

## **ABSTRACT**

**MOCHAMMAD BINTANG SETYA MAHARDIKA, 2025 *EFFECTIVENESS OF DISCOVERY LEARNING MODEL BASED ON SUSTAINABLE DEVELOPMENT GOALS ON SCIENTIFIC REASONING AND SCIENCE LITERACY OF STUDENTS (Experimental Study on Ecosystem Material in Class X SMAN 3 Tasikmalaya Academic Year 2024/2025)*** Thesis, Department of Biology Education. Faculty of Teacher Training and Education. Siliwangi University.

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*This study aims to determine the effectiveness of the application of discovery learning model based on sustainable development goals on scientific reasoning and science literacy of students on ecosystem material in class X SMAN 3 Tasikmalaya in the 2024/2025 school year. This research was conducted from May to June 2025. The research method used was quasi experiment using non- equivalent control group design. The population in this study was the entire class X SMAN 3 Tasikmalaya which is as many as 12 classes with a total of 432 students. The sample was taken based on purposive sampling technique so that class X-1 was selected as the experimental class and X-2 as the control class. Data collection techniques were carried out using the Lawson Classroom Test of Scientific Reasoning (LCTSR) as many as 14 questions in the form of multiple choice reasoning and Test of Scientific Literacy Skills (TOSLS) as many as 18 questions in the form of multiple choice. Hypothesis testing using ANCOVA test shows a significance value of 0.006 for scientific reasoning and 0.001 for science literacy, where the significance value is smaller than 0.05, meaning  $H_0$  is rejected. Cohens effect test showed a value of 0.77 (large) for scientific reasoning and 1.44 (very large) for science literacy. Furthermore, the experimental class has an average N-Gain of 0.32 for scientific reasoning and 0.39 for scientific literacy which is in the medium category. Meanwhile, the control class has an average N-Gain of 0.21 for scientific reasoning and 0.24 for scientific literacy which is in the low category. The conclusion of this study is that the discovery learning model based on sustainable development goals effectively seeks and trains students in improving scientific reasoning and science literacy in ecosystem material.*

**Keywords:** *Discovery Learning, Sustainable Development Goals, Scientific Reasoning, Science Literacy*