

**PENGEMBANGAN MODUL ELEKTRONIK IPA SMP BERBASIS
SAINS TEKNOLOGI MASYARAKAT LINGKUNGAN (STML) UNTUK
MENINGKATKAN KEMAMPUAN MEMECAHKAN MASALAH
PESERTA DIDIK**

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ABSTRAK

Penelitian ini bertujuan untuk (1) menghasilkan dan mengetahui kelayakan modul elektronik IPA berbasis pendekatan STML menurut dosen ahli dan guru IPA; (2) mengetahui respon peserta didik setelah menggunakan modul elektronik IPA berbasis STML; dan (3) mengetahui peningkatan kemampuan peserta didik dalam memecahkan masalah setelah menggunakan modul elektronik IPA berbasis STML.

Penelitian ini merupakan penelitian pengembangan atau R & D dengan model 4D (*Define, Design, Develop, dan Dessiminate*). Tahapan yang dilakukan dalam penelitian ini yaitu tahap *Define*, tahap *Design*, tahap *Develop*, dan tahap *Dessiminate*. Instrumen yang digunakan dalam penelitian ini antara lain lembar validasi produk modul elektronik IPA, lembar observasi keterlaksanaan pembelajaran dengan pendekatan STML, soal *pre-test* dan *post-test* kemampuan memecahkan masalah, dan angket respon peserta didik terhadap modul elektronik IPA yang dikembangkan. Uji coba produk modul elektronik IPA dilakukan di SMP 2 Kasihan dengan sampel siswa kelas VII C dengan jumlah 31 peserta didik. Teknik analisis data kelayakan modul elektronik IPA yaitu analisis data kualitatif dan analisis data kuantitatif. Analisis data keterlaksanaan pembelajaran STML dilakukan dengan statistik deskriptif dengan skor rerata. Analisis data soal kemampuan memecahkan masalah peserta didik dilakukan dengan gain skor yaitu membandingkan nilai *pre-test* dan *post-test*. Analisis data angket respon peserta didik dilakukan secara kuantitatif dengan menghitung skor rerata tiap aspek. Pada tahap *dessiminate* (penyebaran) hanya dilakukan secara terbatas.

Hasil penelitian ini yaitu (1) modul elektronik IPA berbasis sains teknologi masyarakat dan lingkungan (STML) dinyatakan layak untuk diuji cobakan di lapangan dengan memperoleh skor 67 baik dari dosen ahli dan guru IPA sehingga mendapat kategori sangat baik (A); (2) modul elektronik IPA yang dikembangkan mendapatkan respon dari peserta didik dengan skor 64,84 dengan kategori sangat setuju (SS); dan (3) modul elektronik IPA berbasis STML dapat meningkatkan kemampuan memecahkan masalah peserta didik. Hal ini dibuktikan dengan nilai gain skor sebesar 0,33 dengan kategori sedang.

Kata kunci: *kemampuan memecahkan masalah, modul elektronik IPA, pendekatan STML*

*DEVELOPING A SCIENCE ELECTRONIC MODULE BASED ON
SCIENCE ENVIRONMENT TECHNOLOGY AND SOCIETY (SETS) APPROACH
TO INCREASE PROBLEM SOLVING SKILL OF
JUNIOR HIGH SCHOOL STUDENTS*

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ABSTRACT

The objectives of this research were: (1) to design and to identify the appropriateness of Science-Electronic module with SETS base according to the expert lecturers and science teachers; (2) to identify the learners' responses after using Science-Electronic SETS base module; and (3) to identify the improving learners' in problems solving skill after using Science-Electronic SETS base module.

This research was a Research and Development (R&D) with 4D model (Define, Design, Develop, and Dessiminated). The steps of the research procedure were defining, designing, developing, and dessiminating. The instrument used in this research were validation form of Science-Electronic Module, observation form of the learning process in applying SETS approach, pre-test and post-test sheets of the learners' in problem solving skill, and questionnaire of learners' responses about Science-Electronic Module. The Science-Electronic Module was tried by the students of SMP 2 Kasihan. The sample of this research were 31 students of VII C Class. The data analyzing technique of the appropriateness of Science-Electronic Module were analyzing qualitative data and also analyzing the quantitative data. The analyzing data of the learning process in applying SETS approach by using descriptive statistics in average score. The analyzing data of the learners' in problems solving skill by using gain score, which was by comparing the pre-test score and the post-test score. The analyzing of the questionnaire about the learners' responses quantitatively (calculate the average score in every aspect). The dessiminating step was done as the limitation of this research.

The findings showed that; (1) the Science-Electronic Module with SETS base was claimed to be an appropriate modul which would be tested in the field which had 67 score from expert lecturers and science teachers with an Excellent (A) grade; (2) the Science-Electronic Module with SETS base acquired good learners' responses with 64,84 score and categorized as "extremely agree"; (3) Science-Electronic Module with SETS base could increase the learners' in problem solving skill. It could be proved by 0,33 score of the gain score with average category.

Keywords: problem solving skill, Science-Electronic Module, SETS approach