

ABSTRAK

Meylani Karlina : Desain Pembelajaran Berbasis Proyek pada Pembuatan *Virgin Coconut Oil* (VCO) dengan Starter Kefir Berorientasi Kemampuan 4C (*Creative, Critical Thinking, Collaboration, and Communication*)

Perkembangan abad ke-21 menuntut peserta didik untuk memiliki keterampilan 4C termasuk dalam pembelajaran kimia. Penelitian ini dilatarbelakangi pentingnya desain pembelajaran yang tepat untuk dapat mengembangkan kemampuan 4C mahasiswa pada mata kuliah kimia fermentasi didukung dengan penggunaan bahan ajar yang sesuai. Penelitian ini bertujuan untuk mendeskripsikan dan menganalisis validasi produk desain pembelajaran pada pembuatan VCO dengan starter kefir berorientasi kemampuan 4C. Penelitian ini menggunakan metode *Design Based Research* (DBR) melalui dua tahapan yaitu identifikasi/analisis masalah dan pengembangan prototype produk. Produk desain pembelajaran yang dihasilkan berupa lembar kerja yang disusun sesuai tahapan model pembelajaran berbasis proyek dan instrumen penilaian kemampuan 4C mahasiswa. Prosedur dalam lembar kerja ditentukan melalui hasil uji coba prosedur pembuatan dan karakteristik VCO. Hasil uji validasi terhadap lembar kerja dinyatakan valid, dengan nilai rata-rata r_{hitung} 0,89 dengan interpretasi validasi tinggi, dan untuk instrumen penilaian kemampuan 4C memiliki nilai r_{hitung} 0,76 dengan interpretasi validasi cukup tinggi. Hasil tersebut mengidentifikasi bahwa lembar kerja dan instrumen penilaian yang dihasilkan valid dan layak digunakan sebagai bahan ajar dan penilaian dalam pembelajaran untuk tugas proyek pada mata kuliah kimia fermentasi.

Kata Kunci: Fermentasi, Kefir, Keterampilan 4C, Lembar Kerja Proyek, VCO

ABSTRACT

Meylani Karlina : *Project Based Learning Design on Making Virgin Coconut Oil (VCO) with Kefir Starter Ability Oriented 4C (Creative, Critical Thinking, Collaboration, and Communication)*

The development of the 21st century requires participants students to have 4C skills are included in chemistry learning. This research is motivated by the importance of appropriate learning design to be able to develop students 4C abilities in fermentation chemistry courses supported by the use of appropriate teaching materials. The purpose of this study is to describe and analyze the purpose of this study is the validation of learning design product in making VCO with kefir starter ability oriented 4C. This research uses the Design Based Research (DBR) method through two steps, namely the identification of problem analysis and the development of a product prototype. The result learning design product is in the form of worksheets arranged according to the steps of the project based learning model and the student's 4C ability assessment instrument. The procedure in the worksheets is determined through the results of testing the manufacturing procedure and the VCO characteristics. The result of the validation test on the worksheets were declared valid, with an average score 0,89 with a high validation interpretation, and for the 4C ability assessment instrument it had a value of 0,776 with a fairly high validation interpretation. These results identify that the worksheets and assessment instruments produced are valid and suitable for use as teaching and assessments materials in learning for project assignments in the fermentation chemistry course.

Key Words : *Fermentation, Kefir, Project Worksheets, VCO, 4C Skills*