ABSTRAK

Penelitian ini bertujuan untuk menguji efektivitas penerapan model pembelajaran *Guided discovery learning* berbantuan *web-based simulation* dalam meningkatkan kemampuan literasi digital dan berpikir kritis peserta didik pada pembelajaran fisika. Penelitian dilakukan di SMAN 5 Kota Medan. Jenis penelitian yang dilakukan adalah *quasi experiment* dengan *pretest-posttest control group design.* Sampel penelitian diaimbil dengan Teknik *simple random sampling* yang terdiri dari kelas XI MIPA 1 sebagai kelas kontrol dan kelas XI MIPA 4 sebagai kelas eksperimen. Intrumen yang digunakan yaitu tes kemampuan literasi digital dan tes kemampuan berpikir kritis dengan soal essai. Berdasarkan hasil analisis data diperoleh bahwa model *guided discovery learning* berbantuan *web-simulation* berpengaruh terhadap kemampuan literasi dan kemampuan berpikir kritis dengan nilai signifikansi <0,001 serta efektif dengan hasil *n-gain score* literasi digital dan kemampuan berpikir kritis berturut-turut 0,66 dan 0,71 dengan kategori sedang dan tinggi. Model pembelajaran *guided discovery learning* berbantuan *web-based simulation* tidak secara langsung berkontribusi pada peningkatan kemampuan literasi digital dan kemampuan berpikir kritis peserta didik, ini dikarenakan hasil uji korelasi yang menunjukkan signifikan namun bertanda negative, yang artinya mungkin ada factor-faktor lain yang memungkinkan memiliki pengaruh yang lebih dominan dalam meningkatkan kedua kemampuan tersebut.

Kata kunci: Model *guided discovery dearning, Web-based simulations,* Kemampuan berpikir kritis, Kemampuan literasi digital

ABSTRACT

This study aims to test the effectiveness of applying the Guided Discovery learning model assisted by web-based simulation in improving students' digital literacy and critical thinking skills in physics learning. The research was conducted at SMAN 5 Medan City. The type of research conducted was a quasi experiment with a pretest-posttest control group design. The research sample was taken by simple random sampling technique consisting of class XI MIPA 1 as the control class and class XI MIPA 4 as the experimental class. The instruments used were tests of digital literacy skills and tests of critical thinking skills with essay questions. Based on the results of data analysis, it was found that the guided discovery learning model assisted by web-simulation had an effect on literacy skills and critical thinking skills with a significance value of <0.001 and was effective with n-gain scores of digital literacy and critical thinking skills respectively 0.66 and 0. 71 with medium and high categories. The guided discovery learning learning model assisted by web-based simulation does not directly contribute to increasing digital literacy skills and students' critical thinking skills, this is because the results of the correlation test show significant but have a negative sign, which means there may be other factors that may have an influence which is more dominant in improving both capabilities.

Keywords: *Guided discovery learning* model, *Web-based simulations*, Critical thinking skills, , Digital literacy skills