

## Implementation of Interactive Whiteboard for Improving Early Children of Psychomotor Skills in Kindegarten

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**Key words:** Development, interactive whiteboard, kindergarten, effectiveness

**Abstract:** This advanced research aims to determine the feasibility, effectiveness and practicality of interactive whiteboard media to improve the psychomotor abilities of kindergarten children. This research method uses the Borg and gall development model with 10 stages that's are research and information collecting, planning, develop preliminary form of product, preliminary field testing, main product revision, main field testing, operational product revision, operational field testing, final product revision, dissemination and implementation. In this follow-up study using steps 7-10 with the produced IWB products have been tested expanded. Products interactive whiteboard obtained from student and teacher response questionnaires with the results average percentage of student responses namely the media aspect by 90%, material aspects by 90%, language and display aspects by 85% and the example aspects of questions and exercises by 90% its means that students generally assessment this product are valid and practical to use in classroom learning while the results of average percentage lecturer responses are media aspects by 95%, material aspects by 90%, aspects language and appearance by 85% and the example aspects of questions and exercises by 90% its means that lecturers in general assessment this product is very valid and practical to use in learning animals and plants in class, then the posttest results in Tunas Kekancan Mukti Kindergarten are obtained the experiments class are better than the control class  $85,15 > 65,25$  and  $t$  count  $< t$  table which is  $1,25 < 1,58$  so that this product is effectively used as fun the learning media for kindergarten children.

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### INTRODUCTION

The development of learning media is very rapid in the last 10 years, this is very challenging for the world of

education in Indonesia, especially in universities using it in lectures, one of the renewable media such as interactive whiteboard has not been used generally in kindergarten schools and colleges in Indonesia. Interactive whiteboard

is a large touch screen panel that can function as a regular whiteboard or as a computer projector screen that can control images on a computer by touching the panel surface without using a mouse or keyboard. This technology allows users to write or draw directly on the surface and store it on a computer<sup>[1]</sup>.

In this development research according to Borg and Gall development steps covering 10 steps, steps 1-6 have produced interactive whiteboard products that are suitable for use in the learning process according to teachers and students at Sendang Mulyo Kindergarten while for steps 7-10 are design revision usage testing product revision, mass production will be carried out an expanded trial in Tunas Kekancan Mukti Kindergarten with hope that interactive whiteboard products can increase motivation.

Based on relevant studies conducted by Miller *et al.*<sup>[2]</sup> as many as 95% of students and teachers observed in the UK stated that whiteboard interactive can add value to learning, even though 76% felt that with this interactive whiteboard will increase their preparation time such as having to learn how to operate it effectively. In early<sup>[3,4]</sup> Carnegie Mellon University student introduced a simple way to create interactive whiteboard by utilizing applications from the wii remote which is a control tool in the Nintendo Wii game controls. Then to foster creativity and improve the psychomotor abilities of students, the media is very suitable because students are required to be more active in using this media by pressing the menu on the screen freely, so that the student's psychomotor becomes sharper, according to Hidayati's research, Eni about child psychomotor development which states that one important aspect of the growth process is psychomotor because it is the beginning of intelligence and social emotion.

Based on the description, the problem can be formulated as follows: how to develop interactive whiteboard media to improve early childhood skills in terms of student's psychomotor skills? Can learning using interactive whiteboard improve psychomotor skills in early childhood?

## MATERIALS AND METHODS

This research includes the type of R&D (research and development) or the type of development research using a model developed by Borg and Gall. In this study includes stage operational product revision which is carried out in an integrated manner where the activity at this stage is a trial draft 2 involving 9 classes. This trial was conducted to find out whether draft 2 had shown a performance as expected. If there are still weaknesses then the stage is carried out operational field testing is an improvement in draft 2 to analyze weaknesses based on the results of the expanded trial. The next step is final

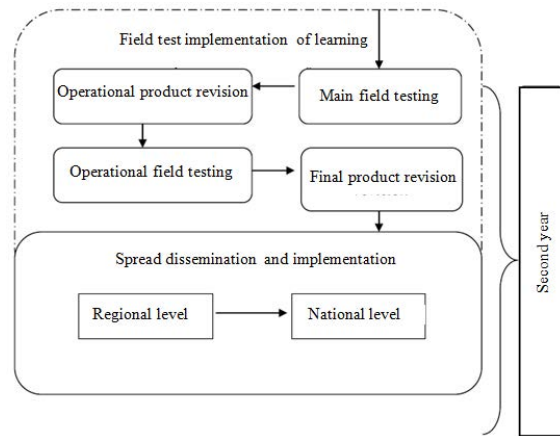


Fig. 1: Research scheme for the development of Borg and Gall

product revision that produces a revised draft 2. The results of the improvement from draft 2 are then called the final draft that is ready to be published. The final stage of this research is dissemination and implementation. This stage is pursued with aim that the newly developed product can be used by the wider community. The core activity in this stage is to implement the interactive whiteboard product for improving early children of psychomotor skills in kindergarten. The research procedure that adopts the 10 stages of development of Borg and Gall can be seen in Fig. 1.

## RESULTS AND DISCUSSION

Results of the average percentage of student responses namely the media aspect by 90%, material aspects by 90%, language and display aspects by 85% and the example aspects of questions and exercises by 90% its means that students generally assessment this product are valid and practical to use in classroom learning.

The results of the average percentage of teachers responses are media aspects by 95%, material aspects by 90%, aspects language and appearance by 85% and the example aspects of questions and exercises by 90% its means that lecturers in general assessment this product is very valid and practical to use in learning animals and plants in class Fig. 2.

Based on the posttest results at Tunas Kekancan Mukti Kindergarten obtained by the average value of the experimental class are better than the control class 85,15 > 65,25 and t count < t table which is 1,25 < 1,58 so that this product is effectively used as fun learning media for early childhood education programs Fig. 3.

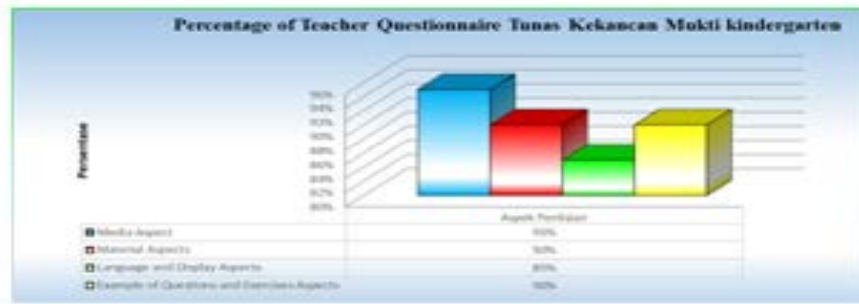


Fig. 2: Percentage of students response Tunas Kekancan Mukti Kindergarten

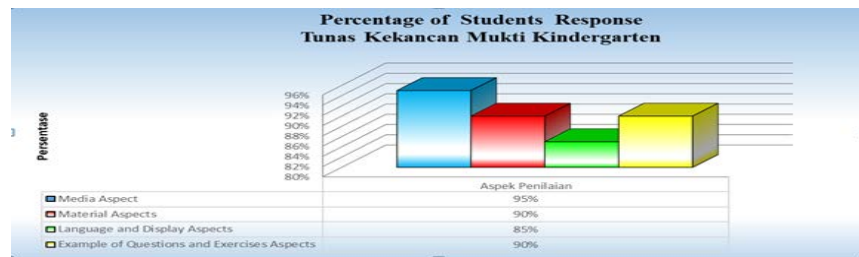


Fig. 3: Percentage of response teachers Tunas Kekancan Mukti

### CONCLUSION

Students generally value this product as valid and practical for use in classroom learning. While teachers in general considered this product very valid and practical to be used in the study of plans and animals in the classroom. This product is effectively used as a medium of plans and animals for improving early children of psychomotor skills in kindergarten.

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