

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh pembelajaran berbasis *Predict-Observe-Explain* (POE) terhadap perubahan konseptual siswa SMA pada konsep sistem pernapasan manusia. Penelitian ini menggunakan metode *weak experimental* dengan menggunakan desain *one group pre-test and post-test design*. Sampel dipilih secara *Cluster Sampling* yang kemudian diperoleh kelas XI MIPA 2 pada salah satu SMA di Kabupaten Bandung Barat. Data diperoleh menggunakan instrumen tes tertulis berupa soal pilihan ganda beralasan yang diberikan di awal dan di akhir pembelajaran serta respon siswa dalam bentuk angket. Analisis data dilakukan dengan uji beda rata-rata antara nilai *pretest* dengan *posttest*. Pada temuan penelitian ini terdapat *Sig. 2 tailed* sebesar 0,00 yang lebih kecil dari ($\alpha=0,05$) yang artinya adanya perubahan yang signifikan persentase konsepsi ilmiah siswa pada *pretest* dan *posttest*. Penelitian ini menunjukkan bahwa peningkatan perubahan konseptual siswa melalui pembelajaran berbasis POE adalah sedang dengan rata-rata *N-gain* 0,52. Selain itu, hasil dari analisis juga menunjukkan pola perubahan konseptual pada siswa yaitu berubah positif sebanyak 44,3%, bertahan positif sebanyak 20,5%, berubah negatif sebanyak 11% dan bertahan negatif sebanyak 24,2%. Hasil angket siswa menunjukkan bahwa pembelajaran berbasis POE pada materi sistem pernapasan manusia sangat membantu siswa dalam mengatasi perubahan konseptual.

Kata Kunci: pembelajaran berbasis POE, perubahan konseptual, miskonsepsi, sistem pernapasan manusia.

ABSTRACT

This study aims to determine the effect of Predict-Observe-Explain (POE) based learning on the conceptual changes of high school students on the concept of the human respiratory system. This research uses weak experimental method using one group pre-test and post-test design. Samples were selected by Cluster Sampling which then obtained class XI MIPA 2 in one of high school in West Bandung regency. The data were obtained using a written test instrument in the form of multiple choice questions based on both the beginning and the end of the learning and the students responses in the form of a questionnaire. Data analysis was performed with the mean difference test between pretest value and posttest. The findings of this study are Sig. 2 tailed of 0.00 is smaller than ($\alpha = 0.05$) which means a significant change in the percentage of students' scientific conceptions on pretest and posttest. This study shows that the increase conceptual changes of students through POE-based learning are moderate with an average N-gain of 0.52. In addition, the results of the analysis also showed a pattern of conceptual changes in students that changed positively as much as 44.3%, positive survival as much as 20.5%, negative change as much as 11% and negative survival as much as 24.2%. The student questionnaire results show that POE-based learning on human respiratory system materials is helpful to students in overcoming conceptual changes.

Keywords: POE based learning, conceptual change, misconception, human respiratory system.