ABSTRAK

Risjunardi Damanik: Pengaruh Model Pembelajaran Koopertif terhadap kemampuan berpikir kritis, sikap ilmiah dan kemampuan mengkomunikasikan hasil karya sains pada mata kuliah Ekologi Hewan Mahasiswa Universitas Simalungun. Tesis. Medan: Program Pascasarjana Universita Negeri Medan (UNIMED). Medan, 2016.

Penelitian ini bertujuan untuk menganalisa pengaruh model Pembelajaran *Think Talk Write*, *Group Investigation*, dan pembelajaran konvensional terhadap; (1) kemampuan Berpikir Kritis; (2) Sikap Ilmiah; dan (3) Kemampuan mengkomunikasikan hasil karya sains Mahasiswa Pendidikan Biologi Universitas Simalungun Pematangsiantar. Sampel diambil secara total sampling yaitu seluruh mahasiswa Semester VI. Jumlah sampel sebanyak 60 orang yang dikelompokkan ke dalam 3 kelompok model pembelajaran yaitu: model *Think Talk Write* (Eksperimen A), *Group Investigation* (Eksperimen B), dan pembelajaran konvensional. Instrumen menggunakan angket sebanyak 20 soal untuk mengukur kemampuan berpikir kritis; Untuk mengukur Sikap Ilmiah sebanyak 20 soal; dan mengukur kemampuan mengkomunikasikan hasil karya sains di nilai dari hasil Observasi serta tes lisan. Soal instrumen telah diuji validitas, reliabilitas, daya beda, dan tingkat kesukaran dengan menggunakan rumus *product moment*. Metode penelitian ini bersifat kuasi eksperimen dengan tehnik analisi data menggunakan uji ANAKOVA Pada taraf signifikan $\alpha = 5\%$ dengan bantuan program SPSS 21.0. Hasil penelitian menunjukan: (1) Kemampuan berpikir kritis mahasiswa yang dibelajarkan dengan model pembelajaran *Group Investigation* 88,00 ± 3,70 secara signifikan lebih tinggi dibandingkan dengan Model pembelajaran *Think Talk Write* 78,25 ± 5,20, dan model pembelajaran konvensional 66,50 ± 5,87 dengan (F_{hitung} = 2,349 ; P = 0,10); (2) Sikap Ilmiah Mahasiswa yang dibelajarkan dengan Model Pembelajaran *Group Investigation* 94,45 ± 1,50 secara signifikan lebih tinggi dibandingkan dengan Model pembelajaran *Think Talk Write* 81,35 ± 2,30, dan model pembelajaran konvensional 68,00 ± 2,81 dengan (F_{hitung}= 679,362; P= 0,000); (3) Kemampuan Mengkomunikasihan Hasil Karya Sains Mahasiswa yang dibelajarkan dengan Model Pembelajaran *Group Investigation* 91,35 ± 1,73 secara signifikan lebih tinggi dibandingkan dengan Model pembelajaran *Think Talk Write* 82,50 ± 1,46 dan model pembelajaran konvensional 72,45 ± 2,25 dengan (F_{hitung} = 529,567; P = 0,000). Dengan demikian, dapat disimpulkan bahwa model pembelajarn *Think Talk Write* dan *Group Investigation* berpengaruh terhadap kemampuan berpikir kritis, sikap ilmiah dan kemampuan mengkomunikasikan hasil karya sains mahasiswa Pendidikan Biologi Universitas Simalungun pematangsiantar. Kemampuan berpikir kritis, sikap ilmiah dan kemampuan mengkomunikasikan hasil karya sains mahasiswa pada model Pembelajaran Kooperatif Tipe *Group Investigation* secara signifikan lebih tinggi dibandingkan dengan Model pembelajaran *Think Talk Write* dan Konvensional.

Kata Kunci: Model Pembelajaran Kooperatif, Kemampuan Berpikir Kritis, Sikap Ilmiah, Kemampuan Mengkomunikasikan hasil karya sains.

ABSTRACT

RisjunardiDamanik: The effect of cooperative learning model on critical thinking ability, scientific attitude, and communicating ability of students in Animal Ecology course of Biology Education program, Universitas Simalungun. Medan: Pascasarjana Universitas Negeri Medan (UNIMED). Medan, 2016.

This study aims to investigate the effect of Think Talk Write learning model, Group Investigation, and conventional learning model, toward (1) critical thinking ability; (2) scientific attitude; and (3) ability to communicate the result of scientific work, of students of Biology Education program, Universitas Simalungun, Pematangsiantar. Sample used were the total of 60 students in the sixth semester. Students were divided into 3 groups of learning models; Think Talk Write (experiment A), Group Investigation (experiment B), and conventional learning. Instruments used were 20 questions of questionnaire for critical learning ability and 20 questions for scientific attitude testing. Meanwhile, communicating ability was assessed from observation and verbal tests. Instrumental questions have been tested for validity, reliability, distinguish power, and level of difficulty using formula of product moment. This study is a quasi-experimental based using ANAKOVA testing at significance level of $\alpha = 5\%$ using SPSS 21.0. Results show that (1) students taking Group Investigation learning model have critical thinking ability about 88.00 ± 3.70 which was significantly higher compare to those taking Think Talk Write or conventional learning model; 78.25 ± 5.20 and 66.50 ± 5.87 respectively. (2) Scientific attitude of student taking group investigation learning model was also higher compare to those taking Think Talk Write or conventional learning model. The score were 94.45 ± 1.50, 81.35 ± 2.30, and 68.00 ± 2.81 respectively. Moreover, (3) student taking Group Investigation learning model has communicating ability about 91.35 ± 1.73 which was significantly higher compare to those taking Think Talk Write (82.50 ± 1.46) or conventional model (72.45 ± 2.25). In summary, learning models of Think Talk Write and Group Investigation may affect the critical thinking ability, scientific attitude, and communicating ability of students of biology education program of Universitas Simalungun, Pematangsiantar. Critical thinking ability, scientific attitude, ability to communicate the result of scientific works was significantly higher in Group Investigation model than Think Talk Write model and conventional model.

Keywords: Cooperative learning model Critical thinking ability, scientific attitude, ability to communicate the result of scientific works.