

ABSTRACT

SITI ROBI'AH ADHAWIYAH, 2026. THE EFFECT OF THE RADEC (READ, ANSWER, DISCUSS, EXPLAIN, CREATE) LEARNING MODEL ON STUDENTS' SCIENCE LITERACY AND SELF EFFICACY IN THE ECOSYSTEM TOPIC (An Experimental Study in Class X of SMA Negeri 2 Ciamis, Academic Year 2025/2026). Department of Biology Education, Faculty of Teacher Training and Education, Siliwangi University, Tasikmalaya.

Science literacy and self efficacy are important aspects that students need to develop in the biology learning process, particularly when studying ecosystems related to everyday life phenomena. Therefore, this study aims to determine the effect of the RADEC (Read, Answer, Discuss, Explain, Create) learning model on students' science literacy and self efficacy. This study was conducted from August 2025 - February 2026. A quasi experimental method with a non-equivalent control group design was used. The study population comprised all grade X students of SMA Negeri 2 Ciamis, consisting of 12 classes with a total of 469 students. The research sample was selected using purposive sampling, resulting in the selection of classes X-E8 and X-E9. The assignment of the experimental and control groups was done through randomization, resulting in class X-E9 as the experimental group and class X-E8 as the control group. The instruments used consisted of a science literacy test comprising 30 multiple choice items and a non-test measure of self efficacy using a questionnaire with 24 statements. The analytical technique used was an ANCOVA test with a significance level of $\alpha = 0,05$, where the data obtained were normally distributed and homogeneous. Based on the results of the hypothesis testing, the significance values for science literacy were 0,008 and for self efficacy were 0,000, meaning that both were less than the significance level of 0,05; thus, the research hypothesis was accepted. Thus, it can be concluded that the RADEC learning model has an effect on science literacy and on students' self efficacy regarding ecosystem material in class X of SMA Negeri 2 Ciamis in the 2025/2026 academic year.

Keywords: RADEC, Science Literacy Skills, Self Efficacy