

## THE EFFECT OF THE PROBLEM BASED LEARNING MODEL BASED ON SUBAK LOCAL WISDOM ON ECOSYSTEM MATERIAL ON THE CRITICAL THINKING ABILITIES AND LEARNING OUTCOMES OF HIGH SCHOOL STUDENTS

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### **Abstract**

This research is a quantitative research with a pretest-posttest nonequivalent control group design that aims to explain and describe: (1) the influence of the PBL model based on local wisdom of Subak on critical thinking skills and student learning outcomes simultaneously in Biology learning on the topic of ecosystems, (2) the influence of the PBL model based on local wisdom of Subak on critical thinking skills of students in Biology learning on the topic of ecosystems, (3) the influence of the PBL model based on local wisdom of Subak on student learning outcomes in Biology learning on the topic of ecosystems. The sampling technique used was cluster random sampling with a research population of 483 students and a sample of 160 students consisting of classes X1, X2, X3, and X4 at SMA Negeri 1 Tabanan. The research instruments were critical thinking skills tests and learning outcome tests. Data analysis used Multivariate Analysis of Covariance (MANCOVA). Hypothesis testing was carried out using a significance level of 5%, hypothesis testing was carried out after assumption testing. Based on the data analysis, the implementation of the Subak local wisdom-based PBL model significantly impacted students' critical thinking skills and learning outcomes in ecosystems. The application of the Subak local wisdom-based PBL model in biology learning is expected to improve students' critical thinking skills and learning outcomes, as well as preserve Subak local wisdom with the community.

**Keywords:** local wisdom of subak, *problem based learning*, critical thinking, learning outcomes.

### **INTRODUCTION**

Education plays a crucial role in improving the quality of human resources. High-quality human resources are expected to be competitive in the era of the Industrial Revolution 4.0, which coexists with the use of digital technology and 21st-century learning skills. These 21st-century learning skills are often referred to as the 4Cs, encompassing creative thinking, critical thinking and problem-solving, communication,