

## ABSTRAK

**Sukmwati Sundari Siregar. NIM. 8136173016. *The Effect of Project Based Learning and Cooperative Learning Group Investigation on Student's Concept Mastery, Scientific Attitude and Creative Thinking Skill in Respiratory System At SMA Negeri 3 Medan*. Tesis. Program Pendidikan Biologi, Sekolah Pascasarjana, Universitas Negeri Medan. Medan. 2015.**

Penelitian ini bertujuan untuk mengetahui pengaruh *Project-Based Learning* and *Group Investigation* terhadap penguasaan konsep, sikap ilmiah, dan keterampilan berfikir kreatif. Penelitian quasi eksperimen ini menggunakan desain penelitian *pre-test and post-test control group design*. Populasi penelitian adalah seluruh siswa kelas XI MIA SMA Negeri 3 Medan T.A. 2014/2015. Jumlah populasi penelitian adalah 108 siswa. Sample dipilih menggunakan teknik *purposive cluster random sampling* dan dibagi menjadi tiga kelas yakni kelas eksperimen dan kontrol. *Pembelajaran Project-Based Learning* dan *Group Investigation* dibelajarkan pada kelas eksperimen, sedangkan pembelajaran konvensional dibelajarkan pada kelas kontrol. Soal pilihan ganda digunakan untuk mengukur penguasaan konsep siswa. Angket didistribusikan kepada siswa untuk mengukur sikap ilmiah siswa, dan *essay test* digunakan untuk mengukur keterampilan berfikir kreatif. Uji persyaratan menunjukkan bahwa data terdistribusi normal dan homogen. Data dianalisis menggunakan Anava satu jalur dan Anacova, dilanjutkan dengan Uji Tukey pada taraf signifikansi  $\alpha = 0.05$  dengan bantuan SPSS 19.00. Hasil penelitian diperoleh bahwa: (1) Terdapat pengaruh model pembelajaran terhadap penguasaan konsep siswa. Siswa yang diajarkan dengan *Project-based learning* secara signifikan berbeda dengan siswa yang diajarkan dengan *Group Investigation* ( $P = 0.000$ ) dan pembelajaran konvensional ( $P = 0.000$ ). (2) Terdapat pengaruh model pembelajaran terhadap sikap ilmiah siswa. Siswa yang diajarkan dengan *Project-based learning* secara signifikan berbeda dengan siswa yang diajarkan dengan *Group Investigation* ( $P = 0.000$ ) dan pembelajaran konvensional ( $P = 0.000$ ); (3) Terdapat pengaruh model pembelajaran terhadap sikap ilmiah siswa. Siswa yang diajarkan dengan *Project-based learning* secara signifikan berbeda dengan siswa yang diajarkan dengan *Group Investigation* ( $P = 0.000$ ) dan pembelajaran konvensional ( $P = 0.000$ ). Hasil penelitian menunjukkan bahwa *project based learning* lebih baik daripada *Cooperative Learning Group Investigation* dan Pembelajaran Konvensional. Hal ini membuktikan bahwa pembelajaran dengan *project based learning* dapat memberikan pengaruh terhadap penguasaan konsep, sikap ilmiah, dan berfikir kreatif siswa.

Keywords: *Project-Based Learning*, *Group Investigation*, Penguasaan Konsep, Sikap Ilmiah, Kemampuan Berfikir Kreatif.

## ABSTRACT

**Sukmawati Sundari Siregar. Registration Number: 8136173016. The Effect of Project Based Learning and Cooperative Learning Group Investigation on Student's Concept Mastery, Scientific Attitude and Creative Thinking Skill In Respiratory System At SMA Negeri 3 Medan. A Thesis. Biology Education Program, Postgraduated School, State University of Medan. 2015.**

This study was aimed to find out the effect of Project-Based Learning and Group Investigation learning model toward student's conceptual mastery, scientific attitude, and creative thinking skill. The design of the study was quasi-experimental with pre-test and post-test control group. The population of this research was students in grade XI Science of SMA Negeri 3 Medan Academic Year 2014/2015. The total number of population of this research was 108 students. It was selected using purposive sampling technique and divided into three classes: the experiment classes and the control class. On the experimental group, project-based learning and group investigation model were applied, whereas in the control group, a conventional learning model was applied. Multiple choices was used to measure student's concept mastery. A questionnaire was administered for measuring student's scientific attitude, and essay test was given to measure the student's creative thinking. The statistical assumption test revealed that the data were normally distributed and homogenous. The data were analyzed by using one way Analysis of Variances (ANOVA) One way and Analysis of Covarians (ANACOVA) at significance level of 0.05 followed by Tukey's test assisted by SPSS 19.00. The results of the research are: (1) There were an effect of learning models to student's concept mastery. Students who were taught by Project-based learning model had significantly different from those of Group Investigation ( $P= 0.000$ ) and conventional learning model ( $P = 0.000$ ). (2) There was an effect of learning models to student's scientific attitude. Students scientific attitude who were taught by Project-based learning model, were significantly different from those of Group Investigation ( $P=0.000$ ) and conventional learning model ( $P = 0.000$ ); (3) There was an effect of learning models to student's creative thinking skill. Students who were taught by Project-based learning model has significantly different from those of Group Investigation ( $P= 0.000$ ) and conventional learning model ( $P = 0.000$ ). The result shows that project based learning model was better than cooperative learning models and conventional learning. It proves that learning process with project based learning affects student's concept mastery, scientific attitude, and creative thinking.

**Keywords:** Project-Based Learning, Group Investigation, Concept Mastery, Scientific Attitude, Creative Thinking Skill.