

ABSTRAK

Ghania Salsabila : “Perbandingan Keterampilan Proses Sains Melalui Praktikum di Laboratorium Virtual dengan Laboratorium Riil Berbasis Model Inkuiri Terbimbing pada Materi Ekskresi”.

Dalam dunia pendidikan, keterampilan proses sains menjadi aspek yang penting, terutama dalam konteks mata pelajaran Biologi melalui praktikum. Penelitian ini bertujuan untuk membandingkan KPS melalui praktikum di lab. virtual dengan lab. riil yang menggunakan model inkuiri terbimbing pada materi ekskresi. Metode yang diterapkan yaitu *quasi eksperiment* dengan *Comparison Group pretest-post-test design*. Hasil menunjukkan bahwa kinerja guru sangat baik pada pelaksanaan pembelajaran inkuiri terbimbing melalui virtual diperoleh nilai rata-rata sebesar 95% dan kinerja guru di lab riil mencapai skor rata-rata 98,3%. Sementara itu, keterlaksanaan aktivitas siswa dalam pembelajaran inkuiri terbimbing juga positif dengan nilai mencapai 98,3%. Peningkatan KPS siswa pada kelas yang menggunakan lab virtual dengan nilai N-Gain 0,47 (kurang efektif). Sedangkan kelas yang menggunakan laboratorium riil dengan nilai N-Gain sebesar 60,8 (cukup efektif). Dalam hal perbandingan, terdapat perbedaan peningkatan yang signifikan antara KPS keduanya (signifikansi $\alpha < 1,96$) hasil yang diperoleh melalui uji statistik *Mann Whitney* yaitu $0,057 < 1,96$ sehingga dapat diketahui KPS siswa pada pembelajaran praktikum melalui Laboratorium Riil lebih baik dibanding dengan Laboratorium Virtual. Selain itu, respon siswa terhadap pelaksanaan pembelajaran praktikum di lab virtual sebesar 67,8%, melalui lab riil sebesar 72,9%. Dari hasil penelitian ini memberikan kontribusi dalam memahami perbandingan KPS siswa melalui praktikum di laboratorium virtual dan riil serta implikasinya terhadap pengembangan pembelajaran berbasis inkuiri terbimbing.

Kata Kunci : Keterampilan Proses Sain, Inkuiri Terbimbing, Praktikum, Laboratorium Virtual, Laboratorium Riil, Ekskresi

ABSTRACT

Ghania Salsabila : "Comparison of Science Process Skills Through Practicum in Virtual and Real Laboratories Based on Guided Inquiry Model on Excretion Material"

In the world of education, science process skills are an important aspect, especially in the context of Biology subjects through practicum. This research aims to compare KPS through practicum in the lab. virtual with lab. real which uses a guided inquiry model on excretory material. The method applied is quasi-experimental with Comparison Group pretest-post-test design. The results show that the teacher's performance was very good in implementing guided inquiry learning via virtual, obtaining an average score of 95% and teacher performance in the real lab reached an average score of 98.3%. Meanwhile, the implementation of student activities in guided inquiry learning was also positive with a score reaching 98.3%. Increased student KPS in classes that use virtual labs with an N-Gain value of 0.47 (less effective). Meanwhile, the class that uses a real laboratory has an N-Gain value of 60.8 (quite effective). In terms of comparison, there is a significant difference in improvement between the KPS of the two (significance $\alpha < 1.96$). The results obtained through the Mann Whitney statistical test are $0.057 < 1.96$ so it can be seen that the KPS of students in practical learning through the Real Laboratory is better than in the Laboratory. Virtual. Apart from that, the student response to implementing practical learning in the virtual lab was 67.8%, while through the real lab it was 72.9%. The results of this research contribute to understanding the comparison of student KPS through practicum in virtual and real laboratories and its implications for the development of guided inquiry-based learning.

Keywords : Science Process Skills, Guided Inquiry, Practicum, Virtual Laboratory, Real Laboratory, Excretion