

**PENERAPAN METODE DEMONSTRASI PADA PROSES PEMBELAJARAN
MENGURANGI KELUHAN MUSKULOSKELETAL DAN KEBOSANAN
BELAJAR SERTA KONTRIBUSINYA TERHADAP HASIL BELAJAR
BIOLOGI SISWA KELAS XI DI SMA N 3 SINGARAJA**

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui penerapan metode pembelajaran demonstrasi dalam proses pembelajaran mengurangi keluhan muskuloskeletal dan kebosanan belajar serta kontribusinya terhadap hasil belajar Biologi siswa kelas XI di SMAN 3 Singaraja. Jenis penelitian eksperimental semu (*quasi experimental*) dengan rancangan penelitian *non-equivalent randomized pre and post test kontrol group design*. Variabel terikatnya adalah: (a) keluhan muskuloskeletal yang didata dengan kuesioner *Nordic Body Map*, (b) kebosanan belajar yang didata dengan kuesioner kebosanan, dan (c) hasil belajar Biologi siswa yang didata dengan memberikan test objektif di akhir pembelajaran. Perlakuan yang diberikan dalam penelitian ini adalah penerapan metode pembelajaran demonstrasi pada proses pembelajaran. Data dalam penelitian berdistribusi normal sehingga dilakukan analisis dengan uji *t independent sample* dan uji regresi pada taraf signifikansi 5%. Hasil uji hipotesis menunjukkan bahwa: (a) keluhan muskuloskeletal antara kelas kontrol dan kelas eksperimen berbeda bermakna karena diperoleh nilai $p = 0,0001$ ($p < 0,05$), (b) kebosanan antara kelas kontrol dan kelas eksperimen berbeda bermakna, karena diperoleh nilai $p = 0,0001$ ($p < 0,05$), (c) keluhan muskuloskeletal berkontribusi terhadap hasil belajar, karena diperoleh nilai $p = 0,0001$ ($p < 0,05$), dan (d) kebosanan juga berkontribusi terhadap hasil belajar, karena diperoleh nilai $p = 0,0001$ ($p < 0,05$). Hasil analisis tersebut menunjukkan bahwa: (a) terdapat perbedaan yang signifikan antara keluhan muskuloskeletal pada kelas kontrol dan kelas eksperimen, karena pada kelas eksperimen keluhannya lebih rendah 77,13% dibandingkan dengan kelas kontrol, (b) terdapat perbedaan yang signifikan antara kebosanan pada kelas kontrol dan kelas eksperimen, karena pada kelas eksperimen kebosannya lebih rendah 58,96% dibandingkan dengan kelas kontrol, (c) keluhan muskuloskeletal berkontribusi secara signifikan terhadap hasil belajar sebesar 15,2%, dan (d) kebosanan berkontribusi secara signifikan terhadap hasil belajar sebesar 12,3%.

Kata kunci : Kebosanan, Keluhan muskuloskeletal, Hasil belajar, Metode demonstrasi

THE APPLICATION OF DEMONSTRATION METHODS IN THE LEARNING PROCESS TO REDUCE MUSCULOSCELETAL DISORDERS AND LEARNING BOREDOM AND ITS CONTRIBUTION TO BIOLOGY LEARNING RESULTS OF XI CLASS STUDENTS AT SMA N 3 SINGARAJA

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ABSTRACT

This study aims to determine the application of the demonstration learning method in the learning process to reduce musculoskeletal complaints and learning boredom and its contribution to the learning outcomes of biology class XI students at SMAN 3 Singaraja. This type of research is a quasi-experimental study with a non-equivalent randomized pre- and post-test control group design. The dependent variables are: (a) musculoskeletal complaints which are recorded by the Nordic Body Map questionnaire, (b) learning boredom which is recorded by the boredom questionnaire, and (c) the students' learning outcomes of Biology which are recorded by giving an objective test at the end of the lesson. The treatment given in this study is the application of demonstration learning methods in the learning process. The data in the study were normally distributed so that the analysis was carried out using an independent sample t test and a regression test at a significance level of 5%. The results of the hypothesis test showed that: (a) musculoskeletal complaints between the control class and the experimental class were significantly different because the p value = 0.0001 ($p < 0.05$), (b) the boredom between the control class and the experimental class was significantly different, because it was obtained p value = 0.0001 ($p < 0.05$), (c) musculoskeletal complaints contributed to learning outcomes, because $p = 0.0001$ ($p < 0.05$), and (d) boredom also contributed to learning outcomes, because the value of $p = 0.0001$ ($p < 0.05$). The results of the analysis show that: (a) there is a significant difference between musculoskeletal complaints in the control class and the experimental class, because in the experimental class the complaints are 77.13% lower than the control class, (b) there is a significant difference between boredom in the class control and experimental class, because in the experimental class the boredom was 58.96% lower than the control class, (c) musculoskeletal complaints contributed significantly to learning outcomes by 15.2%, and (d) boredom contributed significantly to learning outcomes by 12.3%.

Keywords: Boredom, musculoskeletal disorders, learning outcomes, demonstration methods