

ABSTRAK

Regina Hesty Kurnianingtyas. 2019. Pengaruh Penerapan Teori Belajar Geometri Van Hiele Terhadap Kemampuan Penalaran Mahasiswa Pendidikan Matematika Universitas Sanata Dharma Dari Kabupaten Mappi Papua Pada Materi Segiempat. Skripsi. Yogyakarta: Program Studi Pendidikan Matematika, Jurusan Pendidikan Matematika dan Ilmu Pengetahuan Alam, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Sanata Dharma.

Penelitian ini bertujuan untuk (1) mendeskripsikan keterlaksanaan pembelajaran matematika dengan materi segiempat pada mahasiswa pendidikan matematika universitas Sanata Dharma dari Kabupaten Mappi, Papua menggunakan teori belajar geometri Van Hiele, (2) mengetahui pengaruh pembelajaran matematika menggunakan teori belajar geometri Van Hiele terhadap kemampuan penalaran mahasiswa pendidikan matematika Universitas Sanata Dharma dari Kabupaten Mappi, Papua dalam mempelajari materi segiempat.

Jenis penelitian yang digunakan dalam penelitian ini adalah penelitian deskriptif kualitatif. Subjek dalam penelitian ini adalah mahasiswa pendidikan matematika Universitas Sanata Dharma dari Kabupaten Mappi, Papua yang berjumlah 2 orang. Adapun instrumen yang digunakan dalam penelitian ini adalah soal pre-test dan post-test, lembar observasi keterlaksanaan pembelajaran, dan pedoman wawancara. Data hasil tes, keterlaksanaan pembelajaran dan wawancara akan dianalisis secara kualitatif.

Berdasarkan analisis maka diperoleh hasil sebagai berikut, (1) penerapan pembelajaran menggunakan teori belajar geometri Van Hiele pada materi segiempat terlaksana melalui berbagai kegiatan pembelajaran sesuai dengan fase-fasanya yaitu fase 1 (informasi) mahasiswa dibimbing untuk menyampaikan informasi awal melalui beberapa pertanyaan, fase 2 (orientasi) mahasiswa menggali topik yang sedang dipelajari dengan menggunakan alat peraga papan paku dan kertas lipat, fase 3 (penjelasan) mahasiswa dibimbing untuk menjelaskan topik yang dipelajari sesuai dengan informasi yang didapat melalui media papan paku dan kertas lipat, fase 4 (Orientasi bebas) dengan menggunakan strateginya sendiri mahasiswa dibimbing untuk dapat menyelesaikan permasalahan sesuai topik yang dipelajari dan fase 5 (integrasi) mahasiswa membuat kesimpulan berdasarkan pengalaman belajar yang didapat, (2) hasil analisis pre-test menunjukkan satu mahasiswa mampu mencapai satu dari lima indikator kemampuan penalaran dan satu mahasiswa lainnya sama sekali tidak mampu mencapai indikator kemampuan penalaran, sedangkan hasil analisis post-test menunjukkan satu mahasiswa mampu mencapai empat dari lima indikator kemampuan penalaran dan satu mahasiswa lainnya mampu mencapai tiga dari lima indikator kemampuan penalaran, maka penerapan teori belajar geometri Van Hiele pada materi segiempat berpengaruh positif terhadap kemampuan penalaran mahasiswa pendidikan matematika Universitas Sanata Dharma dari Kabupaten Mappi.

Kata kunci : Teori belajar Van Hiele, Kemampuan Penalaran, segiempat.

ABSTRACT

Regina Hesty Kurnianingtyas. 2019. The Effect of Applying Learning Based on Van Hiele Geometry Theorm in Quadrialateral on Reasoning Ability of Sanata Dharma University Student from Mappi Papua District. Thesis. Yogyakarta: Mathematics Education Study Program, Departement of Mathematics Education and Science, Faculty of Teacher Training and Educational Science, Sanata Dharma University.

This study aims to (1) describe the implementation of mathematics learning with quadrilateral material to students of mathematics education at Sanata Dharma University from Mappi Regency, Papua using Van Hiele's geometry learning theory, (2) know the effect of learning mathematics using Van Hiele's geometry learning theory on the reasoning abilities of students of mathematics education at Sanata Dharma University in Mappi Regency, Papua in studying quadrilateral material.

The type of research used in this research is qualitative descriptive research. The subjects in this study were two students of mathematics education at Sanata Dharma University from Mappi Regency, Papua. The instruments used in this study were pre-test and post-test questions, learning implementation observation sheets, and interview guidelines. Data from the test results, the implementation of learning and interviews were analyzed qualitatively.

Based on the analysis, the following results were obtained, (1) the application of learning using the Van Hiele geometry learning theory in quadrilateral material carried out through various learning activities in accordance with the phases, namely phase 1 (information) students were guided to deliver initial information through several questions, phase 2 (orientation) students explored topics that were being studied using nail board and folding paper props, phase 3 (explanation) students were guided to explain the topics learned in accordance with the information obtained through media nails and paper folding boards, phase 4 (free orientation) by using individual strategy students were guided to be able to solve problems according to the topic being studied and phase 5 (integration) students made conclusions based on the learning experience gained; (2) the results of the pre-test analysis showed that one student was able to reach one of the five indicators of reasoning ability and the other student was completely unable to reach the indicator of reasoning ability, while the results of the post-test analysis showed that one student was able to reach four of the five indicators of reasoning ability and the other student was able to achieve three of the five indicators of reasoning ability. The application of Van Hiele's geometry learning theory on quadrilateral material had a positive effect on the reasoning ability of students of mathematics education at Sanata Dharma University from Mappi District.

Keywords: *Van Hiele learning theory, reasoning ability, quadrilateral.*