ABSTRAK

Nurul Hidayanti, NIM 4191121026 (2023). Penerapan Model *Problem Based Learning* Berbasis Etnosains untuk Meningkatkan Keterampilan Berpikir Kritis Siswa Madrasah Aliyah TP 2022/2023.

Penelitian ini bertujuan untuk mengetahui peningkatan keterampilan berpikir kritis siswa dengan menggunakan model *Problem Based Learning* (*PBL*) berbasis etnosains. Jenis penelitian ini yaitu *quasi eksperimen* dengan desain *two group pretest-posttest design*. Populasi penelitian yaitu seluruh siswa kelas XI IPA terdiri dari 3 kelas berjumlah 94 siswa. Pemilihan sampel dengan cara *cluster random sampling* diambil 2 kelas yaitu kelas XI IPA 1 berjumlah 34 siswa sebagai kelas eksperimen dan XI IPA 2 berjumlah 30 siswa sebagai kelas kontrol. Instrumen penelitian ini yaitu tes keterampilan berpikir kritis berbentuk essai sebanyak 15 soal yang sudah divalidasi dan lembar observasi. Hasil penelitian didapatkan nilai rata-rata pretes kelas kontrol yaitu 30,26 dan kelas eksperimen yaitu 31,14. Pengujian normalitas dan homogenitas pada kedua kelas diperoleh data kedua kelas berdistribusi normal dan varians homogen. selanjutnya dilakukan uji hipotesis pada data pretes dengan menggunakan uji t dua pihak dengan $\alpha = 0,05$ diperoleh bahwa $t_{hitung} < t_{tabel}$ (0,70 < 1,99) maka H_0 diterima. Artinya, kedua kelas memiliki kemampuan awal yang sama. setelah diberikan perlakuan yang berbeda maka didapatkan rata-rata posttes kelas kontrol yaitu 65,06 dan kelas eksperimen yaitu 80,6. Selanjutnya dilakukan uji t satu pihak pada data posttes dengan $\alpha = 0,05$ diperoleh bahwa $t_{hitung} > t_{tabel}$ (5,23 > 1,66) maka H_0 diterima. Artinya penerapan model *PBL* berbasis etnosains memberikan perbedaan peningkatan keterampilan berpikir kritis. Selanjutnya dilakukan uji N-Gain untuk mengetahui peningkatan keterampilan berpikir kritis siswa. Pada kelas eksperimen memiliki skor N-Gain rata-rata sebesar 0,72 dengan kategori tinggi. Sedangkan kelas kontrol memiliki skor N-Gain rata-rata sebesar 0,52 dengan kategori sedang. Dengan adanya perbedaan N-Gain tersebut maka dapat disimpulkan bahwa terdapat peningkatan keterampilan berpikir kritis siswa dengan menggunakan model *PBL* berbasis etnosains pada materi gelombang bunyi di kelas XI IPA Madrasah Aliyah Swasta Islamiyah Hessa Air Genting semester genap TP 2022/2023.

Kata Kunci : Model *Problem Based Learning*, Etnosains, Keterampilan Berpikir Kritis, Aktivitas.

ABSTRACT

Nurul Hidayanti, NIM 4191121026 (2023). Application of the Ethnoscience-Based Problem Based Learning Model to Improve Critical Thinking Skills of Madrasah Aliyah Students TP 2022/2023.

This study aims to determine the improvement of students' critical thinking skills by using the ethnoscience-based Problem Based Learning (PBL) model. This type of research is quasi-experimental with a two-group pretest-posttest design. The research population is all students of class XI IPA consisting of 3 classes totaling 94 students. The sample selection by means of cluster random sampling took 2 classes, namely class XI IPA 1 totaling 34 students as the experimental class and XI IPA 2 totaling 30 students as the control class. The research instrument was a critical thinking skills test in the form of an essay with 15 validated questions and an observation sheet. The results showed that the average pretest value for the control class was 30.26 and that for the experimental class was 31.14. Testing for normality and homogeneity in both classes obtained data for both classes with normal distribution and homogeneous variance. then a hypothesis test was carried out on the pretest data using a two-party t test with $\alpha = 0.05$, it was found that tcount < ttable (0.70 <1.99) then H0 was accepted. That is, both classes have the same initial ability. after being given different treatments, the average posttest for the control class was 65.06 and the experimental class was 80.6. Then a one-sided t test was performed on the posttest data with $\alpha = 0.05$, it was found that tcount > ttable (5.23 > 1.66) then H0 was accepted. This means that the application of the ethnoscience-based PBL model provides a difference in increasing critical thinking skills. Furthermore, the N-Gain test was carried out to determine the increase in students' critical thinking skills. The experimental class has an average N-Gain score of 0.72 in the high category. While the control class has an average N-Gain score of 0.52 in the moderate category. With the difference in N-Gain, it can be concluded that there is an increase in students' critical thinking skills by using the ethnoscience-based PBL model in sound wave material in class

Keywords: *Problem Based Learning Model, Ethnoscience, Critical Thinking Skills, Activity.*