PENGEMBANGAN MODUL IPA BERBASIS *SCIENCE ENVIRONMENT TECHNOLOGY AND SOCIETY (SETS)* UNTUK MENINGKATKAN KETERAMPILAN PROSES SAINS DAN PENGUASAAN KONSEP PESERTA DIDIK

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui: (1) kelayakan modul IPA berbasis *Science Environment Technology and Society (SETS)* yang dikembangkan menurut dosen ahli dan guru IPA, (2) respon peserta didik terhadap modul IPA berbasis *Science Environment Technology and Society (SETS),* (3) peningkatan keterampilan proses sains peserta didik, dan (4) peningkatan penguasaan konsep peserta didik.

Penelitian ini merupakan penelitian dan pengembangan (*research and development*) dengan model 4-D (*four-D*). Tahapan dalam penelitian ini meliputi *Define* (Pendefinisian), *Design* (Perancangan), *Develop* (Pengembangan), dan *Disseminate* (Penyebaran). Subjek penelitian ini adalah dosen ahli, guru IPA, dan peserta didik kelas VII-F SMP Negeri 1 Prambanan Klaten Tahun Pelajaran 2016/2017. Instrumen yang digunakan berupa lembar validasi modul IPA untuk dosen ahli dan guru IPA, lembar observasi keterlaksanaan pendekatan *Science Environment Technology and Society (SETS)*, angket respon peserta didik terhadap modul IPA, lembar observasi keterampilan proses sains, dan soal *pre-test* serta *post-test*. Teknik analisis data: (1) kelayakan modul IPA dengan rerata penilaian antara dua penilai (ahli dan praktisi) kemudian diubah ke bentuk data kualitatif skala empat, (2) respon peserta didik dengan rerata skor respon peserta didik tiap aspek kemudian diubah ke bentuk data kualitatif skala empat, (3) peningkatan keterampilan proses peserta didik dengan persentase tiap pertemuan kemudian dihitung *Gain percentage*, dan (4) penguasaan konsep peserta didik dengan *N-Gain score*.

Hasil penelitian menunjukkan bahwa: (1) modul IPA berbasis *Science Environment Technology and Society (SETS)* dinilai sangat baik dan layak digunakan dalam pembelajaran IPA, (2) peserta didik memberikan respon sangat baik terhadap penggunaan modul IPA, (3) keterampilan proses sains peserta didik meningkat 7,87% berdasarkan analisis menggunakan *Gain percentage*, dan (4) penguasaan konsep peserta didik mengalami peningkatan 0,35 berdasarkan analisis menggunakan *N-Gain score* dan berada pada kategori sedang.

Kata Kunci: Keterampilan Proses Sains, Modul IPA, Pendekatan *Science Environment Technology and Society (SETS),* Penguasaan Konsep

DEVELOPMENT OF SCIENCE MODULE BASED ON SCIENCE ENVIRONMENT TECHNOLOGY AND SOCIETY (SETS) TO IMPROVE THE STUDENTS SCIENCE PROCESS SKILLS AND MASTERY OF CONCEPTS

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ABSTRACT

This study aims to determine: (1) the feasibility of science module based on Science Environment Technology and Society (SETS) developed by expert lecturer and science teacher, (2) students response to Science Environment Technology and Society (SETS) science module, 3) improving the students science process skills, and (4) improving the students mastery of concepts.

This research is a research and development (research and development) with 4-D model (four-D). Stages in this study include Define (Defines), Design (Design), Develop (Development), and Disseminate (Spreading). The subjects of this study are expert lecturers, science teachers, and students of class VII-F SMP Negeri 1 Prambanan Klaten Lesson Year 2016/2017. Instruments used in the form of science module validation sheet for expert lecturers and science teachers, observation sheet of Science Environment Technology and Society (SETS) approach implementation, questionnaire of students response to science module, science process skills observation sheet, and pre-test and post-test. Data analysis technique: (1) the feasibility of science module with the average of assessment between two assessors (expert and practitioner) then changed to form of four scale qualitative data, (2) students response with mean of respondent score of each aspect then changed to form of four scale qualitative data, (3) improvement of the science process skills with percentage of each meeting then calculated Gain percentage, and (4) enhancing the students mastery of concept with N-Gain score.

The results showed that: (1) science module based on Science Environment Technology and Society (SETS) is very good and feasible to be used in science learning, (2) students respond very well to the use of science module, (3) science process skills of students increased by 7,87% based on the analysis using Gain percentage, and (4) mastery of the concept of students increased 0,35 based on the analysis using N-Gain score and was in the medium category.

Keywords: Science Process Skills, Science Modules, Science Environment Technology and Society (SETS) Approach, Mastery of Concepts