ABSTRAK

Dilla Az Zahra: "Model Pembelajaran *Contextual Teaching and Learning* (CTL) Berbasis Isu Sosiosaintifik Terhadap Peningkatan Keterampilan Berpikir Sistem Siswa Pada Materi Sistem Reproduksi"

Keterampilan berpikir sistem (KBS) penting dalam pembelajaran Biologi, namun pembelajaran yang masih berfokus pada penguasaan konsep secara terpisah membuat siswa kurang terbiasa memahami keterkaitan antar komponen dalam suatu sistem. *Contextual Teaching and Learning* (CTL) berbasis isu sosiosaintifik merupakan model pembelajaran yang berpotensi meningkatkan keterampilan berpikir sistem siswa. Penelitian ini bertujuan menganalisis peningkatan keterampilan berpikir sistem melalui penerapan CTL berbasis isu sosiosaintifik pada materi sistem reproduksi. Penelitian ini menggunakan metode kuasi eksperimen dengan desain *non-equivalent control group design*. Sampel penelitian terdiri atas 40 siswa kelas XI di MA Nurul Huda yang ditentukan menggunakan teknik *cluster random sampling*, dengan 20 siswa pada kelas eksperimen dan 20 siswa pada kelas kontrol. Data dikumpulkan melalui observasi keterlaksanaan pembelajaran, tes keterampilan berpikir sistem (*pretest* dan *posttest*), serta angket respons siswa, kemudian dianalisis menggunakan analisis N-Gain dan uji-t. Hasil penelitian menunjukkan keterlaksanaan pembelajaran CTL berbasis isu sosiosaintifik berkategori sangat baik, dengan persentase keterlaksanaan sebesar 88%–96%. Rata-rata N-Gain kelas eksperimen sebesar 0,81 (kriteria tinggi), sedangkan kelas kontrol sebesar 0,71 (kategori tinggi). Hasil uji-t menunjukkan nilai sebesar 4,123 ($p < 0,05$), sehingga peningkatan keterampilan berpikir sistem pada kelas CTL berbasis isu sosiosaintifik berbeda secara signifikan dibandingkan kelas kontrol. Hasil analisis Cohen's *d* sebesar 1,162 menunjukkan ukuran efek yang besar. Respons siswa terhadap pembelajaran memperoleh persentase sebesar 80,56%. Dengan demikian, model pembelajaran CTL berbasis isu sosiosaintifik dapat meningkatkan keterampilan berpikir sistem siswa pada materi sistem reproduksi.

Kata kunci: *Contextual Teaching and Learning*, Isu Sosiosaintifik, Keterampilan Berpikir Sistem, Sistem Reproduksi

ABSTRACT

Dilla Az Zahra: *"The Effect of Contextual Teaching and Learning (CTL) Model Based on Socioscientific Issues on the Improvement of Students' Systems Thinking Skills on the Reproductive System Material"*

Systems thinking skills (STS) are important in Biology learning; however, learning that focuses mainly on the mastery of concepts separately makes students less accustomed to understanding the interrelationships among components within a system. Contextual Teaching and Learning (CTL) based on socioscientific issues is a learning model that has the potential to improve students' systems thinking skills. This study aimed to analyze the improvement of students' systems thinking skills through the implementation of CTL based on socioscientific issues on the reproductive system material. This study employed a quasi-experimental method with a non-equivalent control group design. The sample consisted of 40 eleventh-grade students at MA Nurul Huda, selected using cluster random sampling, with 20 students in the experimental class and 20 students in the control class. Data were collected through observations of learning implementation, systems thinking skills tests (pretest and posttest), and student response questionnaires, and were analyzed using N-Gain analysis and a t-test. The results showed that the implementation of CTL based on socioscientific issues was categorized as very good, with an implementation percentage of 88%–96%. The average N-Gain score of the experimental class was 0.81 (high category), while the control class obtained 0.71 (high category). The t-test result was 4.123 ($p < 0.05$), indicating a significant difference in the improvement of systems thinking skills between the CTL based on socioscientific issues class and the control class. The Cohen's d effect size of 1.162 indicated a large effect. Students' responses to the learning process obtained a percentage of 80.56%. Therefore, the CTL model based on socioscientific issues can improve students' systems thinking skills on the reproductive system material..

SUNAN GUNUNG DJATI
BANDUNG

Keywords: *Contextual Teaching and Learning, Socioscientific Issues, Systems Thinking Skills, Reproductive System.*