Prototype of media interactive whiteboard to improving psychomotor skills of early childhood

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Abstract. The purpose of this research is to develop Media Interactive WhiteBoard to improve psychomotor skill of early childhood. The specific targets to be achieved in this study is to test the effectiveness of Interactive WhiteBoard media in early childhood learning Semarang city area. Procedures for developing a whiteboard device using a model developed by Borg and Gall covering 10 stages: (1) Research and information collecting, (2) Planning, (3) Develop preliminary form of product, (4) Preliminary field testing, (5) Main product revision, (6) Main field testing, (7) Operational product revision, (8) Operational field testing, (9) Final product revision, (10) Dissemination and implementation. Borg & Gall (1983) states that the development research procedure basically consists of two main objectives: (1) developing the product, and (2) testing the effectiveness of the product in achieving the goal. In this year's 1st research, the steps that are carried out are only at the Main Product Revision stage. From the result of this research, the prototype of the interactive whiteboard media is assembled by the research team, then validated by the media expert team, then the learning material in PAUD is validated by an expert material that is packaged attractively for the psychomotor of early child, with an average score of 86 and 88 This means that interactive media products whiteboard and learning materials in early childhood is worth to be tested in early childhood class.

1. Introduction

The development of learning media very rapidly in the last 10 years, it is very challenging for the world of education in Indonesia, especially universities in using it in lectures, one of the renewable media such as interactive whiteboard until now not used in general in early childhood, schools and colleges in Indonesia, an interactive whiteboard is a large touch-screen panel that can function as a normal whiteboard or as a computer projector screen that can control images in a computer by touching the panel surface without the use of a mouse or keyboard. This technology allows users to write or draw on its surface directly and save it to the computer. (Becta, 2003).

Based on interviews with several PAUD teachers in Semarang city area, it is found that the majority of PAUD teachers do not yet know what is an interactive whiteboard and are still reluctant to use interactive whiteboard media because the price is still quite expensive range of 80 million. However, if viewed kesmanfatannya for the world of education is very important because it allows teachers in the delivery of materials directly on the touch screen and free in expressing ideas both from teachers and

students. Then it is related to learning condition in PAUD-PAUD in Semarang city from the past until now the teachers and students have never used interactive whiteboard in supporting the learning process (Buchori, A. 2010). This makes a particular concern because this media is needed in supporting the lecture process and make students become more active in the learning process by directly interacting with interactive whiteboard media in showed ideas.

Based on the relevant studies conducted by Glover, D. and Miller, D. (2002) as many as 95% of students and teachers observed in the UK stated that interactive whiteboards can add value to learning, although 76% feel that in the presence Interactive whiteboard will increase their preparation time, as must learn how to operate it effectively. In early 2008, Johnny Chung Lee, Carnegie Mellon University student introduced a simple way to make interactive whiteboard by utilizing the application of wii remote, which is a control tool in nintendo wii controle game. Then to cultivate the creativity and improve the psychomotor ability of this media students is very suitable because students are required to be more active using this media by pressing the menu on the screen freely, so that the psychomotor students become more sharp, this is appropriate in the research Hidayati, Eni (2008: 13) about the development of psychomotor child that states that one important aspect in the process of growth and development is psychomotor because it is the beginning of social intelligence and emotion.

From the results of the above research can be developed research on improving psychomotor ability of children based on interactive whiteboard using high touch design process approach so that later produced tools that meet the ergonomic aspects, which is easier to use, better in terms of performance, and more effective in relation to the system Human Computer Interation, which emphasizes how early childhood feels in its interaction with a tool, so that later can be applied as a medium of learning in the classroom, and furthermore as a medium of learning in the classroom, the use of interactive whiteboards using this high touch design process approach later can also be applied to college or school as a medium of presentation in learning (Buchori, 2012).

In learning to improve the psychomotor skills of early childhood, the teacher has not been using media that can be applied directly in explaining and growing psychomotor early childhood so that less than the maximum, therefore with the interactive media whiteboard is expected to early childhood can mengkontruksi thoughts on the screen touch it directly in conveying the idea in front of the class.

Based on the description, it can be formulated as follows:

(1) How to develop a valid interactive whiteboard media to improve early childhood skills in terms of students' psychomotor skills?

(2) Is learning by using interactive whiteboard practical to improve early child psychomotor skills?

2. Research Method

This research includes the type of R & D (research and development) or type of research development. The development is the development of Interactive Whiteboards with a model of kontruktivis on animal and plant material that will be implemented for 2 years. Procedure of learning device development using Modified model developed by Borg and Gall covering 10 stages: (1) Research and information collecting, (2) Planning, (3) Develop preliminary form of product, (4) Preliminary field testing, (5) Main product revision, (6) Main field testing, (7) Operational product revision, (8) Operational field testing, (9) Final product revision, (10) Dissemination and implementation. Borg & gall 1983 in Arikunto, Suharsimi. (2012). states that the development research procedure basically consists of two main objectives, namely: (1) developing the product, and (2) testing the effectiveness of the product in achieving the goal. While the sample is children of PAUD in Pedurungan

3. Result and Discussion

The most important whiteboard interactive design is at this stage of product design, the researchers designed a design to develop Interactive Whiteboard with ethnomatematics based on animal and plant matter. The steps of making Interactive Whiteboard are as follows:

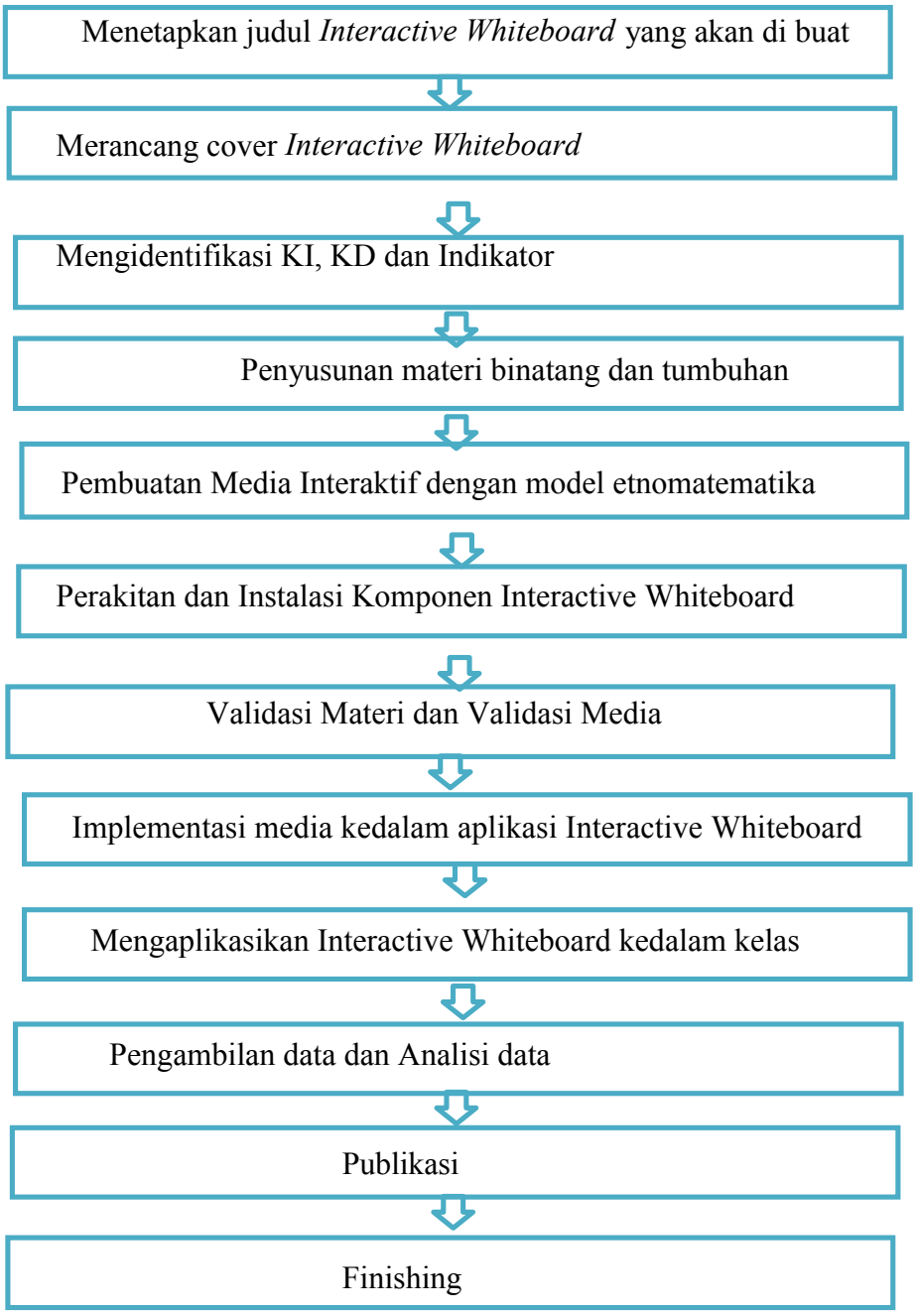

Figure 1. Steps-step to make *interactive whiteboard*

While the interactive whiteboard design combined with etnomatematics model that makes PAUD students enthusiastic to follow the learning, previously interactive product whiteboard products in the validation by material experts and media experts, with the following results:
Expert media validation results as follows:

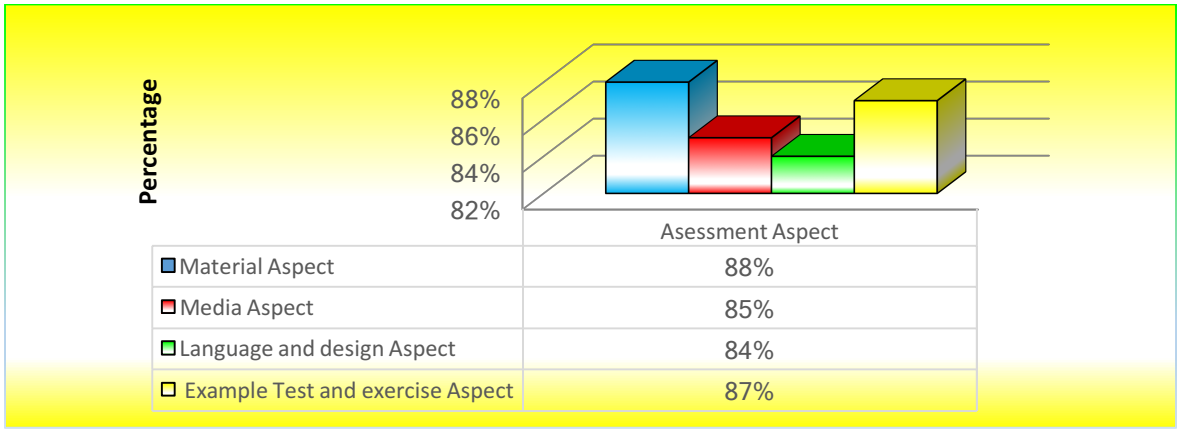

Figure 2. Validation of products by media experts

From the results of validation of media experts obtained a score of 86 means a decent category product for use in the classroom learning, then continued validation by the material experts with the following results:

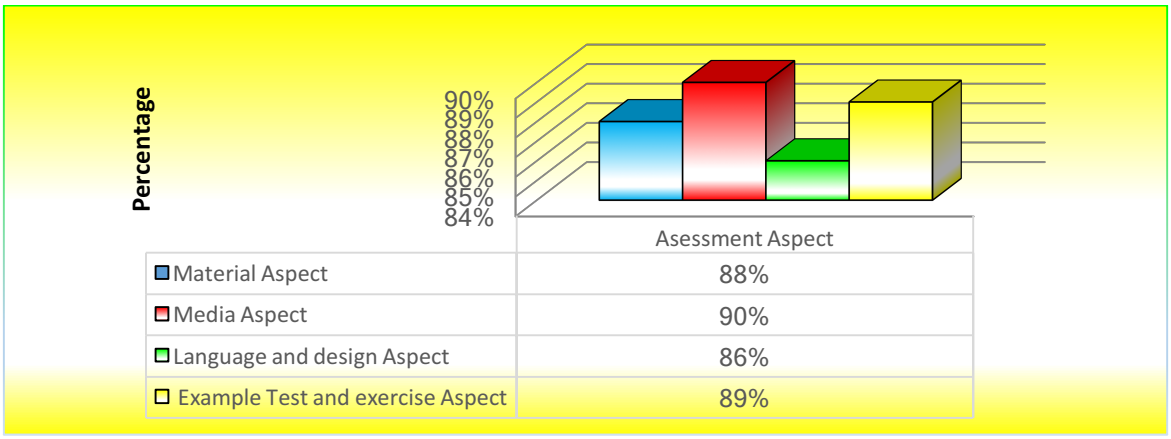

Figure 3. Validation of products by material experts

From the results of material expert validation obtained an average score of 88 means an interactive whiteboard product of animal and plant material is feasible for use in the learning process in early childhood. In classroom study using etnomatematics that is published with local wisdom of Indonesian society such as puzzles associated with Sumatran elephant, so that students are more interested in learning. Powered by Lee, W.W., & Owen, D.L. (2004). Which shows that with the media able to increase student learning enthusiasm.

Student and teacher response in the use of interactive whiteboard with etnomatematic model is very interesting with the average questionnaire score of 80, so that the interactive products whiteboard

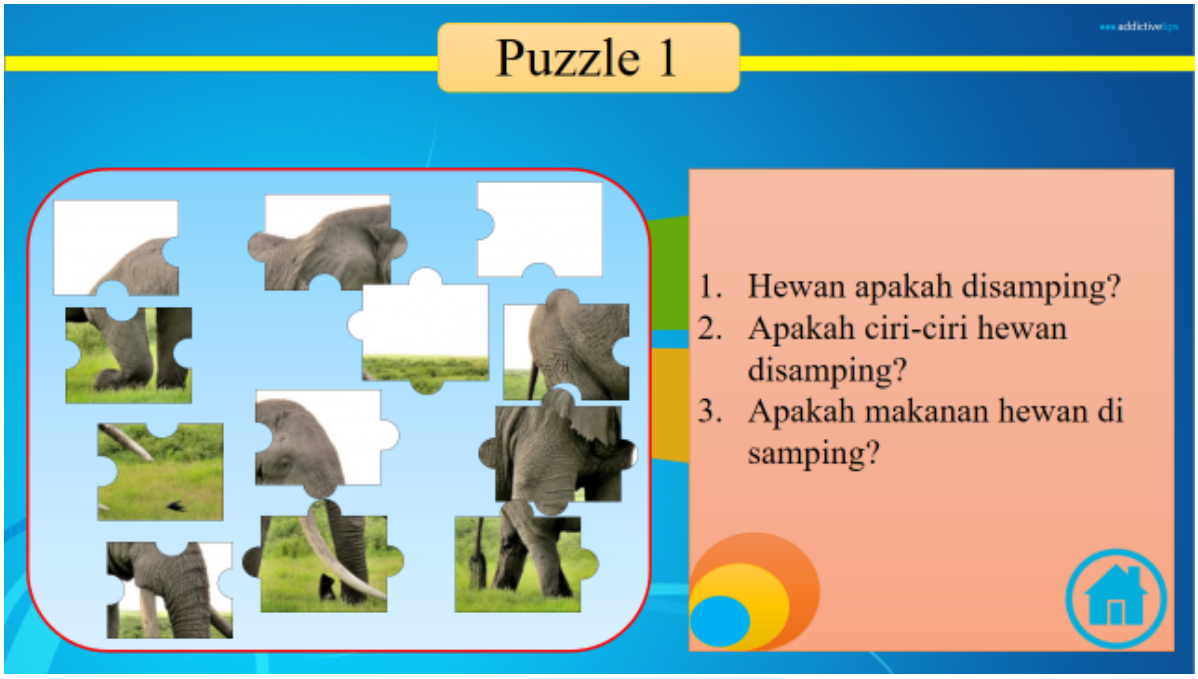

Figure 4. Media puzzle for interactive whiteboard

4. Conclusion

From the research design of interactive whiteboard for children early this PAUD obtained the following conclusions; obtained interactive products whiteboard and learning tools that have been validated by material experts and media experts with an average score of 88 and 86 means worthy to be used in the process of learning animal and plant material; response of teachers and students Tunas Pedurungan kindergarten very well indicated by the questionnaire score 80% of students and teachers happy with this interactive whiteboard media device. Need to develop interactive whiteboard media, not only for early childhood, but it can be for junior high school to college

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