



Bola Tangkup: A Media to Stimulate Gross Motor Skills' Children with Visual Impairment

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Abstract

This study aims to determine how the effectiveness and the development of media "bola tangkup" stimulate the gross motor ability of children with visual impairment children. Research and Development (R & D) is used in this research, though it focused on the development of procedural models by Borg & Gall simplified. The development phase of this research begins with an analysis of potential problems, requirements analysis, product design, design validation, and applied it, then conducted tests gross motor ability of children. This research analyzed the data with descriptive qualitative; descriptive analysis of the needs and the percentage of the results of expert validation and testing of the product. Design validation results showed that the media developed has met the eligibility test media expert and skilled children with special needs and can be used for media learning gross motor stimulation. Media expert validation results expressed strongly agree with 81,12% and the percentage of children with special needs experts strongly agreed with a percentage of 90,59%. The trial results demonstrated the ability of sound ball in an average percentage of 39,58% and the ability after treatment using "bolatangkup" an average percentage of 73,21%. It can be concluded that the use of media "bolatangkup" is more effective than using the ball sounds. In addition, media "bolatangkup" can be used as a step to introduce the characteristics of braille using the seeds and it is more interesting and fun for children with visual impairment.

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INTRODUCTION

The basic problem for children with special needs usually indicated by his/her behavior when they are together with normal children. For example, when they mingle, children with visual impairment face difficulties in physical activities, psychological and social (Carolina, 2009). The term adaptive technology actually taken from the term assistive technology then interpreted as media that can be adjusted to situations. The process of adapting has to happen with the tools. It means that the tools must be repaired because children in needs depend to the medium. Adjustment can be a way, material, design or model so that it can be used and fit in with the needs of a child.

Based on observation and interview in the preliminary study with class teachers preparation with blind children in SLBN Semarang, it was found that in reports on the results of student learning, blind children independently capable to throw and catch the ball when they are in second grade in primary school (nine years old). This ability is far from the development standard the achievement issued within Permendikbud No.137 2014 which stated that children should have the ability in throwing, catching and kicking the ball when they are 4 to 6 years old. Media learning related to gross motor development for blind children in SLBN Semarang is very limited, for example sound, beam righteousness, nets, tunnel, trampoline and ropes.

Besides media learning related development motor skills, researchers also observed about the stages of the introduction in braille. There are several stages of the introduction of braille, one of them used grain. By seeing this condition, researcher felt that it was less attractive. From these findings, researcher has **an idea to develop media** to suit the needs to stimulate child's character their ability. In the end, a media can maximize the gross motor skills for blind children and the use of grain to introduce braille letter can be achieved in accordance with their age. Therefore, the objective of this study is to determine how the effectiveness and the development of media "bola tangkup" stimulate the gross motor ability for blind children.

RESEARCH METHOD

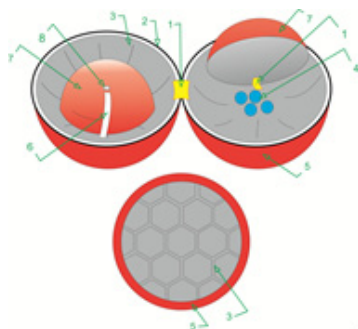
The study is done by using research and development (R & D) technique. The model used in accordance to Borg & Gall, which call it as a

descriptive model, describing a groove or steps procedures to be followed to produce certain products (Setyosari, 2012:253). Procedural model by Borg & Gall then simplified to adjust research objectives and product development which is not for commercial thing. The measures that find potential and problems, the analysis needs the product model, validation design, and trial products. Technique collection is done in a chief, observation, and interview. Data analysis was done with descriptive qualitative for analysis the needs and descriptive the percentage to yield validation the people of and a pilot products.

RESULTS AND DISCUSSION

This research is done with several steps from procedures with simplified research which developed by Borg & Gall. The measures are including potential problem, an analysis of needs, design a product, validation design and a trial product. There are several potential and problems related to the development of a gross motor of children with visual impairment such as: physical structure of the children with visual impairment and normal children is limited only to their vision. It found that a young blind person capable to throw and catch a ball by himself in second grade of SDLB with an average age of 9 years. After the potential problems found, then researchers conducted the needs related to the analysis of the needs of the media as a basic design of the media.

The analysis results of the needs found that children need a media that can be used to play together in accordance with the ability and characteristic of a child as well as a practical media. These findings are used as a basic design of the media. The idea is to make them hear the **sound from inside the ball. From this idea, researchers call the media with Bola Tangkup.** It is in accordance with the theory stated by Sujiono dkk (2007) (in Zaenab, 2012). Moreover Sujiono (2007) mentioned that the ball is a media learning that will help the development of various aspects of students, **such as the students' gross motor development.** Media through the utilization of the ball will encourage student needs to actively interact and engage with the physical environment. At the same time using the media ball students had the opportunity to enrich movements, for example with sensors movement, hand, foot, the head or another body part that involves a large muscle students, allowing students able to develop gross motor skills.



Picture 1. The design of Bola Tangkup

The material of Bola Tangkup is using the main ingredient such as plastic ball. The plastic ball coated with sponati color to attract the low vision children and help them to catch the ball. Bola tangkup can be opened and enclosed with the aim of the bola tangkup can be used for the media the introduction of braille using grains. The ball size was on the balls used for a container rattle/grains and a balancing the ball to rolling in a steady manner. Design development the bola tangkup according to a statement Saripudin (2014: 1), that process of adapting in a media learning for children with special needs disabled athletes have to happen to the tools it is not in children. It means instrument must be adjusted and not children should be based on an instrument. Adjustment can be how to operate, material, design or model so that it can be used and fit in with the needs of a child.

Design development the bola tangkup has been declared deserves tested as a media learning by the media and the children with special needs disabled athletes with the percentage average 85,88%. After tested validation design, the bola tangkup tested to students MILB Budi Asih Semarang to see the blind students related to the ball developed. The kids are really good, their interest and want to have a bola tangkup as a media learning and play.

The trial of the product then conducted in Semarang SLB country to test the effectiveness

of the bola tangkup. Before taking data motor skills, rude child, beforehand bola tangkup used to learning with matter roll the ball, throwing the ball, catch the ball and kicked the ball. The subjects are given in accordance with the theory of Sujionodkk. (2007) (in articles Zaenab thesis, 2012), suggested that a game using the ball does not require high levels of ability, and enables all children involved thereto, so that children activity capable of responding with delight, can be used in individuals and groups, can be adjusted to the level of child development, can channel the energy and aspirations of the activity of children through throws, catch and roll as well as kicking a ball.

Analysis of the trial products data shows that the media the bola tangkup more effective increase motor skills the blind rough by the percentage of 39,58% be 73,21%. Data complete data analysis trial products can be seen as Table 1.

Increasing the motor skills the blind rough using a *bola tangkup* according to a statement Sugiyono (2012:415), said that the effectiveness of a method of teaching new is speed understanding of students in learning higher, the more creative and increased study results. Supported by opinion Arsyad (2007:26), stating that the media learning to clarify the presentation of messages and information and facilitate and improve the process and study results.

The use of the *bola tangkup* for the introduction of braille with grains be more attractive and fun. From the results of interviews with class teachers a conclusion can be drawn, that child to more eager when to stage the introduction of braille with grains using a *bola tangkup*. Formerly stage the use of grain only laid on a bowl and grain moved one by one to bowl other. With the *bola tangkup* the child gets explore more to grain, as 1) the child received a lot of challenges to open the ball and cupped back with resleting; 2) a boy can enter grain into the ball, after which the ball handfuled back children can hear sounds of conflict between grain when the ball beaten; 3) can be made by media game, as guess sound grain and

Table 1. The analysis of the trial of the product

Skill using a ball the early	Aspects motor assessed	Skill after treatment using a bola tangkup
43.05%	Roll the ball	78.24%
40.42%	Throwing the ball	74.58%
37.5 %	Catching the ball	69.44%
34.03%	Kicking the ball	65.27%
39.58%	Average	73.21%

guesses name grain by holding grain. The main objective of the *bola tangkup* can be used and the introduction of braille use grain which is to stimulate the senses taktile children and the introduction of braille is still until better and more interesting.

CONCLUSION

The development of the *bola tangkup* in accordance with the developmental step of Borg & Gall already simplified. The development of the ball performed on the ball safer used and appropriate the character of a child, heavy ball according to their and ball can be opened/fused back as a media the introduction of braille using grains more interesting. Design development has been declared its feasibility by media experts and the children with special needs disabled athletes and is tried out to several children the blind to see the children related development done. Prototype the *bola tangkup* then used for learning a roll, throwing, catch and kicking the ball. According to the results of the tryouts, product shows that the media development of *bola tangkup* more effective increase motor skills rough the blind use the ball than the previous. Research needs to be tested product widely to improve the development of the *bola tangkup* higher quality.

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