

Concept of Child Development Theory Based on Perceptual and Motor Domains

Rahadian Sakti Pradana *

Universitas Pendidikan Indonesia, Bandung, Indonesia

rahadianrsp@upi.edu

Sunardi Sunardi

Universitas Pendidikan Indonesia, Bandung, Indonesia

nardilembang@upi.edu

*Corresponding author

Abstract

Children's motor development is very important because children are confident in their environment, including when playing with their friends, children who grow and develop without motor skills will become inferior in carrying out tasks related to their skills. The aim of this research is to provide illustrated abilities in completing certain motor tasks, to provide the ability to be able to train children's body movements during motor development and to hone children's fine and gross motor skills. The method used by the author is a literature review analysis. In the process of motor perception, environmental stimuli that are relevant to movement are recognized, appropriate movement information is sent in the form of output to the muscles to produce various types of movement. Up to the fine and gross motoric stages, perceptual motor skills are also very important in improving children's motor skills and academic abilities.

Keywords: Child development, fine motor skills, gross motor skills, movement.

Introduction

The growth and development of children is often referred to as the golden age because at that time the physical condition and all abilities of children are developing rapidly. For example, a child's running speed will increase according to his age. In addition, physically, children will also look taller or bigger, the process of growth and development of children's motor skills is related to the process of growth and development of children's movement abilities.

The development of children's motor skills will be clearly visible through various movements and games that they can do. The stronger and more skillful the movements of a child, making children happy to play and not tired to move all their limbs while playing. The movement of children's limbs while playing has many benefits for the growth of other aspects of children's abilities, especially aspects of cognitive development.

In the *Preschool Children* (2000) book it's written that the first five years are a period of rapid motor development of children. Motor is all movements that may be able to be carried out by the whole body, while motor development can be referred to as the development of elements of maturity and

control of body movements. Motor development is closely related to the development of motor centers in line with brain and muscle.

Motion is an important element in human life, almost all activities carried out by humans involve elements of motion, together with the dimensions of motion, humans try to knit useful and meaningful lives in a variety of diverse and diverse roles. Many human activities involve motor dimensions, one of which is perceptual motor, perceptual motor is the result of our ability to receive information through feelings.

In addition, there are sensomotoric, generally used to refer to sensomotoric, namely receptor systems (Gandasetiawan, 2009), and sensorimotor (Praptiningrum, 2005). Sensomotor comes from the words sensory (senses) and motor (motion). Sensory is the nervous system that is responsible for receiving and delivering stimuli from outside, there are also motor movements that can be done by the body that appear in response or response to a stimulus.

Based on this narrative, it can be understood that sensomotor is the ability or activity of the central nervous system in receiving and recognizing information, then planning, implementing and regulating reactions and answers in the form of the ability to act and respond back as desired.

Method

There are 2 variables derived, the independent variable is "child development", while the dependent variable is "perceptual and motor domain". This type of research method is a literature review analysis (research literature) this article will discuss the analysis of scientific journals that are relevant to the subject matter that has been chosen, as for the steps in this research method, namely (1) choosing articles, (2) collecting initial data, (3) obstacles from the topic, (4) collecting supporting data, (5) drawing conclusions and online recommendations.

Results and Discussion

1. Different of fine motor and gross motor skills

a) Fine motor skills are abilities related to physical skills involving small muscle, eye and hand coordination. This ability needs to be honed in the right way, and at the right age. Because, fine motor skills are one of the important growth and development achievements in children. This skill plays a very large role in the school life of the Little One, as well as in his daily life until he grows up. In addition, fine motor skills can help children to gain independence.

b) Gross motor can be interpreted as a skill or ability that involves whole-body movement. Activities that require core muscles, such as legs and arms that enter gross motor. The ability to sit, stand, run and walk alone requires skills from gross motor skills. A child's gross motor development will also differ with age. In general, when children are 3-6 months old, children can learn to raise their hands and feet.

Table 1. Comparison of motor skills.

Fine motor skills	Gross motor skills
1. Cut the paper into 2 parts. 2. Washing and wiping your own hands. 3. Draw a circle, but the shape is still rough. 4. Tying the shoelaces.	1. Catch a big ball with your hands straight in front of the body. 2. Ride a tricycle through wide curves. 3. Run and kick the ball. 4. Walk on a predetermined line.

2. Stages of fine motor development

1-year-olds have better control of their hand and finger muscles than before. Some examples of fine motor development of children starting at the age of 1 year:

- a) Being able to pick up an object and release an object, then pick it up again. For example, picking up a ball to throw and picking it up again.
- b) Move or remove objects from containers.
- c) Can place pieces of simple shapes (i.e. circles or squares) into the puzzle board.
- d) Can build towers from 2-3 blocks. At the age of 1.5 to 2 years the child begins to be able to arrange 4-6 blocks.
- e) Applause and waving.

3. Stages of gross motor development

The child's ability to do so all goes into gross motor development of his body. Simply put, it can be said that the gross motor ability of children moves, but in fact this ability is influenced by age, physical development of children and weight as well. This was revealed by an early childhood practitioner who is also the co-founder of Dandelion House named Carmelia Riydahni. When the baby is 0-3 months old, the baby can turn his head and lift his head, the baby aged 3-6 months can roll over and learn to sit, until finally at the age of 6-12 months, the baby has begun to learn to stand.

4. Posture

Posture is the most fundamental of motor actions. It is the foundation upon which other actions are built. Posture must be sufficiently stable to allow movements of the extremities, and maintaining a stable posture sets up the necessary conditions for looking around, handling objects, holding conversations, or going somewhere. Postural development is the attainment of increasingly erect postures poised over an increasingly small base of support. Think of a newborn struggling to lift its head, a toddler's wide walking stance, and an older child dancing on pointe. Indeed, the most common images of motor development are milestone charts of postural development (Picture 1)

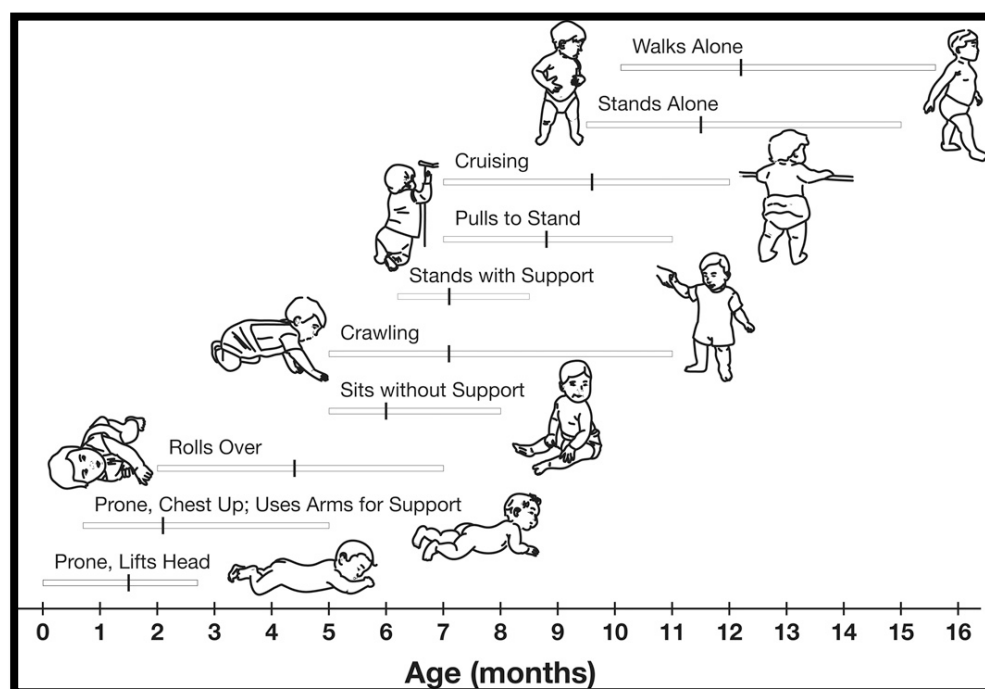


Figure 1. Typical example of milestone chart illustrating age-related changes in postural development.

5. Pre-literacy development

Recent empirical evidence showed beneficial short- and long-term effects of PA programs not only on motor skill development but also on cognitive growth (Diamond, 2015; Alesi et al., 2016). As a consequence, cognitively engaging motor programs have been planned to improve cognitive development in childhood (Moreau et al., 2017). A range of studies have provided evidence that play-based situations and motor exercise programs improve cognitive development by acting positively on EFs from kindergarten (Lakes et al., 2013; Pesce et al., 2016).

However, in our knowledge, many studies lack of a structured and reproducible Physical Education Program (PEP) that includes specific activities, timing and duration. Based on these issues, the aim of this study was to explore the effects of a specific 16-week-long PEP on the development of gross motor and pre-literacy skills concerning visual analysis and spatial orientation skills in preschool children with a psychomotor, fun and enjoyable approach.

6. Child development from various factors

a) Enviromental factor

Motor development is one of the most important factors. To develop motor skills, parents provide support to hone children's motor skills by providing opportunities for children to be able to explore with the environment around their homes. Many factors can affect children's motor development, especially at the age of 3-4 years. At that age is a time when children like to explore. Environmental factors around the child's home are factors that have a major influence on children's motor.

If in the neighborhood there are many children with the same age of 3-4 years, then they will prefer to play outside the house rather than just staying indoors. Children's motor skills also need to be trained to develop properly. In motor development is the period of childhood, as expressed Petterson (1996) : "During middle childhood, the body and brain undergo important growth changes, leading to better motor coordinator, greater strength and more skilfull problem-solving.

7. Fine Motor Skills Assessment Instrument

Health and nutrition play an important part in these biological developments". Physical development is closely related to children's motor development, motor development is different from each individual, there are people whose motor development is very good, such as athletes, some are not like people who have physical limitations. Gender also has an influence in this regard, according to Sherman (1973) who states that girls at the age of children have physical flexibility 5% - 10% better than boys, but athletic physical abilities such as running, jumping and throwing are higher in boys than girls.

Child development refers to increasing changes in knowledge, behavior, and skills that are getting better or in accordance with developmental tasks at their age. Hartinah (2008) suggests that development is a process of qualitatively changing the quality of the function of physical organs. Therefore, the meaning of development rests on the refinement of psychological functions manifested in the abilities of physiological organs.

The child's overall physical motor ability is in accordance with the developmental achievements arranged in indicators, the child looks very skilled in activities that involve the movement of large muscles and body exercise, but there are some points in fine motor development that children have not been able to achieve in fine motor development such as tearing paper / tissue, besides that the child still holds the glass with 2 hands.

8. Gross Motor Skills Assessment Instrument

According to Lerner & Kline (2006, p.233) gross motor skills involve the ability of large muscles, such as the neck, arms, and legs. Gross motor skills include walking, running, catching, and jumping. To provide stimulation for gross motor development, children need a safe environment free of obstacles, and children need a lot of encouragement from parents and teachers.

9. Perceptual Motor Abilities

According to Sugiyanto (2007), perceptual motor is the ability to interpret stimuli received by sense organs. Then it can be concluded that motor perceptual abilities are useful for understanding everything that is around. So that a person is able to do or perform certain actions according to the situation. Related to this, in giving or examples of carrying out motion tasks, the child's ability to perform the task in question, depends on his ability to obtain information and interpret the meaning of the information.

10. Child with Attention Deficit Disorder and Hyperactivity (ADDH)

The term ADHD is adopted from the word ADHD (Attention Deficit Hyperactivity Disorders), sometimes the term ADHD is often referred to as ADD-H (Attention Deficit Disorder Hyperactivity), ordinary people often call it hyperactivity only, but in order for the understanding of the problem to be through, in this book the author is more likely to use the term ADHD.

Another opinion was put forward by Santrock (2002) who stated that ADHD as a disorder in the form of short attention span, easily shifted attention and high levels of physical activity. ADHD is a significant impairment in attention, control of stimuli and behavior according to rules that arise from childhood, causing them to be emotionally disturbed, gross motor, and language delays.

11. Child with Autism Spectrum Disorder (ASD)

Child with Autism Spectrum Disorder (ASD) have impaired social and communication skills, restricted and stereotyped behaviors, and studies have also reported problems with motor deficits, regarding basic motor skills, people with ASD present impaired postural control, impairments in broad motor coordination and deficit in fine motor skills. Regarding motor skills, the study demonstrates important associations. The results indicate that the lower the level of ASD, the better the motor skills. Children who make use of medications have greater motor skill deficits. Higher motor skills scores are associated with higher participation in physical education classes.

Conclusions

During the child's growth, movement development or motor development is very important and fundamental for the continuation of the child's development to the next stage. Naturally, as the age of the child increases or increases to adulthood will be followed by an increase in the child's gross motor skills. Children's motor skills can grow and develop well if children have diverse movement experiences. Motion is an activity that cannot be separated in human life. Perceptual motor plays an important role in a child's motor development. Perceptual motor is also very important in improving children's movement and academic abilities. Perceptual motor establishes the relationship between perceptualness and human motion. In order to produce motion, information from the surrounding environment is needed.

Fine and gross motor skills play an important role in developing the child holistically. Children with typical development would attain an acceptable level of motor proficiency by the age of nine years to participate in physical play. Overall, studies have shown that children with disabilities tend to have poorer motor skills as compared with children with typical development (Revie & Larkin, 1993; Simons et al., 2008). Information from the surrounding environment is very important for perceptual motor development, because information from the environment is the beginning of perceptual motor processes. Perceptual motor has various elements that develop in it. The perceptual motor elements consist of: body awareness, space awareness, direction awareness and tempo awareness. These four types of awareness are important for children to know and learn.

Suggestion

Understand the research questions and objectives before writing recommendations. Also, make sure that the author's recommendations are relevant and directly discuss the purpose of the study, should

help further researchers in designing research and can be used as a reference in the article to help justify the writing in the article.

References

- Adolph, K. E., & Franchak, J. M. (2017, January 1). The development of motor behavior. *Wiley Interdisciplinary Reviews: Cognitive Science*. Wiley-Blackwell. DOI: <https://doi.org/10.1002/wcs.1430>
- Amalia, I. A. (2016). Aspek perkembangan motorik dan hubungannya dengan aspek fisik dan intelektual anak. *AWLADY: Jurnal Pendidikan Anak*, 2(1). DOI: <https://10.24235/awlad.v2i1.760>
- Ardiyanto, A. (2016). Peran Perceptual Motoric Terhadap Perkembangan Gerak Anak. *Universitas PGRI Semarang*, 2–9. DOI: <http://journal.upgris.ac.id/index.php/jendelaolahraga/article/viewFile/1094/973>
- Ardiyanto, A., & Sukoco, P. (2014). Pengembangan model pembelajaran berbasis permainan tradisional untuk meningkatkan kemampuan motorik kasar anak tunagrahita ringan. *Jurnal Keolahragaan*, 2(2), 119-129. DOI: <https://doi.org/10.21831/jk.v2i2.2608>
- Battaglia, G., Alesi, M., Tabacchi, G., Palma, A., & Bellafiore, M. (2019). The development of motor and pre-literacy skills by a physical education program in preschool children: A non-randomized pilot trial. *Frontiers in Psychology*, 9(JAN). DOI: <https://doi.org/10.3389/fpsyg.2018.02694>
- Destiyani, J., & DH, D. P. (2019, December). Analisis Perkembangan Motorik Anak Pada Usia 3-4 Tahun. In *Seminar Nasional PAUD 2019* (pp. 48-53). DOI: <https://conference.upgris.ac.id/index.php/Snpaud2019/article/view/440>
- Kruger, G. R., Silveira, J. R., & Marques, A. C.. (2019). Motor skills of children with autism spectrum disorder. *Revista Brasileira De Cineantropometria & Desempenho Humano*, 21, e60515. <https://doi.org/10.1590/1980-0037.2019v21e60515>
- Kusmiati, A. M., & Sumarno, G. (2018). Pengaruh permainan tradisional terhadap kemampuan perseptual motorik anak di SDN Margawatu II Garut Kota. *TEGAR: Journal of Teaching Physical Education in Elementary School*, 1(2), 17-23. DOI: <https://doi.org/10.17509/tegar.v1i2.11934>
- Marlina. (2015). *ASESMEN ANAK BERKEBUTUHAN KHUSUS (Pendekatan Psikoedukasional)*. Padang : UNP Press.
- Nonis, Karen & Tan, Jernice S.Y.. (2014). The gross motor skills of children with mild learning disabilities. *International Journal of Special Education*. 29. DOI: https://www.researchgate.net/publication/287442728_The_gross_motor_skills_of_children_with_mild_learning_disabilities
- Orami, Carla Octama. (2019). *Stages of gross motor development of children based on their age*. Orami articles about parenting, health, lifestyle and entertainment. Retrieved December 27th, 2023 from <https://www.orami.co.id/magazine/tahapan-perkembangan-motorik-kasar-anak-berdasarkan-usianya>
- Rapisa, D. R. (2019). *Program latihan koordinasi sensomotorik bagi anak usia dini dan anak berkebutuhan khusus*. Sleman : Deepublish.
- Sujiono, B., Sumantri, M. S., & Chandrawati, T. (2014). Hakikat Perkembangan Motorik Anak. *Modul Metode Pengembangan Fisik*, 1-21. DOI: <https://www.academia.edu/download/56289394/PGTK2302-M1.pdf>
- Taufan, J., Ardisal, A., Damri, D., & Arise, A. (2018). Pelaksanaan Pembelajaran Pendidikan Jasmani Adaptif bagi Anak dengan Hambatan Fisik dan Motorik. *Jurnal Pendidikan Kebutuhan Khusus*, 2(2), 19–24. DOI: <https://doi.org/10.24036/jpkk.v2i2.496>
- Wiwik Pratiwi, S. R. T. &. (2018). Asesmen Perkembangan Anak (Studi Kasus Asesmen Perkembangan Anak Usia 2 Tahun). *Tadbir: Jurnal Manajemen Pendidikan Islam*, 6(2), 49–60. DOI: <https://www.journal.iaingorontalo.ac.id/index.php/tjmpi/article/view/840>