [RA70]: Do significantly increase the effectiveness of...?

Commented [RA71]: The wanted behaviour?



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