

ABSTRACT

Salamah Harahap. 4202141001 (2024). Development of Tissue Culture Textbook Based on Project Based Learning to Improve Process Science Skills Biology Students Universitas Negeri Medan.

The research on the development of this textbook was carried out based on the results of the analysis of student needs, namely that there are no teaching materials that can improve students' science process skills in the Tissue Culture course at the Department of Biology, State University of Medan. This textbook is compiled based on the learning syntax of Project-Based Learning (PjBL). This research aims to develop textbooks by determining the feasibility of textbooks based on material experts and instructional design experts, the response of tissue culture lecturers and students to textbooks, and testing the effectiveness of students' science process skills. This research method uses the Research and Development (R&D) method adapted by Thiagarajan's 4D (Define, Design, Develop, and Disseminate). The textbook is developed according to the needs of students and is compiled based on the syntax of the Project Based Learning learning model. The textbooks have been tested for feasibility by material experts (87,73) and instructional design experts (92) with a very decent category, and the response of tissue culture lecturers (92) and students based on individual tests (95.1), small group tests (93,75), and limited group tests (90.02) with a very good category. The effectiveness of the textbook is tested by disseminating it to students of the Department of Biology in PSB Class 22 B. The effectiveness of the textbook is tested by testing science process skills by providing pretest and posttest questions. The results of the calculation of N-Gain for science process skills were obtained at 0.66 and the total average increase in all science process skill was 0,67 in the medium category. Based on this, it can be seen that the use of PjBl-based tissue culture textbooks that were developed is quite effective in improving science process skills in biology students at Medan State University.

Keywords: Project based learning, textbooks, Science process skills, and feasibility.