

Children learn
problem solving skills
through play young
people essay



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People often think that play is just play. Children just play and they will not learn anything when they play. The actual fact is that children are learning when they are playing. Children only know what play is as this is a spontaneous act. Children do not need to be taught how to play but they must be guided when they play in order to achieve the learning objective. Most studies have portrayed play as an activity, which has a significant positive impact on children's development such as (Bruner 1990).

Garvey (1977) gave a useful description of play for teachers when she described play as unique to the children and adults should not instill their concepts into it and try to direct the play activity. Play should be child initiated with the facilitation from the adult to extend and expand.

Play, both directed and undirected, is a critical in the development of learning for young children. According to Bloom (1964), play influences intellectual development (Isenberg & Jalongo 1997). And play helps children to learn new concepts, to promote, encourage children's problem-solving skills in a natural, fun way.

Many early childhood educators have recognised the fact that play is the most effective and powerful way for young children to learn. Dewey (1916, 1938) believed that children learn about themselves and their world through play (cited in Joan P. Isenberg & Mary Renck Jalongo, 1997). With concrete materials, opportunities, meaningful first hand experiences would allow children to gain new understanding during play. As play is a universal activity, children know how to play and they do not need to be taught. It is play that influences children's learning and their development. Play help

children to develop physically, cognitively, emotionally as well as social skills which they will need in their later in life in order to live independently. We all know that children's " job" is to play, as children play, they learn about themselves and others around the world, deepening their understanding and building on their familiar knowledge. Both theory and research supports such a relationship (Erikson, 1963; Fromberg, 1998, 2002; Frost et al., 2001; Johnson et al., 1999; Monighan-Nourot & Van Hoorn, 1991; Piaget, 1962).

Isaacs' (1933) claimed that, " Play is a child's life and the means by which he comes to understand the world he lives in." (cited in Macintyre 2001, p. 3).

How does Play Impact Learning and Development in Young Children?

Play contributes to school success in many ways; research has showed that every competency important to school success is enhanced by play (Isenberg & Quisenberry, 2002; Singer, 2006). In the research literature (Singer et al., 2006; Smilansky, 1990; Van Hoorn, Nourot, Scales & Alward, 2007), it has documented that there are connections between the complexity of children's pretend play, early literacy, mathematical thinking and problem solving.

When children are playing they have the opportunities to use their mental representations of the world to link to new objects, people and situations which is the key ability for the future academic learning. Physical, social, emotional, intellectual, and language development are all integrate in children's play. Children have a natural motivation to learn when they are engaged in the things they are interested (Shonkoff & Phillips, 2000).

Children will be able to develop concepts and skills together as they are integrated in the context of meaningful and playful experiences. For example, a four-year-old child learns to write the letters in her name, doing so, she is also learning the concept that each letter represents a sound, and she will be highly motivated by the meaning which is her own name. Skills have limited value without concepts. Example, a child who is able to count to five by rote, she will not have the concept of five, unless she understands the quantity represented ($5 =$ five blocks). Children are more likely to retain the skills and concepts they have learned in meaningful contexts. Concepts are developed through activities that occur naturally during play, such as counting, sorting, sequencing, predicting, hypothesizing, and evaluating.

Learning through play is an important and natural process. Learning through play introduces and teaches new skills with a happy, comfortable and fun approach says Gale Kelleher, director of Rainbow Nursery School in New York.

Meghan McGinley Crowe, Executive Director of Literacy for Little Sprouts, explains that introducing new learning processes through playful activities in which children are intrinsically interested are important. They keep children's attention and allow them to easily commit learning to long term memory.

“ Hands-on, playful learning experiences not only build interest in the subject, but set off a preschoolers experiences in learning as positive, joy filled ones which they will want to continue for years to come” (Crowe, 2009).

During playing, the child will explore their senses that help them in solving problems. For example, when a child tries to fit a round block to the square hole but couldn't fit it in. This will allow the child to think and prompt the child to find another hole that can fit the round block. Once the child found it, they will know that only round hole can fit a round block. Not only that, when playing, the child can acquire fine and gross motor skills. It will also help them concentrate, enhance their imagination, and socialize with other children.

The Problem-solving Process

Problem solving is to provide children with a mechanism for making good choice about how to respond or act and react in various situations. When come to problem solving, it required time, patience, energy and skills. Once children have acquire problem solving skills, they become more confident and will be responsible in dealing with daily situations. According to Doescher (1995) and Loh (2002) the problem solving process help children to solve problems and make better decision. They suggested parents, educator and teachers to guide children through the following steps:

Step 1: To solve the problem, firstly to let children know what a problem is and how they can understand it. Adults may observe and gather information about the situation in order to know their children's problem-solving abilities and to see whether children are able to solve the problem. Questions should be asked: " What is happening?" and " What exactly do we need to do?"

Step 2: Children need to identify and define the problem or situation in order to get good solution for the problem. Once the problem is clarified,

encourage children to generate alternatives, come out with possible solutions ideas, questions and statements, example, “ What can we do differently?” “ Let’s see how many ideas we can come up with?” and “ Are there still more solutions we can think of?”

Step 3: Discuss with the children the solutions to the problem. Talk about the alternatives suggestions and asked children to comment on them. As this is a critical step of teaching problem solving, adult can provide some simple solutions or different ways of solving problems. When children reviewing the solutions to the problem, they will be able to know and assess different solutions to different problem. However, adult must not do the children’s work, let the children do it. From the children’s suggestions and seeking their ideas will be able to allow children to develop their reasoning power apart from learning to solve the problems?

Step 4: Help children to decide on a solution, allow children to trial, adapt and explore different solutions to the problem. Children have to choose the solution which is agreeable to all. Therefore, it is also appropriate to ask proposal from each child. “ What do you think of the suggestion?” “ If we choose this idea, what do you think will happen?” When trying a solution, children are taking charge of the problem and children need to anticipate the trial solution may be workable or not, and it can be changed if necessary. By exploring and solving problem, it will help children to streamline their brain in a simple and judicious manner.

Step 5: Help children to seek a different solution when needed. Sometimes children need to discuss their problem further and this is the time for adult to

evaluate the situation and to come out with another solution. Adult can ask questions; explore solutions by asking ideas from the children. “ How can you solve the problem?” “ What do you think?”

Children may make a lot of mistakes while learning to solve problems and adult should teach children how to handle mistakes and most common blunders. “ Mistakes and blunders are the foundation stones that will allow children solve problems that they encounter in their life” (Loh. 2002). Therefore, adult should encourage children to keep trying and eventually they will be able to find solution for the problem.

In Piaget’s theory, he has identified that children move through four broad stages of development by which children progress through them, each of which is characterized by a qualitatively distinct way of thinking. In sensor motor stage, cognitive development begins with the baby’s use of the senses and movements to explore the world. These action patterns evolve into the symbolic but illogical thinking of the preschoolers in the preoperational stage. Then cognition is transformed into the more organized reasoning of the school age children in the concrete operational stage. Finally, in the formal operational stage, thought becomes the complex, abstract reasoning system of the adolescent and adult. According to Piaget, the development of the children’s cognitive abilities will only reflected in the growth of their powers of perception, language, reasoning and problem-solving abilities.

If we observed closely at a very young toddlers faces a problem, they often just cry reason being they do not know what else to do except crying. By the age of two, children will use memory as problem solving tool, children will

think about the problem, remember what he saw and then imitate it. By three years old, children will use their imaginations when problems arise, example if there is no helmet in the dramatic corner, the threes will use a bowl and wear it upside-down. The four years old are the adventuresome and they need some help in focusing the problem. They are more patient and able to try out different solutions by using more vocabularies and also ready to negotiate with their peers (Miller, 1996). Children thrive on complex constructive projects that produce identifiable products. Five and six year olds particularly enjoy constructive play with higher levels of social collaboration.

How does Play Enhance Cognitive Development?

“ Children build these exposures to new concepts through play. Each playful experience builds the cognitive development of learning a new fact and committing it to long term memory,” says Crowe (2009).

Cognitive development focuses on developing functions of the brain such as thinking, learning, awareness, judgment, and processing information.

According to developmental psychologist Jean Piaget, children go through several stages of cognitive development and learning activities for toddlers and children should correspond to the appropriate developmental (Snuggs, 2008).

In terms of cognitive development, Piaget’s (1896-1980) believed that children construct their own understanding through interacting with their environment and learned to adapt to the world. Adaptation which involves through the two processes that usually happen simultaneously, they are

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assimilation and accommodation. He defined assimilation which means the child's take in new things from the outside world and fit into the already existing structure. The new intellectual materials which include ideas, concepts, and points of view to fit into the existing structures of our minds, in order for these new ideas eventually incorporated into our own world views. Accommodation on the other hand, is the adjusting of the structure in reaction to the newly incorporated material. Therefore, cognitive development involves an interaction between assimilating new facts to old knowledge and accommodating old knowledge to new facts and the maintenance of structural equilibration (Halford 1989).

Piaget further explained that without the practice in play context, the skills that children have would be loss. In order for children to assimilate information and explored the environment into their minds and help children to make sense of it is through play. Play enable children to learn solving problem, it help children able to link with their previous learning and obtain new skills, new concepts, able to find ways to gain more knowledge.

Children act in an environment by manipulate with different materials, equipment-increased children's knowledge. In Piaget's theory, he has recognized that children move through four broad stages of development, each of which is characterized by a qualitatively distinct way of thinking. In sensor motor stage, cognitive development begins with the baby's use of the senses and movements to explore the world. These action patterns evolve into the symbolic but illogical thinking of the preschoolers in the preoperational stage. Then cognition is transformed into the more organized reasoning of the school age children in the concrete operational stage.

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Piaget (1962) believed that children are active learners; children learn best from the activities they plan, carry out and reflect. Children would plan the activities they are interested in order to engage, gain direct experience and apply logical thinking to their problem solving skills. According to Piaget when children are actively using their mind to search for possible answers, solving a problem is a critical aspect because children are mentally constructing various possibilities.

In order for effective learning to occur, active involvement is needed to allow children to manipulate materials during their learning so that they can explore 'what happens if..?' Children will be pondering over higher cognitive-level questions, which result in them challenging their thinking and force them to apply, analyze, synthesize or evaluate what they have learned. Active learning also encourages children to find applications and examples of the newly learned concepts and brainstorming solutions to problems (McInerney & McInerney 2008).

Researchers have also concluded that children who participate in dramatic play, which is also known as pretend play during the preschool years, have a higher score on the levels of imagination and creativity and this enhances the ability of thinking inventively (Freyberg, 1973, Pepler & Ross,

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1981). When children engaged in dramatic play or pretend play, they transform the object and actions symbolically. Bergen's study says that in pretend play, children are practicing negotiation, role taking and problem solving.

Vygotsky's theory also supported that when children constructed new knowledge through their play, whether they are practicing what they have learned in other settings or they are constructing new knowledge, it is clear that play has a valuable role in the early childhood classroom.

Jerome Bruner (1972) and Brian Sutton Smith (1967) both maintained that play provides a comfortable and relaxed atmosphere in which children can learn to solve a variety of problems. Later, when children are confronted with the more complex problems of the real world, " the learning that took place during play is of great benefit to them." (Hughes, 2010 p. 27)

Conclusion

The term of problem solving is used in different forms in the literature and problem solving covers a variety of areas which range from putting puzzles together, to solve simple science and arithmetic problems, and also " to the solution of mental, logical, social, and mechanical problems." (Bullock, 2000, p. 24). Research has found that when a child is given a particular problem to solve, the child has to determine the conditions, consider the procedure and steps taken to solve the problem. Gagne (1970) considers that when a person's is solving problem, it involves the highest cognitive abilities of which one is capable.

Young children learn problem solving skills mostly through play and problem solving is the foundation of a young child's learning. Educator should value, promote and provide problem solving opportunities in the early childhood classroom. As problem solving occurs in the everyday context of a child's life, it is the best opportunities for children to approach problems in different ways in order to solve them.