

ABSTRACT

HANA NOVIANTI 2025 *THE EFFECT OF PROBLEM-BASED LEARNING MODEL ASSISTED BY MIND MAPPING ON STUDENT PARTICIPATION AND CRITICAL THINKING IN BIOLOGY LEARNING*

(Experimental Study on the Immune System Topic in Grade XI Science Class at SMA Negeri 1 Tasikmalaya Academic Year 2025/2026)

Department of Biology Education, Faculty of Teacher Training and Education, Siliwangi University.

This study aims to determine the effect of the Problem-Based Learning model assisted by Mind Mapping on student participation and critical thinking in the immune system material. The method used is quasi-experimental. The research was conducted at SMAN 1 Kota Tasikmalaya in the 2025/2026 academic year with the population consisting of all 11th-grade classes, totaling eight classes and 341 students. The sample was selected using purposive sampling, resulting in classes XI-5 and XI-7 being chosen. Data collection techniques included a participation questionnaire consisting of 25 statements and a critical thinking test consisting of 10 essay questions. The results showed that the average post-test score for participation in the experimental class was 87.09, and the average post-test score for critical thinking in the experimental class was 43.88. Meanwhile, the average post-test score for participation in the control class was 79.85, and the average post-test score for critical thinking in the control class was 20.59. The research data were analyzed using an Independent t-test, which showed a significance value of $0.000 < 0.05$, meaning that H_0 is rejected. It can thus be concluded that the study shows there is an effect of the Problem-Based Learning model assisted by Mind Mapping on student participation and critical thinking in the immune system material for 11th-grade students at SMAN 1 Tasikmalaya.

Keywords: *PBL assisted by mind mapping; Participation; Critical Thinking; Immune System*