

PENGEMBANGAN BAHAN AJAR IPA BERBASIS *SCIENTIFIC METHOD* UNTUK MENINGKATKAN *HOTS* DAN MENGEMBANGKAN SIKAP SOSIAL PADA MATERI STRUKTUR BUMI DAN BENCANA

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ABSTRAK

Penelitian ini bertujuan untuk : (1) mengembangkan bahan ajar IPA berbasis *scientific method* yang layak berdasarkan aspek kelayakan isi, bahasa dan gambar, penyajian, dan kegrafisan; (2) mengetahui peningkatan kemampuan berpikir tingkat tinggi peserta didik setelah pembelajaran menggunakan bahan ajar IPA berbasis *scientific method*, (3) mengetahui perkembangan sikap sosial peserta didik selama pembelajaran menggunakan bahan ajar IPA berbasis *scientific method*.

Penelitian ini merupakan penelitian R&D dengan menggunakan desain penelitian 4D (*Define, Design, Develop, dan Disseminate*). Pada tahap *define* dilakukan kegiatan analisis awal, analisis peserta didik, analisis tugas, analisis konsep dan perumusan tujuan pembelajaran. Pada tahap *design* dilakukan kegiatan penyusunan instrumen, pemilihan media, pemilihan format dan pembuatan rancangan awal produk. Tahap *develop* meliputi kegiatan peninjauan oleh dosen pembimbing, penilaian produk oleh validator, dan uji coba produk. Selanjutnya tahap *disseminate* meliputi kegiatan penyebarluasan bahan ajar pada guru IPA SMP 7 Yogyakarta. Subyek penelitian adalah peserta didik kelas VII D SMP N 7 Yogyakarta. Instrumen yang digunakan berupa lembar penilaian bahan ajar, lembar observasi keterlaksanaan pembelajaran berbasis *scientific method*, soal tes berupa *pretest* dan *post-test*, dan lembar observasi sikap sosial peserta didik. Kegiatan validasi menghasilkan data kuantitatif berupa skor yang dianalisis dengan konversi skala 5 dan data kualitatif berupa saran dari validator. Pada kegiatan uji coba diperoleh data keterlaksanaan pembelajaran melalui kegiatan observasi, data peningkatan kemampuan berpikir tingkat tinggi melalui kegiatan *pretest* sebelum pembelajaran dan kegiatan *post-test* setelah pembelajaran yang kemudian dianalisis dengan gain skor, serta data perkembangan sikap sosial melalui kegiatan observasi yang dianalisis dalam bentuk persentase.

Penelitian ini menghasilkan: (1) bahan ajar IPA berbasis *scientific method* yang layak berdasarkan aspek kelayakan isi, bahasa dan gambar, penyajian, dan kegrafisan; (2) peningkatan kemampuan berpikir tingkat tinggi (*HOTS*) peserta didik setelah pembelajaran menggunakan bahan ajar IPA berbasis *scientific method* berada pada kategori sedang; (3) perkembangan sikap sosial peserta didik selama pembelajaran menggunakan bahan ajar IPA berbasis *scientific method* adalah dari kategori cukup ke sangat baik.

Kata Kunci : Bahan Ajar, *HOTS*, *Scientific Method*, Sikap Sosial

**DEVELOPMENT SCIENCE TEACHING MATERIALS BASED ON
SCIENTIFIC METHOD FOR IMPROVE HOTS AND
DEVELOPING SOCIAL ATTITUDE IN THE SUBJECT MATTER
EARTH STRUCTURE AND DISASTER**

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ABSTRACT

This research aims to: (1) develop science teaching materials based on scientific method which viable based on feasibility of the content, language and image, presentation, and graphic; (2) determine the improvement of high order thinking skills of learners after learning using science teaching materials based on scientific method, (3) determine the development of the social attitudes of learners during learning using science teaching materials based on scientific method.

This research is the R & D research using 4D design (Define, Design, Develop and Disseminate). In the define stage, conducted activities preliminary analysis, analysis of learners, task analysis, concept analysis and formulation of learning objectives. In the design stage, is done drafting instruments, media selection, format selection and the drafting of the initial product. Develop stage activities include review by the supervisor, product assessment by the validator, and product trials. The next stage includes the dissemination is disseminate teaching materials developed to the teachers of SMP N 7 Yogyakarta. Subjects were the students of class VII D SMP N 7 Yogyakarta. Instruments used in the form of teaching materials evaluation sheets, observation sheet of learning based on scientific method, test items such as pretest and post-test, and observation sheet of social attitudes learners. Validation activities generate quantitative data in the form of scores was analyzed with 5-scale conversion and qualitative data in the form of advice from the validator. In the activity test data obtained enforceability of learning through observation, the data increased high order thinking through a pretest before the lesson learning and post-test after learning process analyzed with a gain scores, and data about development of social attitudes through observation are analyzed in terms of percentage.

The research produced: (1) science teaching materials based on scientific method is viable based on feasibility of the content, language and image, presentation, and graphic with very good category (A). (2) the improvement of high order thinking skills of learner after learning using science teaching materials based on scientific method is in the medium category; (3) development of social attitudes of learners during learning using science teaching materials based on scientific method is of fairly to very good category.

Keywords: HOTS, Scientific Method, Social Attitudes, Teaching Materials