

Namiyatul Khoiriyyah. 2022. *Penerapan Project Based Learning dengan Pendekatan STEAM terhadap Kemampuan Berpikir Kritis Siswa pada Materi Cahaya dan Alat Optik*. Skripsi, Program Studi Pendidikan IPA, Fakultas Ilmu Pendidikan, Universitas Trunojoyo Madura. Pembimbing: Nur Qomaria.

ABSTRAK

Penelitian ini bertujuan untuk mengetahui keterlaksanaan pembelajaran, perbedaan kemampuan berpikir kritis siswa, serta respons siswa terhadap penerapan model *project based learning* dengan pendekatan *STEAM*. Penelitian ini dilaksanakan di MTs. Al Asyhar Gresik. Pengambilan sampel menggunakan teknik *purposive sampling*, yakni siswa kelas VIII A. Metode penelitian yang digunakan dalam penelitian ini menggunakan *pre-experimental design* dengan *One group pretest-posttest design*. Penelitian ini menggunakan penelitian kualitatif dengan pengumpulan data berupa observasi, tes, angket, dan dokumentasi. Teknik analisis data menggunakan uji non parametrik (Uji Wilcoxon). Keterlaksanaan pembelajaran menggunakan model *project based learning* dengan pendekatan *STEAM* memperoleh persentase sebesar 78% dengan kategori hampir seluruh kegiatan terlaksana. Kemampuan berpikir kritis siswa sebelum dan setelah penerapan *project based learning* dengan pendekatan *STEAM* cukup signifikan. Hasil persentase rata-rata kemampuan berpikir kritis siswa pada *pretest* sebesar 35,45% dengan kategori rendah. Hasil persentase rata-rata kemampuan berpikir kritis siswa pada *posttest* sebesar 62,73% dengan kategori tinggi. Hasil persentase respons siswa terhadap penerapan model *project based learning* dengan pendekatan *STEAM* sebesar 84,81% dengan kategori sangat baik.

Kata Kunci: Berpikir Kritis, *Project Based Learning*, *STEAM*.

Namiyatul Khoiriyyah. 2022. *The Implementation of Project Based Learning With the STEAM Approach on Students' Critical Thinking Ability in Light and Optics Material*. Thesis, Science Education Study Program, Faculty of Education, University of Trunojoyo Madura. Supervisor: Nur Qomaria.

ABSTRACT

This study aims to determine the implementation of learning, students' critical thinking ability, and students' responses when applying the project-based learning with the STEAM approach. This study was conducted in MTs Al-Asyhar Gresik. Purposive sampling was used on class VIII-A students as a sampling technique. The research method used in this study was a pre-experimental design with one group pretest-posttest design. This research employed quantitative research with data collection of observation, tests, questionnaires, and documentation. The data analysis technique used a non-parametric test (Wilcoxon test). The study result showed that implementing the project-based learning with the STEAM approach obtained a percentage of 78% with the category of almost all activities done. Students' critical thinking ability before and after implementing project-based learning with the STEAM approach was quite significant. The average percentage of students' critical thinking ability on the pretest was 35,45% in the low category. On the other hand, the average percentage of students' critical thinking ability in the post-test was 62,73% in the high category. In addition, the development of student responses to project-based learning with the STEAM approach was 84,81% an excellent category.

Keyword: Critical Thinking, Project Based Learning, STEAM.