

ABSTRAK

NADIA FAUZIYYAH FITRIANI. 2023. **Penerapan Model *Discovery Learning* Berbantuan *Artificial Intelligence Learning System* (AILS) terhadap Hasil Belajar Kognitif dan Keterampilan Metakognitif Peserta Didik Pada Materi Ekosistem (Studi Eksperimen di Kelas X MIPA SMA Negeri 4 Tasikmalaya Tahun Ajaran 2022/2023)**. Jurusan Pendidikan Biologi, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Siliwangi, Tasikmalaya.

Penelitian ini bertujuan untuk mengetahui adanya pengaruh dari penerapan model *Discovery Learning* berbantuan *Artificial Intelligence Learning System* (AILS) terhadap hasil belajar kognitif dan keterampilan metakognitif peserta didik kelas X MIPA di SMAN 4 Tasikmalaya Tahun Ajaran 2022/2023. Metode penelitian menggunakan *quasi experiment* dengan desain penelitian *The Matching Only Posttest Only Control Group Desain*. Populasi penelitian ini yaitu seluruh kelas X MIPA SMAN 4 Tasikmalaya sebanyak 5 kelas yang berjumlah 189 peserta didik. Teknik sampel yang digunakan yaitu *purposive sampling* dengan sampel yang digunakan yaitu kelas X MIPA 4 sebagai kelas eksperimen dan X MIPA 3 sebagai kelas kontrol dengan jumlah peserta didik 76 orang. Instrumen penelitian yang digunakan pada penelitian ini yaitu *posttest* hasil belajar kognitif dan angket keterampilan metakognitif. Untuk mengukur hasil belajar kognitif peserta didik dengan tes pilihan majemuk sebanyak 25 soal yang mengacu ke dalam indikator C1 – C5. Untuk mengukur keterampilan metakognitif peserta didik berbentuk angket keterampilan metakognitif sebanyak 48 pernyataan. Teknik analisis data yang digunakan yaitu *Analysis of Covariant* (ANCOVA). Hasil penelitian menunjukkan nilai signifikansi yaitu 0,000 yang menunjukkan bahwa terdapat pengaruh yang signifikan dari penerapan Model *Discovery Learning* Berbantuan *Artificial Intelligence Learning System* (AILS) terhadap Hasil Belajar Kognitif dan Keterampilan Metakognitif Peserta Didik Pada Materi Ekosistem.

Kata Kunci: *Discovery Learning, Artificial Intelligence Learning System, Hasil Belajar Kognitif, Keterampilan Metakognitif*

ABSTRACT

NADIA FAUZIYYAH FITRIANI. 2023. Application of the Discovery Learning Model Assisted by the Artificial Intelligence Learning System (AILS) on the Cognitive Learning Outcomes and Metacognitive Skills of Students in Ecosystem Material (Experimental Study in Class X MIPA SMA Negeri 4 Tasikmalaya Academic Year 2022/2023). Department of Biology Education, Faculty of Teacher Training and Education, Siliwangi University, Tasikmalaya.

This research aims to determine the influence of the application of the Discovery Learning model assisted by the Artificial Intelligence Learning System (AILS) on the cognitive learning outcomes and metacognitive skills of class X MIPA students at SMAN 4 Tasikmalaya for the 2022/2023 academic year. The research method uses a quasi experiment with the research design The Matching Only Posttest Only Control Group Design. The population of this study was all 5 classes of class X MIPA SMAN 4 Tasikmalaya, totaling 189 students. The sampling technique used was purposive sampling with the sample used being class X MIPA 4 as the experimental class and X MIPA 3 as the control class with a total of 76 students. The research instruments used in this research were posttest cognitive learning outcomes and metacognitive skills analysis. To measure students' cognitive learning outcomes with a multiple choice test of 25 questions referring to indicators C1 – C5. To measure students' metacognitive skills in the form of a metacognitive skills questionnaire with 48 statements. The data analysis technique used is Analysis of Covariance (ANCOVA). The research results show a significance value of 0.000, which shows that there is a significant influence from the application of the Discovery Learning Model Assisted by the Artificial Intelligence Learning System (AILS) on the Cognitive Learning Outcomes and Metacognitive Skills of Students in Ecosystem Material.

Keyword: Discovery Learning, Artificial Intelligence Learning System, the Cognitive Learning Outcomes and Metacognitive Skills