

PENGEMBANGAN LKPD BERBASIS *SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS* (STEM) UNTUK MENUMBUHKAN KETERAMPILAN LITERASI SAINS SISWA KELAS X MIA SMA NEGERI 14 MEDAN T.P 2019/2020

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Abstrak

Penelitian ini bertujuan untuk merancang dan menghasilkan Lembar Kegiatan Peserta Didik (LKPD) berbasis *Sains Technology Engineering and Mathematics* (STEM) pada materi Virus. Desain penelitian yang digunakan adalah jenis penelitian dan pengembangan. Subjek dalam penelitian ini adalah Ahli Materi, Ahli Pembelajaran, Ahli Desain, Guru bidang studi Biologi dan siswa kelas X-MIA-3 SMA Negeri 14 Medan. Pengumpulan data dilakukan dengan instrumen berupa lembar penilaian validasi ahli materi, ahli pembelajaran, ahli desain, penilaian guru dan tanggapan/respon siswa. Analisis data menggunakan analisis deskriptif kuantitatif dan kualitatif. Perancangan LKPD berbasis STEM dilakukan dengan menggunakan model pengembangan instruksional ADDIE yaitu melalui tahap *Analysis, Development, Implementation, dan Evaluation* karena pada model ini setiap tahap dilakukan revisi hingga didapatkan produk LKPD yang lebih baik. Hasil penelitian menunjukkan bahwa perancangan LKPD berbasis STEM berdasarkan penilaian ahli materi diperoleh persentase rata-rata 87,5% dengan kriteria sangat layak, penilaian ahli pembelajaran diperoleh persentase rata-rata 92,5% dengan kriteria sangat layak, penilaian ahli desain diperoleh persentase rata-rata 78,7% dengan kriteria layak. Penilaian Guru bidang studi Biologi diperoleh persentase rata-rata 97,3% dengan kategori penilaian sangat layak, sedangkan hasil tanggapan/respon dari peserta didik diperoleh persentase rata-rata 95,8% dengan kriteria penilaian baik. Hasil dari penggunaan LKPD Berbasis Pendekatan STEM yang dirancang dalam menumbuhkan keterampilan literasi sains diperoleh skor rata-rata 81,7 dengan jumlah persentase ketuntasan sebesar 85,2% dengan jumlah peserta didik yang tuntas sebanyak 29 orang. LKPD Berbasis STEM pada materi Virus yang telah dirancang memperoleh kriteria penilaian "Sangat Tinggi" dan telah memenuhi persyaratan efektif digunakan dalam menumbuhkan keterampilan literasi sains serta layak digunakan dalam proses pembelajaran Biologi pada materi virus.

Kata Kunci : Pengembangan LKPD, STEM, Model ADDIE.

**STUDENT WORKSHET DEVELOPMENT BASED ON SCIENCE, TECHNOLOGY,
ENGINEERING, AND MATHEMATICS (STEM) TO GROW THE
LITERATION SKILLS OF GRADE X MIA SMA
NEGERI 14 MEDAN T.P. 2019/2020**

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Abstract

This study aims was to design and produce a student worksheet based on Science Technology Engineering and Mathematics (STEM) on Virus material. The research design used was a type of research and development. The subjects in this study were Material Expert, Learning Expert, Design Expert, Teacher in Biology and Class X-MIA-3 SMA N 14 Medan. Data collection was carried out with instruments in the form of material expert, learning expert, design expert, teacher in biology, and student response sheets. Data analysis uses quantitative and qualitative descriptive analysis. The student worksheet development based on STEM design was using ADDIE instructional development models through the Analysis, Development, Implementation, and Evaluation stages because in this model each stage was revised to obtain a better LKPD product. The results showed that the design student worksheet development based on STEM on expert content assessment obtained an average percentage of 87,5% with very decent criteria, assessment of learning experts obtained an average percentage of 92,5% with very feasible criteria, design expert judgment obtained an average percentage an average of 78,7% with worthy criteria. The assessment of Biology Teachers in the field of studies obtained an average percentage of 97,3% with a very decent assessment category, while the results of the responses / students obtained an average percentage of 95.8% with good assessment criteria. The results of using STP-based LKPD approach designed in growing scientific literacy skills obtained an average score of 81.7 with a total percentage of completeness of 85.2% with the number of students who completed as many as 29 people. The student worksheet development based on STEM on Virus material that has been designed obtains "Very High" assessment criteria and has met the effective requirements used in growing scientific literacy skills and suitable for use in the Biology learning process on virus material.

Keywords: *Student Worksheet Development, STEM, ADDIE model.*

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