

ABSTRAK

Sukarni fokaaya, 2024. Pengembangan Modul Ajar Berbasis *Project Based Learning* Dengan Pendekatan Pada STEM Materi Hakikat ilmu kimia. Dibimbing Zulkifli Zam Zam dan Ilham S.W Mauraji

Penelitian ini bertujuan untuk mengetahui desain dan hasil uji coba modul ajar berbasis *Project Based Learning* dengan pendekatan STEM pada materi hakikat ilmu kimia. Penelitian ini merupakan jenis penelitian dan pengembangan atau R&D dengan menggunakan model 4D (*four-D*) yang terdiri dari 4 tahap, namun penelitian ini terbatas sampai pada tahap 3. Subjek dalam penelitian ini adalah ahli modul, ahli materi, ahli praktisi/guru, dan siswa kelas X SMA Negeri 8 kepulauan sula. objek penelitian ini adalah modul ajar berbasis *Project Based Learning* dengan pendekatan STEM pada materi hakikat ilmu kimia. Teknik pengumpulan data dari angket uji validitas, uji praktisi dan uji respon siswa. Penelitian menghasilkan produk berupa modul ajar berbasis *Project Based Learning* dengan pendekatan STEM pada materi hakikat ilmu kimia yang layak digunakan. Hasil penelitian menunjukkan tingkat validitas modul oleh 3 orang ahli validitas diantaranya ahli modul sebesar 93% (sangat valid), ahli materi sebesar 92% (sangat valid), tingkat praktisi oleh guru sebesar 100% (sangat valid) dan respon siswa sebesar 80%.

Kata Kunci: Modul Ajar Berbasis *Project Based Learning* Dengan Pendekatan STEM

ABSTRACT

Sukarni fokaaya, 2024. Development Of Teaching Modules Based On Project Based Learning With an Approach to STEM Materials on The Essence of Chemistry. Supervised by Zulkifli Zam Zam and Ilham S.W Mauraji.

This research aims to determine the design and trial results of project based learning based teaching modules with a STEM approach on the essence of chemistry materials . This research is a type of research and development or R&D using the 4D (*four-D*) model which consists of 4 stages, but this research is limited to stage 3. The subjects in this research are module experts, materials experts, practitioner experts/teachers, and class X high school students negeri 8 sula island. The object of this research is a project based learning based teaching modules with a STEM approach to the essence of chemistry. Data collection techniques from validity test questionnaires, practitioner tests and student response tests. The research produced a product in the form of a project based learning based teaching module with a STEM approach to the essence of chemistry materials that is suitable for use. The research results showed that the level of module validity by 3 validity experts included modules experts at 93% (very valid), materials experts at 92% (very valid), practitioner level by teachers at 100% (very valid) and student responses at 80

Keywords: Chemistry Teaching Modules, Project Based Learning, STEM Approach,