

Preliminary Study of Development in Physical Activity Model to Enhance Critical Thinking Skills in Early Childhood

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Preliminary Study Of Development In Physical Activity Model to Enhance Critical Thinking Skills in Early Childhood

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ABSTRACT: The main purpose of this study was to determine the extent on how the physical activity for early childhood was organized for the age of 5-6 years. The data was obtained from 44 Early Childhood educators who participated in Technical Guidance Learning for Early Childhood Education Institutions of New Early Childhood Assistance Area year 2016 in Bali. The data obtained were through quantitative methods using questionnaire. The results of this study showed that there was still variety of knowledge and understanding of educators about organizing the development of physical activity, associated with the improvement of critical thinking skills as many as 100% of participants stated that they need guidelines for the development of physical activity. The children's physical activity needs will be met well and correctly if educators have correct knowledge and skills in planning, implementing, and appraising. Therefore, a guideline for the development of physical activity model needed.

I. INTRODUCTION

Early age is a very fundamental age and is a very appropriate time to lay the foundations of life skills. Every human is born with 100 billion brain cells (Eliot 1999, p.26). One of the characteristics of 2013 curriculum of Early Childhood Education is a balance between the domains of attitude, knowledge, and skills (Pemendikbud No. 146/2014 on Curriculum 2013 PAUD). So, in developing physical activity for early childhood should refer to the three domains, and can be seen in the following Figure 1:

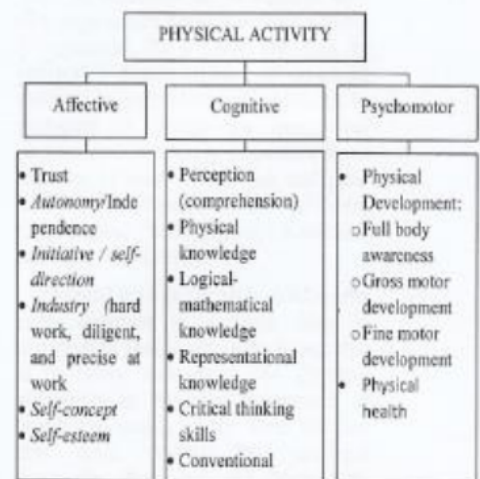


Figure 1: The domain of physical activity in early childhood

Physical activity is an important part of lifestyle and quality of life (Robinson and Wadsworth, 2010). Physical activity is important for the growth and development of children (Chow et al., 2015). The benefits of physical activity contribute to the performance of the executive function. Physical activity is performed based on the duration, frequency, and intensity required in order to reduce or slow the deterioration of executive function in old age (Zach et al, 2015). "It is important that a deeper understanding emerges on how to stimulate engagement in sufficient physical activity to obtain health benefits from a young age onwards" (Pannekoek, Piek, & Hagger: 2013).

Furthermore, to develop the physical activity of children aged 5-6 years, we need to pay attention to the basic skills that must be controlled by children. Seven important life skills and needs to be developed from an early age known as the term the seven essential life skills, including: focus and self control, perspective taking, communicating, making connections, critical thinking, taking on (challenges and self directed, engaged learning (Galinsky 2010 p. 511). Critical thinking is a target of more frequently expressed both at the primary and pre-school. Critical thinking is a way of approaching and solving problems based on persuasive, logical and rational arguments, involving verification, evaluation and selecting appropriate answers for assigned tasks and reasonable rejection and containing alternatives or other solutions (Florea and Hurjui, 2015). Critical thinking is a skillful activity, which can be done better or vice versa, and good critical thinking will meet various intellectual standards, such as clarity, relevance, adequacy, coherence, etc. (Fisher, 2009, p.13). Therefore critical thinking is a higher-order skill among executive functions of the brain (p.205). Critical thinking is a rational impulse toward a certain mindset or quality thinking, which encourages being actively involved in the process, and self-investment in thinking (Aizikovitsh & Cheng, 2015).

The road to success at school and in life begins before kindergarten or first grade. Preschool is more important in the educational process, and many people see this period as the foundation of learning (Morrison, 2012 p 218). Early childhood educators have an important role in planning activities that can develop children's critical thinking skills. Focus of the cognitive developmental stage of 2-6 years of age, including: perception, physical knowledge, mathematical logical knowledge, representational knowledge, critical thinking skills, and conventional social knowledge (Kostelnik et al., 1991 p. 523). Critical thinking should be an in-depth element as the educational experience of all students from preschool to high school and university with a structured program in critical thinking should begin with the promotion of appropriate decisions and progress in the development of critical thinking skills (Aizikovitsh & Cheng, 2015). Early age is a very appropriate age for developing physical activity as a basis for further development, especially for preschoolers (5-6 years). Motion exploration is very important for children, especially for children to have new experiences through motion activity (Hidayatullah, 2013, p.63). The need for physical / motor activity of preschool children in institutionalized needs to be evaluated to change the institutional environment to be more supportive of the interests of most of the fine and grain motor development in children. Giagazoglou, Sidiropoulou, Koulousi, and Kokaridas (2013).

Physical activity for early childhood is very important as a basic thing in maintaining health and body fitness that is necessary throughout life. Physical activity is an important component of health and quality of life. Over the past few years, obesity has increased drastically (Robinson and Wadsworth, 2010). Early childhood, born to five years is an important developmental period,

where the basis for health behavior, such as physical activity (Birch and Fisher, 1998). Physical activity is identical with physical education. Physical activity or physical education contributes to students' cognitive abilities. This opinion is supported by a cross-sectional study of the relationship between physical activity, exercise or fitness and cognitive testing or academic test results in children presented by Pirrie & Lodewyk (2012), that performance on planning tests increased significantly after physical activity. In line with the results of research conducted by Morales et al. (2011) which shows that there is a linear relationship between academic performance and physical activity; However, there is a tendency for strong correlations when modeling the relationship between these variables with quadratic equations. In line with Roberts, Freed, & McCarthy (2010) research, Castelli et al. (2007), physical fitness has a positive relationship with academic achievement.

Interventional and longitudinal studies of the relationship between physical activity, exercise or fitness and cognitive testing or academic outcomes in children have been conducted by Ericsson & Karlsson (2014), that daily physical education and adjustment of motor skills training during compulsory schooling is a viable way to improve not only motor skills but also learning outcomes. This is reinforced by research conducted by Shachaf, Katz, & Shoal (2013), Stevens, To, Stevenson, & Lochbaum (2008) which shows a positive relationship between academic achievement and participation in sports as well as physical activity significantly and positively related to Mathematical and reading achievements for boys and girls.

2. RESEARCH METHOD

This preliminary study used a quantitative approach with survey methods. Data collection techniques were using questionnaires. Data analysis by presenting information, explaining the method and analyzed descriptively. The study participants

(N = 44) were gotten from participants following the Technical Guidance of Learning for Early Childhood Education Institutions of New Early Childhood Assistance Area 3T in 2016 organized by the Directorate of Early Childhood Education Directorate of Early Childhood Education and Education at the Ministry of Education and Culture on 8-12 November 2016 held at Hotel Sense Sunset Seminyak Jl. Sunset Road No. 88 Seminyak in Badung, Bali Province. Characteristic of the participants is from frontier, outermost and least developed regions (often referred to as 3T regions).

3. RESULT AND DISCUSSION

Of total 44 participants who worked as early childhood educators from 14 districts in 7 provinces in Indonesia, the results gotten were as follows: 70% stated that they already have knowledge and skills in performing physical activity development for early childhood, while 30% stated they had not yet to. 5% of Knowledge and skills they get were of self-study, 5% of discussion with friends, 45% of training, 2% of lecture material, 2% get it from others, 14% of various sources, 5% of discussion and training, 2% of training and lectures, and 20% did not answered. When early childhood educators have no knowledge and skills in performing physical activity development activities, which obtained 11% were self-taught, 16% were discussed with friends, 39% were training, 9% were various sources, and 25% did not answer. According to them, the development of physical activity from an early age was usually 2%, 5% stated quite important, 5% stated important, and 89% stated it is very important.

Meanwhile, the way that early childhood educators had been doing so in developing the physical activity of

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children aged 5-6 years in their institutions were by understanding the characteristics of children aged 5-6 years (56%), planning and executing activities as planned, and assessing the achievements Ability of children, by observing the ability of children (18%), carrying out activities as desired by children and assessing according to the ability of the child, by conducting activities according to desire based on the means owned, observing and assessing according to the ability of the child and the ability of the teacher (7%), Providing facilities according to the ability of the institution and adapt the wishes of children, and assess the ability to be achieved by children (18%), 5% stated by carrying out activities according to desire based on the means owned, observed, and assessed according to the ability of children and the ability of educators, and provide appropriate infrastructure Institutional capacity and adjust the child's wishes, and assess the child's ability, 2% did not answer.

Participants stated that they carry out the development of physical activity of children aged 5-6 years for 7 days a week was 36%, 1-2 times a week was 30%, 3-4 times a week was 23%, 5 times a week was 5%, and did not answer for 7%. And the implementation of physical activity in one day for 2-3 hours was 82%, 3-4 hours was 14%, 4-5 hours was 2%, and more than 5 hours was 2%. The time given to perform physical activities in a day answered 30 minutes at once was 20%, 30 minutes with a time lag (structured) was 48%, 30-60 minutes was 5%, and 3060 minutes with time lag (structured) was 27%. Of 44 participants, it was found that 39% said they had a manual, 57% had no, and 5% did not answer. 100% obtained answers about the need for manuals on how to develop physical activity for children aged 5-6 years. According to the participants, the most preferred development program for children aged 5-6 years was 64% of total chose the development of religious and moral values,

11% chose physical motor, 7% chose cognitive, 11% chose social emotional, 2% chose religious and moral values, physical motor, cognitive, and art, 2% chose physical motor, cognitive, language, and social emotional, and 2% did not respond. And the participants stated that of the 6 aspects of development that became the biggest demand by the parents was 52% development of religious and moral values, 9% physical motor, 18% cognitive, 9% language, 7% social emotional, 2% Religious, moral, and physical motor values, and 2% others chose art.

Based on the fact of the children aged 5-6 years' development when associated with the 6 development programs, the greatest need required by the child according to the participants was 36% chose religious and moral values, 27% chose the motor physics, 9% chose cognitive, 2% chose the language, 20% chose emotional social, 2% chose motor, cognitive, and language physics, and 2% chose morally-physical and moral values of motor. However, apparently, the main focus areas developed in children aged 5-6 years were 41% religious and moral values, 11% physical motor, 9% cognitive, 14% language, 16% social emotional, 2% art, religious values, morals and Physical motor 5%, and 2% choose physical motor and cognitive. When participants were asked to answer if children aged 5-6 years have had critical thinking skills then 14% of participants answered yet, and 86% answered already. According to 77% of participants 6 development programs could improve critical thinking skills, while 23% answered only a few of the 6 development programs that could improve critical thinking skills.

Of the 6 development programs, 36% of participants chose motor physics as the

largest contribution in critical thinking skills, 39% chose cognitive, 9% chose language, 14% chose social emotional, and 2% chose art. Whereas according to 91% of participants physical activity can improve critical thinking skills of children aged 5-6 years, 7% said do not know, and 2% stated not answer. According to 9% of participants, children aged 5-6 years could think critically while learning through singing, 55% while learning through physical activity, 34% while reading, writing and counting, and 2% others did not answer. 61% of participants chose physical activity that builds most critical thinking skills, while 7% chose read, 14% chose counting, 5% chose singing, and 2% chose move and count.

4. CONCLUSION

It can be concluded that the majority of participants know that it is very important to develop physical activity for children aged 5-6 years, half of them have physical activity development by understanding the characteristics of children aged 5-6 years, planning and executing activities according to plan, children, carried out daily with planning guidance on the density and intensity of children in physical activities. Most early childhood educators felt that they have knowledge and skills in carrying out activities for the development of physical activity for early childhood, yet, it was found from variety of sources, one of the biggest sources is through training activities. They also believe that children aged 5-6 years have a critical thinking ability that can be developed with a program of physical motor development. However, participants still can not confirm how long the density and intensity of physical activity that should be provided for children aged 5-6 years to build critical thinking skills. The above results were obtained from the data on the questionnaire. While data were obtained during a private discussion with participants, most of the participants stated that early childhood educators did not have the ability to plan quality physical activity activities. Therefore, it can be concluded that

the guidebook or guidance on how to develop physical activity for children aged 5-6 years is needed to be a reference for early childhood educators to create a program of physical activity activities that build critical thinking, especially for children aged 5-6 years.

5. ACKNOWLEDGMENT

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