

MAXIMISING MULTIPLE INTELLIGENCE IN EARLY CHILDHOOD BY PLAYING

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ABSTRACT

This paper discusses how to maximise multiple intelligence in early age childhood through playing activities. This paper aims to identify factors that are associated with multiple intelligence and playing activities as well as the linkages between these two things in maximising the intelligence of children in early childhood. The data was obtained through several sources (literature) and by observing teaching and learning practices in early childhood education institutions in five districts in East Java. Based on the test results, it can be concluded that playing games in early childhood has a positive effect on the intelligence of children. Playing games can enhance children's creativity. Children are able to have fun through games. Children are not bound by taboos, prestige, and the rules of the game unlike adults. Playing is able to maximise the development of the multiple intelligences of children because children it gives the freedom to explore themselves so they can do activities freely according to their preferences and ability without pressure.

Keyword: multiple intelligence, early childhood, playing

INTRODUCTION

In early childhood, the ideal learning process is through play. Unfortunately many parents underestimate the role of play. Many ignore the importance of play for the development of diverse intelligence. Learning processes in Early Childhood Education (ECD) are largely associated with playing as it targets enjoyment or fun with learning as a strategy to increase motivation among children and actively involve children in the learning process. When one of these elements is not present, it is certain that the learning process is not suitable for young children.

Children have the potential for multiple intelligences. Intelligences of a child will develop at optimal level when learning is properly facilitated through learning strategies that are appropriate to the characteristics and development of the child. This understanding should underline the learning strategies chosen by teachers in ECD. In designing learning activities for children, teachers need to pay attention to children's learning modalities. There are four learning modalities in children: (1) visual learners, (2) auditory learners, (3) tactile/ kinaesthetic learners, and (4) global learners (De Porter & Hernacki, 1992). In the first modality, children tend to experience learning by observing something. These children prefer to rely on sight. Therefore ECD teachers should facilitate such needs in children by providing attractive visual media. In the second modality, children rely more on hearing. These children can easily understand something if they have the opportunity to listen to a variety of materials. Thus, the incorporation of sound (such as audio text, sound clips and music) as a strategy in teaching in ECD is important. The third modality refers to children who rely more

on the learning experience by touching, moving and working. In developing such skills, teachers should incorporate lessons that are based on the 'Learning by Doing' strategy. While, in the fourth modality children use all three modalities (visual, audio and tactile) simultaneously.

Many schools and teachers tend to emphasize the ability of logic (mathematics) and languages. Intellectual acumen includes more than these two parameters. An ECD curriculum emphasising on all forms of ability (kinetic, musical, visual-spatial, interpersonal, intrapersonal, and naturalist) must be designed. Teachers must facilitate the balanced development of the left and right brain hemispheres. A multidimensional teaching and learning approach in ECD can empower all aspects of children's development and intelligence. A well designed play can enable the development of the aforementioned abilities using the fourth modality. Play can also enhance the creativity of a child. Children will be able to use and develop multiple intelligences while having fun by playing a game. Children are not bound by taboos, prestige, and the rules of the game as adults are. Creativity aspect in playing must be emphasised in order to stimulate and develop the child's mind. Schools should provide suitable facilities such as a place or a special room for this purpose. A play could develop a child's motor activity and train muscle movements through slides, monkey bars, swings, bicycles while counting, learning new words or songs, and interacting socially with one another.

LITERATURE REVIEW

Early childhood is a crucial time for the process of development and rapid growth. Early childhood covers children aged 1-3 years. In Indonesia, early childhood refers to elementary school age children grade 1 to grade 3, plus kindergarten, preschool, and children aged 4-6 years (Syaodih, 2005 : 43). The Ages between 0 to 6 years is known as the golden age, because the children's growth and development is very rapid. Rashid, Mansyur and Suratno (2009) stated that in the golden age, children will easily accept, follow, see and hear everything that is exemplified, played and shown.

Early childhood has different characteristics from the adulthood. Hartati (2005 : 21) proposed that children are self-centred, have great curiosity, social beings, unique, highly imaginative, and often have a short attention span. Rusdinal and Elizar (2005 : 15) revealed that the characteristics of early childhood especially children in kindergarten ages (ages 5-7 years) are as follows: a) pre-operational stage where learning is characterized by concrete experiences, orientations and objectives; b) symbolic learning where children like to name surrounding objects and define words; c) oral languages (children's ability to understand spoken language is one of the signs of reading readiness); and d) learning programmes requiring structural definition and specific activities. ECD learning programmes must therefore be designed using sound theories. In this paper, the theory on multiple intelligence is explored.

Gardner a psychologist and education expert at Harvard University formulated the theory of Multiple Intelligences. Gardner introduced the theory through frames of mind which asserts that success does not only rely on intelligence quotient or IQ alone, but also on multiple intelligences. Originally, Gardner put forward eight types of intelligence which eventually developed into nine types of intelligence (linguistic, logical-mathematical, spatial, bodily-kinaesthetic, musical, interpersonal, intrapersonal, naturalist, and existential). These intelligences are explained next (Gardner, 2003).

Linguistic intelligence is the ability to use and process words effectively both orally and in writing. Written linguistic skills are evident in poetry writing, editing, and creative writing while oral linguistic skills are evident in storytelling, public speaking and general conversation. The

development of linguistic intelligence in children can be encouraged by playing charade, enriching vocabulary, writing rhymes and simple poems, and retelling a story among other activities. Children who have linguistic intelligence are generally able to listen carefully and respond to verbal communication, to write and speak effectively and have a broad vocabulary. Typical professions include: librarian, editor, translator, journalist, legal aid worker, lawyer, secretary, teacher, orator, and radio / TV host or presenter.

Logical-mathematical intelligence is the ability associated with the use of numbers and logic. Children with this intelligence can easily perceive cause and effect. The development of logical mathematical intelligence in children can be encouraged using plays such as the maze and building blocks. Children who have logical mathematical intelligence are generally able to recognize and understand the concept of numbers, time and the principle of causality, observe objects and understand the function of these objects and are resourceful in solving problems that require logical thinking. Typical professions include: auditor, accountant, scientist, statistician, analysis/computer programmer, economist, technician, and physics teachers.

Spatial intelligence is the ability to recognize shapes and objects appropriately and have the power of imagination. Spatial intelligence in children can be encouraged through drawing, painting, and shaping. Children who have spatial intelligence are generally happy doodling, drawing, painting and making sculptures, are imaginative and creative. They like posters, pictures, movies and other visual presentations, enjoy complex puzzles and mazes. They learn by observing, seeing, recognizing faces, objects, shapes, and colours and appreciate/use visual aids to remember. Typical profession include: engineer, surveyor, architect, city planner, graphic artist, interior designer, photographer, art teacher, pilot, and sculptor.

Bodily-kinaesthetic intelligence is the ability to use the body or gestures to express ideas and feelings. Bodily kinaesthetic intelligence development in children can be improved by dancing, gymnastics, mimicking movement, and pantomime. Children who have bodily kinaesthetic intelligence generally have good balance, agility, and grace in motion. They like real life experiences such as field trips, enjoy role plays, physical games, dancing, and sport. They also like to touch, hold or play with what is being studied. They like to learn by getting involved directly, which develops strong memory of what is experienced or seen. Typical professions include: physical therapist, surgeon, dancer, actor, model, mechanic, mason, craftsman, seamstress, choreographer, and professional athlete.

Musical intelligence is the ability to develop, express and enjoy musical forms and sounds sensitivity to rhythm, melody and intonation as well as the ability to play a musical instrument. The development of musical intelligence in children can be improved by singing, writing songs, and playing musical instruments. Children who have musical intelligence generally enjoy playing musical instruments, singing, reading lyrics, sensitive to sounds, understand the nuances and emotions contained in a song, reading and creating musical compositions. Typical professions include: musician, instrument maker, music therapist, songwriter, music studio engineer, orchestra conductor, singer, music teacher, and lyricist.

Interpersonal intelligence is the ability to understand and be sensitive to feelings, intentions, motivation, character, temperament and others. Development of interpersonal intelligence in children can be improved through playing together, outbound activities, eating together, community service, and drama. Children who have interpersonal intelligence generally recognize emotions in themselves and others; are able to channel thoughts and feelings; and are able to work independently and develop a good self-concept. Typical professions include: administrator, manager, principal human resources/public relation officer, mediator, sociologist, anthropologists, psychologist, salesperson, and social director.

Intrapersonal intelligence is the ability associated with self-knowledge and the ability to act adaptively based on experience. People with this intelligence find it easy to concentrate, like to work alone and tend to be quiet. Intrapersonal intelligence in children can be developed by encouraging them to express their feelings and their motivation. Typical professions include psychologist, clergy, therapist, counsellor, technology expert, programme planner, and entrepreneur.

Naturalist Intelligence is the ability to understand flora and fauna and sensitive towards the natural environment. The development of environmental intelligence in children can be improved by gardening activities, and observing the growth of crops, and livestock. Children who have naturalist intelligence are enthusiastic about nature and generally like to observe, identify, concerned, care and interact with natural objects, plants or animals. They are happy to study the life cycle of flora and fauna, and enjoy outdoor activities such as walking and hiking. Typical professions include veterinarian, botanist, biologist, mountaineers, administrator of an environmental organisation and collectors of fauna/flora.

Existential Intelligence is the ability associated with sensitivity and the ability to respond to the deeper mankind problems. Such children tend to look at the "big picture", and ask questions such as "Why are we here?", "What is my position in my family, at school and among my friends? This intelligence is focused on the connections between the child and his or her existence. Existential intelligence in children can be developed by imparting the purpose of life and responsibilities. Children who have existential intelligence generally have a high awareness of their obligations and attempt to improve themselves.

Teachers are expected to understand the theory well in order to design appropriate activities and games optimise the multiple intelligences in children. Teachers must also develop effective assessment tools to evaluate children's development in all nine types of intelligence. It is important for teachers to remember that every child develops at different speeds. Each child is a unique individual with differing characteristics. Thus the assessment is focused purely on measuring a child's development against a set target and not for ranking the child in a class. As such the plays in ECD must be designed and tested with care. The effectiveness of a play designed in developing multiple intelligences with positive reaffirmations must be determined before play is used in a formal setting. The play must also be tested so as to ensure there is no negative reaffirmation.

The objective of this study is to examine whether it is possible to use play to maximise multiple intelligences in ECD.

METHODOLOGY

This study is based on action research involving play models that had been implemented in five districts in East Java. The plays were revised from their original forms using Multiple Intelligence Games Model (MIGM) which is a form of developing play activities model by spurring and optimizing multiple intelligences.

Implementations of plays to maximise the use of multiple intelligences were performed and tested through two cycles. The test is based on recorded observations.

The first phase (or Pre-cycle) of the study involves the identification of the existing play activities model in selected five East Java regions (Jombang, Lamongan, Bojonegoro, Tuban, and Mojokerto).

The second phase (Cycle 1) involves the revision of the play using Multiple Intelligence Games Model (MIGM) at all five regions.

The third phase (Cycle 2) involves the verification of the model via the action of carrying out the play as mentored by the researchers.

The fourth phase is carried out via a focus group discussion that was used to produce the final model plays (under the framework of the Multiple Intelligence Games Model).

The MIGM implemented in the form of play activities at five regions in East Java (Jombang, Lamongan, Bojonegoro, Tuban, and Mojokerto) was then analysed.

FINDINGS

Implementations of plays to maximise multiple intelligences were performed in two cycles. The average percentage of the measured children intelligences are shown in Table 1. Each cycle showed varied results. The final conditions of children intelligences in all five regions proved to have increased. The pre cycle condition of children intelligence in Jombang area which was only at 24% rose to 89% after the implementation MIGM by the end of the second cycle. Similarly, the measured intelligence of the children in Lamongan before MIGM was applied to the play was only 28% before rising up to 87% by the end of the second cycle. In fact all five regions showed similar progress. The measured intelligence of children in Bojonegoro rose from 32% to 86% by the end of the second cycle. While both measured intelligences of children in the Tuban and Mojokerto areas which initially were 27% and 28% respectively increased by 60%.

Table 1: Average Percentage Intelligence Children

Conditions	Jombang	Lamongan	Bojonegoro	Tuban	Mojokerto
	Percentage (%)				
Pre cycle	24	28	32	27	28
Cycle I	58	61	60	58	62
Cycle II	89	87	86	87	88

MIGM is found to be a suitable model to improve the development of children's multiple intelligences via games and could be applied in many places in East Java. MIGM offers an innovative learning environment that enables the ECD education providers: 1) to set up the philosophy of ECD, 2) to share knowledge about ECD, and 3) to change the attitudes and the behaviour of ECD educators. Plays must be developed to meet the philosophy and objectives of ECD, innovative design principles, the local culture and characteristics of the students involved. The development play activities should consider the learners, and the level of learners' development relevance to the learners needs.

DISCUSSION AND RECOMMENDATIONS

There are four activities which are categorized as play. First, a play is conducted because of the intrinsic motivation in the child. It is done in order to please themselves. Second, whether to play or not is a free choice. A child chooses to play. If a child is pressured into playing a game, the child may not feel comfortable playing. Play should be fun. Children should feel happy to gain experience conducting such activities. When parents force a child to play, the child will play, but with the main motivation to please the parents not because they want to. Third, play is a nonlinear activity requiring several elements. The child is free to start anytime and anywhere. Fourth, children are actively involved. These activities physically and

psychologically involve children. If the child is passive or merely spectates, then these activities cannot be categorized as play. For example, if a teacher demonstrates origami, even though, children observe it and seems enthusiastic, it still cannot be categorized as play.

Activities in early childhood institutions are still dominated by the role of the teacher and are predominantly not play activities. Therefore, it is necessary to change the perception of playing while learning and refer to the four characteristics of play. However, playing is different from doing a task. When doing a task, there is a final goal and students get commended on their performance and may even be graded or receive a reward. Play on the other hand, is a spontaneous activity that is not engineered and has no motivation other than to do something fun. Children's play activities are carried out without coercion and without specific goals which will direct the child to develop in terms of intelligence. May be there are other theories about play but basically play should be done with pleasure, so that all playful activities will result in a learning process in children and children can learn through play (Mutiah, 2010 : 91).

Applying the theory of multiple intelligences in early childhood learning programmes requires a serious effort from teachers. Teachers should be able to develop learning programmes oriented to children not simply based on the material or the teachers themselves. The aim is to facilitate teachers in determining appropriate learning strategies to maximally develop children's intelligence. Given that multiple intelligence is not popular in East Java, this would be a barrier for teachers to include it when designing learning programmes for early childhood. According to Armstrong in Situmorang (2004), multiple intelligence learning strategy is an attempt to optimise the various intelligences of every child to achieve specific competencies required in the curriculum. Practice-based learning strategies of multiple intelligence spur the intelligence in children as optimally as possible, and strive to maintain more intelligence on the minimum standards demanded by early childhood institutions. In other words, the application of multiple intelligence strategies in the development of learning programmes is beneficial for children. Children will develop in accordance with their individual potential in one or more intelligence.

Playing is a world full of colour and fun. The player feels comfortable and happy. The very word "play" implies relief of boredom and stress. For children, play has a very important role. Some psychologists argue that play activities can be a means to a child's development. By playing games, children will be trained physically. Thus their cognitive and social abilities will develop. In short, play affects physical growth and mental development of the child. Suhendi (2001: 8), explains that all people, children or adults, male or female, have a desire to play. Play is a fundamental desire in human beings of all ages. Children want to play because it's when they get a variety of experiences through the exploration of nature and its surroundings. During play, they can learn about their environment and fellow playmates in a pleasant atmosphere.

Children obtain various competences through play which are very useful for their intelligence development. Selecting interesting and creative games will determine the development of these competencies. The teacher acts as a creator, leader and mentor in the game. They must be observant and introduce creative activities in school in order to optimise multiple intelligence of children.

Given that multiple intelligence theory is not popular in East Java, teachers may face difficulties in including play in their ECD programme design. Teachers and ECD providers could engage all stakeholders in their attempt to introduce MIGM. This study led to a number of observations that require additional support. These roles can be explored further in future studies.

- (1) Teachers' observations and the development of multiple intelligences among children can be optimised using the observations and creative solutions or learning strategies.
- (2) Parents can motivate their children and support by identifying the engagement of their child in a play.
- (3) ECD authorities can support in building capacity of teachers, parents and other stakeholders by providing the required expertise.

CONCLUSION

The findings of this research indicates that playing can maximise the development of the multiple intelligences among children because playing gives children the freedom to explore so that they will do activities freely according to their preferences without pressure and without any specific goal in mind. Besides, playing has a positive impact on children's intelligence. The process of learning through play in order to optimise children's intelligence needs to be managed as well as possible. Furthermore, management of good learning activities in early childhood can minimize the obstacles that might be encountered during the implementation of learning.

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