

ABSTRAK

Niken Aulia Rahman: “Pengaruh Model Pembelajaran *Guided Discovery Learning* berbantuan Media *Board game Genopoly* terhadap Pemahaman Konsep dan Beban Kognitif Siswa SMP pada Materi Pewarisan Sifat”

Pemahaman konsep merupakan salah satu kemampuan penting yang perlu dimiliki peserta didik dalam pembelajaran biologi. Namun, materi pewarisan sifat memuat konsep-konsep abstrak yang dapat menyebabkan rendahnya pemahaman konsep serta meningkatnya beban kognitif ekstrinsik peserta didik. Penelitian ini bertujuan untuk menganalisis pengaruh model *Guided discovery learning* berbantuan media *Board game Genopoly* terhadap pemahaman konsep dan beban kognitif ekstrinsik peserta didik pada materi pewarisan sifat. Metode penelitian yang digunakan adalah *quasi experimental* dengan desain *pretest-posttest non-equivalent control group design*. Penelitian melibatkan dua kelas, yaitu kelas eksperimen dan kelas kontrol, masing-masing berjumlah 30 peserta didik. Instrumen penelitian berupa tes pemahaman konsep dan angket beban kognitif ekstrinsik. Data dianalisis menggunakan N-Gain, uji Mann–Whitney U, dan *effect size*. Hasil penelitian menunjukkan bahwa nilai N-Gain pemahaman konsep kelas eksperimen sebesar 0,66 (sedang), sedangkan kelas kontrol sebesar 0,60 (sedang). Hasil uji Mann–Whitney menunjukkan nilai signifikansi sebesar 0,013 ($p < 0,05$) dengan *effect size* sebesar 0,322 (sedang). Beban kognitif ekstrinsik kelas eksperimen memperoleh skor rata-rata sebesar 1,80 (rendah), sedangkan kelas kontrol sebesar 2,28 (sedang). Hasil uji Mann–Whitney menunjukkan nilai signifikansi $< 0,001$ ($p < 0,05$) dengan *effect size* sebesar 0,84 (besar). Dengan demikian, model *Guided discovery learning* berbantuan media *Board game Genopoly* berpengaruh terhadap peningkatan pemahaman konsep serta penurunan beban kognitif ekstrinsik peserta didik pada materi pewarisan sifat.

Kata Kunci: *Board game Genopoly*, *Guided discovery learning*, pemahaman konsep, beban kognitif ekstrinsik, pewarisan sifat.

ABSTRACT

Niken Aulia Rahman: *“The Effect of the Guided Discovery Learning Model Assisted by the Genopoly Board Game Media on Junior High School Students’ Conceptual Understanding and Cognitive Load in Heredity Material”*

Conceptual understanding is one of the important abilities that students need to possess in biology learning. However, the topic of heredity contains abstract concepts that may lead to low conceptual understanding and increased extraneous cognitive load among students. This study aimed to analyze the effect of the Guided discovery learning model assisted by the Board game Genopoly media on students’ conceptual understanding and extraneous cognitive load in the topic of heredity. The research employed a quasi-experimental method with a pretest-posttest non-equivalent control group design. The study involved two classes, namely an experimental class and a control class, with 30 students in each class. The research instruments consisted of a conceptual understanding test and an extraneous cognitive load questionnaire. The data were analyzed using N-Gain, the Mann–Whitney U test, and effect size. The results showed that the N-Gain score of conceptual understanding in the experimental class was 0.66 (moderate), while that of the control class was 0.60 (moderate). The Mann–Whitney U test showed a significance value of 0.013 ($p < 0.05$) with an effect size of 0.322 (moderate). The experimental class obtained an average extraneous cognitive load score of 1.80 (low), while the control class obtained an average score of 2.28 (moderate). The Mann–Whitney U test showed a significance value of < 0.001 ($p < 0.05$) with an effect size of 0.84 (large). Therefore, the Guided discovery learning model assisted by Board game Genopoly had a significant effect on students’ conceptual understanding and extraneous cognitive load in the topic of heredity.

Key word: Genopoly Board game, Guided discovery learning, conceptual understanding, extraneous cognitive load, heredity.