

ABSTRACT

AISAH, Design Research: Developing the Concept of Addition Numbering Using Model Enumerator and Numbers Line with Approach of Realistic Mathematics Education Indonesia in Class VII SMP Negeri 43 Jakarta. **Essay**. Jakarta: Mathematics Education Study Program, Faculty of Mathematics and Natural Sciences, Jakarta State University, 2018.

Mathematical concepts on the number material is a teaching material that must be understood by students one of them is integer operation. In this study to be discussed is the concept of addition of integers. The summing concept of integers includes: the sum of positive and positive integers, the sum of positive and negative integers, the sum of positive negative integers, the sum of negative and negative numbers. Initial ability test results show that the student has not mastered the sum material of integers, especially when adding positive integers with negative or negative numbers positively. This supports the implementation of this study which aims to develop local learning theory on the development of the concept of addition of integers using enumerator model and line number with PMRI approach. The study was conducted in March 2017-January 2018.

This research uses a research design methodology consisting of three phases that form a cyclic process. The first phase is the preparation and design phase, which is the preparation of the Hypothetical Learning Trajectory (HLT) which consists of a series of round number addition learning activities by using enumerator model and line number. The second phase is the phase of the teaching experiment, the phase of the implementation of mathematics learning in the classroom using HLT which has been prepared as a guide. The third phase is the retrospective analysis phase, which is the writing phase of the analysis of the learning activities compared to the HLT which has been compiled with various data of student learning process in the form of student activity sheet.

The results obtained from this study indicate that the PMRI approach can develop the concept of addition of integers to the students. Calculating chocolate and lego activities can help students develop the sum of integers with the enumerator model. The activity of calculating the temperature of an area with a thermometer can help develop the concept of addition of integers by the model of the number line.

Keywords: Design Research, Sum of Integers, PMRI