

ABSTRACT

The Development of Natural Science Textbook Sequenced Model with Theme of the Human Body System Adaptation to Changes in Temperature and Approach of Education for Sustainable Development

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The Integrated science learning at Junior High School can be supported by the resources of learning, like of natural science textbook sequenced model with the theme of the human body system adaptation to changes in temperature and approach of education for sustainable development. The purpose of research was to development the natural science textbook sequenced model with the theme of the human body system adaptation to changes in temperature and approach of education for sustainable development with valid, practical, and effective criteria.

The type of research was research and development with Plomp model which consists of three phases: Preliminary research, prototyping or development, and the asesment phases. Population of research the students of SMP Negeri 3 Ranah Pesisir. Data of this research were obtained through questionnaires, validation sheet by four validator, practicality from teacher and students, observation, skill attitude, and achievement test. The data analysis that used was descriptive analysis.

An important information which obtained for preliminary research was to develop natural science textbook sequenced model with theme of the human body system adaptation to changes in temperature and approach of education for sustainable development. The validity of the develop textbook was determined by self evaluation and expert review which involved four validators. Whereas, practicality of that textbook was determined by one-to-one, small group, and field test evaluation. Effectivity analysis showed that the category of textbook was very effective with assessment of attitude, knowledge, and the skill. It is concluded that the natural science textbook sequenced model with theme of the human body system adaptation to changes in temperature and approach of education for sustainable development was already fulfilled the criteria of valid, practical, and effective.

ABSTRAK

Pengembangan Buku Teks Pelajaran IPA Model *Sequenced* dengan Tema Sistem Adaptasi Tubuh Manusia terhadap Perubahan Suhu dan Pendekatan *Education for Sustainable Development*

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Pembelajaran IPA terpadu tematik di SMP didukung dengan sumber belajar berupa buku teks pelajaran IPA model *sequenced* dengan tema sistem adaptasi tubuh manusia terhadap perubahan suhu dan pendekatan *education for sustainable development*. Tujuan penelitian ini untuk mengembangkan buku teks pelajaran IPA model *sequenced* dengan tema sistem adaptasi tubuh manusia terhadap perubahan suhu dan pendekatan *education for sustainable development* berkriteria valid, praktis, dan efektif.

Penelitian pengembangan menggunakan model Plomp yang terdiri dari tiga tahap yaitu *preliminary research* (tahap investigasi awal), *prototyping or development phases* (tahap prototype / pengembangan), dan *assessment phases* (tahap penilaian). Populasi merupakan peserta didik SMP Negeri 3 Ranah Pesisir. Data hasil penelitian diperoleh melalui angket, lembar validasi oleh empat validator, praktikalitas respon guru dan peserta didik, observasi sikap, keterampilan, dan tes hasil belajar. Teknik analisis data menggunakan analisis deskriptif.

Hasil tahap *preliminary research* berupa informasi penting untuk pengembangan buku teks pelajaran IPA model *sequenced* dengan tema sistem adaptasi tubuh manusia terhadap perubahan suhu dan pendekatan *education for sustainable development*. Hasil tahap *prototyping or development* memperoleh hasil berupa rancangan buku teks. Validasi pengembangan buku teks diperoleh dari evaluasi diri dan evaluasi ahli empat orang validator. Selanjutnya praktikalitas dari pengembangan buku teks diperoleh dari evaluasi satu- satu, kelompok kecil, dan uji lapangan. Analisis efektifitas penggunaan buku teks meningkatkan kompetensi sikap, pengetahuan, dan keterampilan dikategori sangat efektif. Jadi, dapat disimpulkan pengembangan buku teks pelajaran IPA model *sequenced* dengan tema sistem adaptasi tubuh manusia terhadap perubahan suhu dan pendekatan *education for sustainable development* memenuhi kriteria valid, praktis, dan efektif.