ABSTRAK

RIFA SALSABILLA SUKMA. 2023. **Penerapan *Problem Based Learning* (PBL) Berbantuan *Artificial Intelligence Learning System* (AILS) Terhadap Hasil Belajar Peserta Didik dan Kemampuan Literasi Sains (Studi Eksperimen di Kelas X MIPA SMA Negeri 5 Tasikmalaya Tahun Ajaran 2022/2023).** Skripsi Jurusan Pendidikan Biologi, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Siliwangi.

Penelitian ini bertujuan untuk mengetahui adanya pengaruh penerapan *Problem Based Learning* (PBL) Berbantuan *Artificial Intelligence Learning System* (AILS) terhadap hasil belajar peserta didik dan kemampuan literasi sains kelas X MIPA di SMA Negeri 5 Tasikmalaya Tahun Ajaran 2022/2023. Metode penelitian ini menggunakan *quasi experiment* dengan desain penelitian *the matching Only Posttest Only Control Group Desain*. Populasi penelitian ini yaitu seluruh kelas X MIPA SMA Negeri 5 Tasikmalaya sebanyak 7 kelas yang berjumlah 251 peserta didik. Teknik sampel yang digunakan yaitu *purposive sampling* dengan sampel yang digunakan yaitu kelas X MIPA 5 sebagai kelas eksperimen dan kelas X MIPA 4 sebagai kelas kontrol dengan jumlah peserta didik sebanyak 72 orang. Instrumen penelitian yang digunakan pada penelitian ini untuk mengukur hasil belajar peserta didik dan kemampuan literasi sains berupa tes dengan jumlah sebanyak 26 soal untuk mengukur hasil belajar yang mengacu ke dalam indikator C1, C2, C3, C4, dan C5, kemudian 28 soal untuk mengukur kemempuan literasi sains. Teknik analisis data yang digunakan yaitu *Analysis of Covariat (ANCOVA)*. Hasil penelitian menunjukkan bahwa terdapat pengaruh yang signifikan sebesar 0,003 dari penerapan *Problem Based Learning* (PBL) Berbantuan *Artificial Intelligence Learning System* (AILS) terhadap Hasil Belajar Peserta Didik dan Kemampuan Literasi Sains Pada Materi Ekosistem.

Kata Kunci: *Problem Based Learning, Artificial Intelligence Learning System,* Hasil Belajar, Kemampuan Literasi Sains

ABSTRACK

RIFA SALSABILLA SUKMA. 2023. **Application of Problem Based Learning (PBL) Assisted by Artificial Intelligence Learning System (AILS) on Student Learning Outcomes and Scientific Literacy Abilities (Experimental Study in Class X MIPA SMA Negeri 5 Tasikmalaya Academic Year 2022/2023).** Biology Education Departement Thesis. Faculty of Teacher Training and Education, Siliwangi University.

This research aims to determine the influence of the application of Problem Based Learning (PBL) assisted by an Artificial Intelligence Learning System (AILS) on student learning outcomes and scientific literacy abilities in class X MIPA at SMA Negeri 5 Tasikmalaya for the 2022/2023 academic year. This research method uses a quasi experiment with the matching Only Posttest Only Control Group Design research design. The population of this study was all 7 classes of class X MIPA SMA Negeri 5 Tasikmalaya, totaling 251 students. The sampling technique used was purposive sampling with the sample used being class X MIPA 5 as the experimental class and class X MIPA 4 as the control class with a total of 72 students. The research instrument used in this study to measure student learning outcomes and scientific literacy abilities is in the form of a test with a total of 26 questions to measure learning outcomes which refer to indicators C1, C2, C3, C4, and C5, then 28 questions to measure ability. scientific literacy. The data analysis technique used is Analysis of Covariates (ANCOVA). The research results show that there is a significant influence of 0.003 from the application of Problem Based Learning (PBL) assisted by an Artificial Intelligence Learning System (AILS) on student learning outcomes and scientific literacy abilities in ecosystem material.

Keywords: Problem Based Learning, Artificial Intelligence Learning System, Learning Outcomes, Scientific Literacy Ability