

ABSTRAK

Siti Zahroturrohmah, 1212080120, 2025: Penerapan Lembar Kerja Berbasis Proyek Pada Pembuatan *Soylemonic* Untuk Mengembangkan Kinerja Ilmiah Mahasiswa

Pengembangan kinerja ilmiah pada mahasiswa menjadi aspek penting dalam pendidikan tinggi terutama dalam bidang sains seperti kimia karena mendukung mahasiswa terampil dalam merancang, menerapkan, menghasilkan eksperimen secara mandiri maupun berkelompok. Tujuan dilakukan penelitian untuk mendeskripsikan aktivitas, kemampuan serta kinerja ilmiah mahasiswa kelas kimia fermentasi dalam penerapan lembar kerja berbasis proyek dan menganalisis karakteristik *soylemonic*. Metode yang digunakan pada penelitian ini yaitu *pre-experiment* dengan desain *one shot case study*. Hasil penelitian menunjukkan persentase aktivitas mahasiswa sebesar 87% dengan kategori sangat baik, persentase kemampuan mahasiswa dalam mengerjakan lembar kerja berbasis proyek sebesar 85% dengan kategori sangat baik, persentase kinerja ilmiah mahasiswa sebesar 89% dengan kategori sangat tinggi. Secara keseluruhan, keterhubungan perkembangan kinerja ilmiah mahasiswa dengan penerapan lembar kerja berbasis proyek menunjukkan nilai 87% dengan kategori sangat baik. Adapun karakteristik *soylemonic* yang dihasilkan beraroma asam yogurt sedikit *hint* lemon, rasanya asam yogurt dengan *hint* kedelai, berwarna putih kekuningan, teksturnya homogen dan ada gumpalan akibat pektin. pH berkisar 3,9-4,2 dan kadar asam laktat 1,1%-2,7%. Variasi S10% dan BKL 0,75% menjadi variasi terbaik menurut SNI. Maka, penerapan lembar kerja berbasis proyek pada pembuatan *soylemonic* efektif dapat mengembangkan kinerja ilmiah mahasiswa.

Kata kunci: Lembar kerja berbasis proyek, *Soylemonic*, Kinerja ilmiah, *One shot case study*, *Pre-experiment*.

ABSTRACT

The development of scientific performance in students is an important aspect in higher education, especially in the field of science such as chemistry because it supports students' skills in designing, implementing, and producing experiments independently or in groups. The purpose of this study was to describe the activities, abilities, and scientific performance of fermentation chemistry class students in implementing project-based worksheets and analyzing the characteristics of *soylemonic*. The method used in this study was a pre-experiment with a one-shot case study design. The results showed that the percentage of student activity was 87% with a very good category, the percentage of student ability in working on project-based worksheets was 85% with a very good category, and the percentage of student scientific performance was 89% with a very high category. Overall, the relationship between the development of student scientific performance and the implementation of project-based worksheets showed a value of 87% with a very good category. The characteristics of the resulting *soylemonic* had a sour yogurt aroma with a slight hint of lemon, a sour yogurt taste with a hint of soy, a yellowish-white color, a

homogeneous texture, and lumps due to pectin. The pH ranged from 3.9 to 4.2 and the lactic acid content was 1.1% to 2.7%. The S10% and BKL 0.75% variations were the best variations according to SNI. Thus, the application of project-based worksheets in making soylemonic effectively can develop students' scientific performance.

Keyword: Project-based worksheets, Scientific performance, Soylemonic, One shot case study, Pre-experiment

