

ABSTRACT

The Development of Senior High School Physics Learning Module Integrated by Energy Resource Concept Based on Search Solve Create And Share Learning Model And Science Technology Society Approach

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The module was one type of teaching materials that could help students achieved the learning objectives in accordance with their respective speed and increased students' understanding of concepts of Physics. The characteristics of a good module have structure complete module and refers to the competence. But, module used at school have not fulfilled characteristic. The addition of the materials physics in grade 12 of high school were prepared based on the demands of the current international issues, which was the lack of reserves of energy resources. The learning model in 2013 was student centered that guided students to gain direct experience in the problem solving process. The appropriate learning model was search solve create and share (SSCS) with Science Technology Society (STM) approach. The purpose of this study was to generate senior high school physics learning module integrated by energy resource concept based on SSCS learning model and STM approach with valid, practical, and effective criteria.

The type of this research was research and development using Dick and Carey model consisting of ten stages which were learning objectives identification, learning analysis, characteristics of learners and learning contexts analysis, formulating performance objectives, developing assessment instruments, developing learning strategies, developing and selecting teaching materials, designing and developing the formative evaluation, Instructional revision, then designing and developing a summative evaluation. The instrumen of this research consisted of analysis, validation, and practicalities sheets, essay tests, attitudes and skills observation sheets. Data were analyzed using descriptive percentages.

The result of this study showed that identification of the learning purpose is front end analysis of that yield 4 indicators. Analysis carried out on the analysis of learning material in the form of material energy resources. Analysis of the characteristics of learners and context include three indicators. The formulation of the performance of the learning objectives of the module in accordance with the results of the analysis of the material. The instrument includes three competency assessment, namely: competence attitudes, knowledge and skills. Learning strategy used in accordance with the model in the form of problem-based learning model SSCS and STM approach. Module of teaching materials developed in the form of analysis refers to the previous stage. Formative evaluation module valid criteria (0.79) and practically according to teachers (83.82%) according to the students (80.09%). Instructional revisions made to each stage of the model development, starting from the stage of identification of objectives to the evaluation stage. Summative Evaluation of the effectiveness of the competence of attitude 93,75%, 96,88% skills, 87.08% knowledge and the gain score of 0.69.

ABSTRAK

Pengembangan Modul Pembelajaran Fisika SMA Terintegrasi Materi Sumber Daya Energi Berbasis Model Pembelajaran *Search Solve Create and Share* dan Pendekatan Sains Teknologi Masyarakat

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Modul adalah salah satu jenis bahan ajar yang dapat membantu peserta didik mencapai tujuan pembelajaran sesuai dengan kecepatannya masing-masing dan menambah pemahaman peserta didik terhadap konsep Fisika. Karakteristik modul yang baik memiliki struktur modul yang lengkap dan mengacu pada kompetensi. Tetapi, modul yang digunakan di sekolah belum memenuhi karakteristik modul yang baik. Penambahan materi Fisika di kelas XII SMA disusun berdasarkan tuntutan permasalahan internasional saat ini, yaitu: minimnya cadangan sumber daya energi. Model pembelajaran Kurikulum 2013 bersifat *student centered* yang menuntun peserta didik untuk memperoleh pengalaman langsung pada proses pemecahan masalah. Model pembelajaran yang sesuai adalah *search solve create and share* (SSCS) dengan pendekatan Sains Teknologi Masyarakat (STM). Tujuan penelitian ini adalah untuk menghasilkan modul pembelajaran Fisika SMA terintegrasi materi sumber daya energi berbasis model pembelajaran SSCS dan pendekatan STM dengan kriteria valid, praktis dan efektif.

Jenis penelitian adalah penelitian dan pengembangan menggunakan model pengembangan *Dick and Carey* yang terdiri dari sepuluh tahapan yaitu identifikasi tujuan pembelajaran, analisis pembelajaran, analisis karakteristik peserta didik dan konteks pembelajaran, merumuskan tujuan kinerja, mengembangkan instrumen penilaian, mengembangkan strategi pembelajaran, mengembangkan dan memilih bahan ajar, merancang dan mengembangkan evaluasi formatif, revisi Instruksional, dan merancang dan mengembangkan evaluasi sumatif. Instrumen penelitian ini terdiri dari lembar analisis, validasi, praktikalitas, tes essay, observasi sikap, dan keterampilan. Teknik analisis data menggunakan deskriptif persentase.

Hasil penelitian yang diperoleh yaitu: identifikasi tujuan pembelajaran dilakukan melalui analisis awal akhir yang menghasilkan empat indikator. Analisis pembelajaran dilakukan pada analisis materi berupa materi sumber daya energi. Analisis karakteristik peserta didik dan konteks meliputi tiga indikator. Rumusan kinerja merupakan tujuan pembelajaran pada modul sesuai dengan hasil analisis materi. Instrumen penilaian meliputi tiga kompetensi, yaitu: kompetensi sikap, pengetahuan dan keterampilan. Strategi pembelajaran yang digunakan berupa model pembelajaran SSCS dan pendekatan STM. Bahan ajar berupa modul yang dikembangkan mengacu dari analisis pada tahap sebelumnya. Evaluasi formatif pada modul memenuhi kriteria valid (0,79) dan praktis menurut guru (83,82%) menurut peserta didik (80,09%). Revisi instruksional dilakukan kepada setiap tahap dari model pengembangan. Evaluasi sumatif pada efektivitas kompetensi sikap 93,75%, keterampilan 96,88%, pengetahuan 87,08%, dan nilai gain score 0,69.