The Effectiveness of the Interactive Whiteboard Based on Graphical User Interface in Improving Bahasa Indonesia Learning Outcomes

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Abstract---The study aims to test the effectiveness of Interactive Whiteboard Based Graphical User Interface and describe the student's activity on the use of it in improving learning outcomes. The type of this research is Research and Development (R & D). The research procedure uses waterfall analysis. The population of this study is 4th graders of elementary school with a saturated sample technique that is all of them. Data collection techniques use observation, tests, polls and documentation. Data analysis techniques use t-test and gain test. The result shows that interactive chalkboard media take an effect on learning outcomes seen from the average difference of t-test which is 7.68 and average increase of gain test is 0.34435 with moderate criteria. Student activity earned score of 354 with the value of 70.8 which included in active citeria at the first meeting and earned score of 480 with the value of 96 which included in very active criteria at the second meeting. The conclusion is the Interactive Whiteboard Based Graphical User Interface is effectively used in language learning and enhance student activity.

Keywords: GUI, media, Interactive Whiteboard

I. INTRODUCTION

Bahasa Indonesia in Curriculum 2013 plays a dominant role as the introduction of materials from all competency sources to students. In terms of building insight, theme development and linking one theme to another between lesson content, Bahasa Indonesia is able to serve as a language of science distributor (Mulyasa, 2016:7).

Bahasa Indonesia is a contextual learning, so through learning Bahasa Indonesia students are trained to present various competencies logically and systematically to improve understanding of the material presented. In the theme "Always Save The Energy", subtheme "Energy Benefits", the basic competency is "comparing the procedure of using two similar and different tools" in the form of making, reading presenting the procedure text (permendikbud, 2016:55). According to a survey of elementary school teachers on the discourse of changes in curriculum 2013 on 1-5 February 2013 in Jakarta, Bogor, Bekasi and Banten, 75% teachers disagree with the integration of IPA and IPS with Bahasa Indonesia. It shows that the teachers are not prepared or sure of the thematic-integrative, although 75% of the teachers were already aware of the thematic integrative learning as it has been implemented in the lower grades (Hidayat, 2013:5-6).

The problem of Bahasa Indonesia subject is also still happening in elementary school. Based on pre-research data conducted at Ngemplak Simongan Elementary School 01 through documentation and interviews with 4th grade teacher it is found that students' understanding of the material delivered directly using illustrations is still not optimal because the media used is only whiteboard other than the textbook. The whiteboard is one of the objects that is needed in the classroom for the teaching process (Yuliarty, 2012:1). The beauty, fascination, and interactivity in a learning media has a puspose to avoid boredome of the students in the learning and effects expected is the students can be motivated and receive the learning easily (Fanny, 2013:1). Meanwhile, the Bahasa Indonesia learning outcomes on manual procedure text material of 4th graders at SD Ngemplak Simongan 01 indicated that with a minimum submission criteria (KKM) of 70 in the cognitive domain, 37.7% of students from 45 students got a score below 70, while in the psycomotric domain, 20% of 45 students got a score under 65.

Based on the problem background, the reesearchers limit the problem in using learning media to improve the learning outcomes on procedure of tools using material on 4th graders. Arda (2015:5) states that the media can be considered as something that can be used to convey messages, stimulate the minds and feelings of students so that the motivation arises to learn. The selection of learning media must be adapted to the material being taught and the student's condition. So, it is expected that learning media can help students understand the concept of material taught, can create a pleasant learning atmosphere (Rahmah, 2014:2). The general problem formulation in this research is How the effectiveness, feasibility, and activities of the students when using the Interactive Whiteboard

Based Graphical User Interface on procedure of tools using material in Bahasa Indonesia learning? The purpose of this research is to test the effectiveness and describe the activity of students when using the Interactive Whiteboard Based Graphical User Interface on procedure of tools using material in Bahasa Indonesia learning

II. RESEARCH METHODS

This type of research is research and Development (R & D). Sugiyono (2015:407) explains that research and development methods are research methods used to produce certain products, and to test product effectiveness. The development Model in which researchers are being drafted is using waterfall. Waterfall is a model developed for software development, making software that develops systematically from one stage to another in a form like a waterfall (Bassil, 2012:2).

This research procedure is the analysis of needs, design, manufacture, testing, and maintenance. The population of this study is 4th graders with a saturated sample technique that is all of them. The data collection techniques use observation, tests, polls and documents. The data analysis techniques use product data analysis, preliminary data analysis, T-test, gain test, and descriptive data analysis.

III. RESEARCH RESULTS AND DISCUSSION

3.1 The Effectiveness of Interactive Whiteboard Based on Graphical User Interface

The effectiveness of interactive whiteboard based on graphical user intarface is derived from the results of cognitive learning through formative tests in the form of pretests and posttest. The researchers conducted an average improvement-test to determine the increase between the pretests value and the Posttest value after the previous calculation through the t-test. The increase between the pretests value and the posttest value is obtained through calculations by using the N-Gain formula. The results of the average increase in pretests and posttest data are presented in table 1.

According to table 1 it is known that the average increase (gain) of pretests and posttest data amounted to 0.34435 with an average difference of 6.38. Improved results of pretests and posttest in the using of interactive whiteboard based on graphical user intarface presented in the form of bar chart in Figure 1.

Table 1. Average Increase Test (Gain)

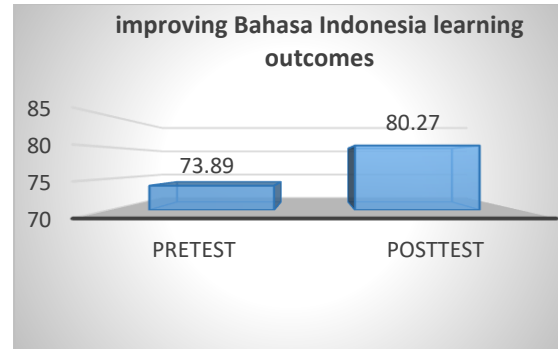| Category	Value
Gain Value	0,34435
Average Pretest	73,89
Average Posttest	80,27
Average difference	6,38
Criteria	High

Figure 1 improved learning outcomes using interactive whiteboard based on graphical user

Based on Figure 1 it shows there is an increase in learning outcomes which is evidenced in the formative tests in the form of pretests and posttest with an average difference of 6.38. The average increase shows that the interactive whiteboard based on graphical user is effectively used on the procedure of tools using material of Bahasa Indonesia learning in 4th graders at SD Ngemplak Simongan 01 Semarang. Yusdianto (2012:8) states that interactive whiteboards can store the teaching results that have been written on the screen, so students are not confused about losing notes or forgetting about what material has been delivered before in the classroom.

Students activities in using Interactive Whiteboard Based on Graphical User Interface

Students activities were obtained through the observation sheet during the learning. The descriptive test result showed that the student activity at meeting 1 gained a score amount of 354 with a value of 70.8 included in the active criteria and meeting 2 gained a score of 480 with a value of 96 included in very active criteria. This was in accordance with the research conducted by Sandra de Koster in 2014 titled Interactivity with the interactive whiteboard in traditional and innovative primary schools: An exploratory study. The result of this study showed the differences in learning interactions between two schools. At the one school that has been researched, it is found that IWB supports the activities and interactions between teachers and students since the students perception is not always has to be necessarily the same with what the teachers taught, the most striking discovery is the school becomes more innovative in conducting learning because it uses profitable multimedia for the teachers who operate it.

IV.CONCLUSION

Based on the result, the interactive whiteboard based on graphical user on the procedure of tools using material of Bahasa Indonesia learning,

obtained learning outcomes with t-count calculation which is 7.68 is larger than the T-table which is 1.68 with an average increase test of 0.34435 catagorized in high criteria. The use interactive whiteboard based on graphical user on the procedure of tools using material of Bahasa Indonesia learning can increase students acivities at meeting the first meeting with the value of 70.8 included in active criteria and students activities at the second meeting with the value of 96 included in very active criteria.

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