ABSTRACK

Ridia Fedistia, 2019. Development of Mathematics Learning Equipments Based on Flipped Classroom to Improving Students' Mathematical Reasoning Ability for 10th Grade Senior High School.

The Flipped Classroom-based learning model can be an alternative to overcome the problem of students' mathematical reasoning abilities that are still low, because learning is usually done at school that is the teacher conveys the learning material turned into at home using online and offline learning videos, so students can prepare themself at home first before discussing questions of reasoning ability in class. The purpose of this study is to produce a mathematical learning equipments based on flipped classroom that is valid, practical, and effective in improving the mathematical reasoning ability of 10th grade high school students. Learning equipments developed are Learning Implementation Plans (RPP), learning videos, and Student Worksheets (LKPD).

Development of learning equipments based on the Plomp model. The Plomp model is used because it is more flexible and flexible compared to other models, besides that each step contains development activities that can be adjusted to the characteristics of the research. Field test subjects involved in this study were students and 10th grade students of SMA Negeri 2 Padang in 2018-2019 Academic Year.

The results of the analysis of the data from the RPP validation sheets, learning videos and LKPD show that the developed learning equipments based on flipped classrooms has been valid in terms of construct and content. Validity values for RPP, Learning Videos, and LKPD are 3.82; 3.60; and 3.47. Mathematical learning equipments developed are also practical in terms of implementation and ease of use. This is based on the results of questionnaire data analysis of students' practicality responses which showed 84% so that it can be categorized as very practical, observational data of learning implementation, and interview data with educators. In addition, this learning equipments has also been effective in increasing students' mathematical reasoning based on final tests of reasoning ability that have been carried out, ie 75% of students have scored above the KBM determined by schools which is 80. This number has increased from the results of the initial ability tests namely only 47.22% of students were get grades above KBM.

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