ABSTRACT

GILANG NUR ROMADON, 2026. ***THE EFFECT OF THE GUIDED INQUIRY LEARNING MODEL ON STUDENTS' SCIENTIFIC PROCESS SKILLS AND LEARNING OUTCOMES IN BIOPROCESS MATERIAL*** *(An Experimental Study in Grade 11 at SMAN 3, Tasikmalaya City). Department of Biology Education, Faculty of Teacher Training and Education, Siliwangi University, Tasikmalaya.*

Science process skills and learning outcomes are crucial aspects of 21st-century biology education, yet they have not yet developed optimally. One approach to address this is through the implementation of the guided inquiry learning model, which emphasizes students' active engagement in the scientific inquiry process. This study aims to examine the effect of implementing the guided inquiry learning model on students' science process skills and learning outcomes in bioprocessing material at SMAN 3 Tasikmalaya City. The research method used was a quasi-experimental study employing a nonequivalent pretest-posttest control group design. The study population consisted of all 252 students in Class XI. The sample was determined using purposive sampling, resulting in class XI-2 as the experimental class and class XI-6 as the control class. Data collection was conducted using a test instrumen consisting of 15 open-ended questions to measure science process skills and 39 multiple-choice questions to measure learning outcomes. Data analysis used the Quade Rank Analysis of Covariance test because the data were not normally distributed. The test results showed a significance value of 0.000 for science process skills and 0.027 for learning outcomes ($p < 0.05$), so the alternative hypothesis (Ha) was accepted. The average N-Gain score of the experiment class was higer than of the control class both science process skils and learning outcomes. The highest improvement in science process skill was found in the interpreting indicator with an N-Gain of 0,65, while the ighest improvement in learning outcomes was found in the C2K1 indicator with an N-Gain of 0.87. These findings indicate that the guided inquiry model has positive implications for the development of students' science process skills and learning outcomes and is recommended for implementation in biology learning.

Keywords: *Guided Inquiry, Science Process Skills, Learning Outcomes, Bioprocess.*