

ABSTRAK

PENGEMBANGAN PROTOTIPE PERANGKAT PEMBELAJARAN  
GEOMETRI MATERI BANGUN DATAR SEDERHANA BERDASARKAN  
TEORI VAN HIELE UNTUK SISWA KELAS II SEKOLAH DASAR

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Penelitian ini merupakan penelitian pengembangan yang berawal dari adanya potensi dan masalah terkait kurangnya pemahaman siswa kelas II di SD Negeri Sendangadi 2 terhadap macam dan unsur bangun datar sederhana. Potensi yang ada adalah konsep bangun datar sederhana dapat membantu mengembangkan kecerdasan matematis-logis dan ruang-visual siswa. Masalah yang ada pada siswa adalah 48% belum paham macam-macam segitiga, 30% belum paham macam-macam segiempat, 43% belum paham sisi lingkaran, dan 39% belum paham sudut lingkaran karena model pembelajaran yang digunakan guru kurang bervariasi. Maka peneliti mengembangkan prototipe dengan tujuan untuk menjelaskan proses pengembangan dan mendeskripsikan kualitas produk yang dikembangkan.

Penelitian dan pengembangan (R & D) ini menggunakan 6 langkah menurut Sugiyono meliputi: (1) potensi dan masalah, (2) pengumpulan data, (3) desain produk, (4) validasi desain, (5) revisi desain, dan (6) uji coba produk. Produk yang dihasilkan berupa prototipe perangkat pembelajaran geometri materi bangun datar sederhana untuk kelas II SD berdasarkan lima fase *van Hiele* yaitu: (1) fase informasi, (2) fase orientasi langsung, (3) fase penjelasan, (4) fase orientasi langsung, dan (5) fase integrasi. Prototipe telah divalidasi dengan skor rata-rata 3,75 dengan kategori sangat baik, sehingga layak diujicobakan.

Uji coba terbatas dilakukan di SD Negeri Sendangadi 2 pada tanggal 16 Desember 2015. Peneliti hanya mengujicobakan pembelajaran tentang macam-macam segi empat berdasarkan lima fase *van Hiele*. Dari fase integrasi, peneliti mendapatkan data bahwa siswa memahami macam-macam segi empat (persegi dan persegi panjang). Data tersebut ditunjukkan dari fase integrasi yaitu 28% siswa mendapat nilai 60, 50% siswa mendapat nilai 70, 14% siswa mendapat nilai 80 dan 7% siswa mendapat nilai 93.

Kata kunci: pengembangan, perangkat pembelajaran, bangun datar sederhana, *van Hiele*.

**ABSTRACT**

**THE DEVELOPMENT OF LEARNING GEOMETRY INSTRUMENT  
PROTOTYPE ABOUT BASIC GEOMETRIC SHAPES BASED VAN HIELE  
THEORY FOR 2<sup>ND</sup> GRADE STUDENTS OF ELEMENTARY SCHOOL**

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This research started from the potential and problems related to a lack of understanding second grade students of SD Negeri Sendangadi 2 about various and basic geometric shapes elements. The potential is basic geometric shapes concept can help students to develop logical-mathematical intelligence and visual-space. The problems are 48% of students do not understand the various triangular, 30% of student do not understand the various quadrilateral, 43% of students do not understand the circle, and 39% of students do not understand the angle circle because of learning model which used by teacher is less variation. Researcher then develop the prototype with the aim to explain the development process and describe the quality of the products developed.

This research and development (R & D) used 6 steps by Sugiyono, which named: (1) the potential and problems, (2) data collection, (3) the design of the product, (4) design validation, (5) the revision of the design, and (6) testing the product. The product is instrument prototype of geometry learning based on the five phases of *van Hiele* which named: (1) information phase, (2) direct orientation phase, (3) explication phase, (4) free orientation phase, and (5) integration phase. The prototype has been validated with the average score of 3.75, the result mean excellent category then deserves tested.

Limited trial implementable at SD Negeri Sendangadi 2 on 16 December 2016. Researcher just implement a learning instrument the various of quadrilateral based on five phases of *van Hiele*. From the last phase mean the integration phase, researcher get data that students understand the various of quadrilateral (square and rectangular). The data is showed on the integration phase, 28% of students get scored 60, 50% of students get scored 70, 14% of students get scored 80 and 7% of students get scored 93.

Keywords: development, learning instrument, basic geometric shapes, *van Hiele*.

