

## ABSTRAK

**RESTY RAHAJENG:** *Pengembangan Perangkat Pembelajaran Bangun Ruang Berbantuan Cabri dan Wingeom untuk Siswa Sekolah Menengah Pertama. Tesis. Yogyakarta: Program Pascasarjana, Universitas Negeri Yogyakarta, 2014.*

Penelitian ini bertujuan untuk menghasilkan perangkat pembelajaran bangun ruang sisi datar berbantuan *Cabri* dan *Wingeom*, meliputi silabus, rencana pelaksanaan pembelajaran (RPP), buku kegiatan siswa (BKS) yang valid, praktis, dan efektif serta tes hasil belajar (THB) yang valid dan praktis. Program *Cabri* digunakan untuk mempelajari jaring-jaring kubus, balok, prisma dan limas. Program *Wingeom* digunakan untuk mempelajari sifat-sifat kubus, balok, prisma dan limas serta bagian-bagiannya dan menghitung luas permukaan dan volum kubus, balok, prisma, dan limas.

Penelitian ini merupakan penelitian pengembangan yang terdiri dari empat tahap, yaitu: (1) *defining* (pendefinisian); (2) *designing* (perancangan); (3) *developing* (pengembangan); (4) *disseminating* (diseminasi). Subjek uji coba penelitian yaitu 29 siswa dan satu guru SMP Negeri 4 Madiun. Instrumen untuk mengukur kevalidan adalah lembar validasi silabus, lembar validasi RPP, lembar validasi BKS, dan lembar validasi THB. Instrumen untuk mengukur kepraktisan adalah lembar penilaian guru terhadap perangkat pembelajaran, lembar tanggapan siswa, dan lembar observasi keterlaksanaan pembelajaran. Instrumen untuk mengukur keefektifan adalah THB dengan bentuk tes pilihan ganda sebanyak 25 butir soal dan angket minat siswa yang terdiri atas 25 pernyataan dengan 5 pilihan jawaban. Data hasil kevalidan, kepraktisan, dan keefektifan dianalisis dengan cara mengkonversi data kuantitatif berupa skor hasil penilaian menjadi data kualitatif berupa nilai standar skala lima.

Penelitian ini menghasilkan perangkat pembelajaran bangun ruang berbantuan *cabri* dan *wingeom* untuk siswa SMP kelas VIII berupa buku yang berisi Silabus, RPP untuk 9 pertemuan, BKS berbantuan *cabri* dan *wingeom* yang terdiri atas 69 halaman, dan THB dengan bentuk tes pilihan ganda sebanyak 25 butir soal. Silabus, RPP, dan BKS memenuhi kriteria valid, praktis, dan efektif. THB memenuhi kriteria valid dan praktis. Kevalidan produk terlihat dari hasil validasi ahli yang menyatakan bahwa produk mencapai kriteria sangat valid. Kepraktisan produk terlihat dari hasil pengisian lembar penilaian guru yang menunjukkan bahwa produk telah memenuhi kriteria sangat baik; hasil pengisian lembar tanggapan siswa menunjukkan bahwa produk mencapai kriteria baik; dan lembar observasi keterlaksanaan pembelajaran menunjukkan bahwa presentase mencapai 96,03%. Hasil pengujian keefektifan terlihat dari hasil THB menunjukkan sebanyak 93,1% siswa telah mencapai nilai kriteria ketuntasan minimum (KKM) yaitu 75 dengan rata-rata nilai 84,55; hasil pengisian angket minat siswa menunjukkan kriteria baik dengan rata-rata nilai 86,45.

Kata kunci: pengembangan, perangkat pembelajaran, hasil belajar, minat, *Cabri*, *Wingeom*

## ABSTRACT

**RESTY RAHAJENG:** *Developing a Solid Geometry Learning Kit Assisted by Cabri and Wingeom for Students of Junior High School. Thesis. Yogyakarta: Graduate School, Yogyakarta State University, 2014.*

This research was aimed to develop a solid geometry learning kit assisted of Cabri and Wingeom, consisting of valid, practical, and effective syllabus, lesson plans, student activity books, and a valid and practical learning achievement test. Cabri is used to study nets cubes, blocks, prisms, and pyramids. Wingeom is used to study the properties and parts, as well as extensive and volume of cubes, blocks, prisms, and pyramids.

The research was a 4D development research that consisted of four phases: (1) defining; (2) designing; (3) developing; and (4) disseminating. The subject of the research were 29 grade seven students and a mathematics teacher of the Public Junior High School 4 of Madiun. The research instruments of validity were validation sheets of syllabus, validation sheet of lesson plans, validation sheets of student activity books, and validation sheets of the learning achievement test. The research instruments of practicality were teacher assessment sheets to the learning kit, students' response sheets, and learning implementation observation sheets, while the research instruments of effectiveness were learning achievement test in the form of multiple choice tests that consist of 25 items and student's interest questionnaire that consist of 25 statements with 5 answer choices. The data of validity, practicality, and effectiveness were analyzed by means of converting quantitative data in the form of scores of the assessment results into qualitative data in the form of a standard scale of five values.

The research produces a solid geometry learning kit assisted by Cabri and Wingeom for students of Junior High School in the form of a book that contains the syllabus, lesson plans for 9 meetings, a student activity book assisted by Cabri and Wingeom that consist of 69 pages, and a learning achievement test in the form of multiple choice tests that consist of 25 items. The syllabus, lesson plan, student activity book are valid, practical, and effective. The learning achievement tests are valid and practical. Validity of the products reaches a very valid criteria. Practicality of the product is seen from the results of the teacher assessment sheet which shows that the product reach very good criteria; the results of the student's response sheet indicate that the products reaches good criteria; and observation sheet feasibility learning shows that the percentage reaches 96.03%. The effectiveness of the product can be seen from: 93.1% of students who did the learning achievement test have reached the minimum completeness criteria score that is 75 with the average score of 84.55; the result of interest questionnaire is in good criteria with the average score of 86.45.

Keywords: *development, learning kit, learning achievement, interest, Cabri, Wingeom*