

## ABSTRAK

Assitta Muthia Remaisya. **EKSPERIMENTASI MODEL *CONNECTING, ORGANIZING, REFLECTING, EXTENDING* (CORE) MELALUI METODE EKSPERIMEN DAN DEMONSTRASI PADA MATERI USAHA DAN ENERGI DITINJAU DARI KETRAMPILAN PROSES SAINS SISWA SMA.** Skripsi, Surakarta : Fakultas Keguruan dan Ilmu Pendidikan, Universitas Sebelas Maret, Oktober 2018.

Penelitian ini bertujuan untuk mengetahui, (1) ada atau tidak adanya perbedaan pengaruh antara penggunaan model *Connecting, Organizing, Reflecting, and Extending* (CORE) melalui metode eksperimen dan demonstrasi terhadap kemampuan kognitif Fisika siswa pada materi Usaha dan Energi, (2) ada atau tidak adanya perbedaan pengaruh antara ketrampilan proses sains siswa kategori tinggi dan rendah terhadap kemampuan kognitif Fisika siswa pada materi Usaha dan Energi, (3) ada atau tidak adanya interaksi antara pengaruh penerapan model CORE dan ketrampilan proses sains siswa terhadap kemampuan kognitif Fisika siswa pada materi Usaha dan Energi.

Penelitian ini menggunakan metode quasi eksperimen dengan desain faktorial 2x2. Populasi dalam penelitian ini adalah seluruh siswa kelas X SMA Negeri 1 Gemolong Tahun Ajaran 2017/2018. Sampel diambil dengan teknik *cluster random sampling* dan sampel yang terpilih yakni kelas X MIA 3 berjumlah 33 siswa sebagai kelas eksperimen dan kelas X MIA 4 berjumlah 33 siswa sebagai kelas kontrol. Teknik pengumpulan data yang digunakan adalah kajian dokumen, teknik tes, dan teknik observasi. Kajian dokumen berupa nilai Ulangan Akhir Semester Ganjil. Teknik tes digunakan untuk memperoleh data kemampuan kognitif Fisika siswa setelah pembelajaran Fisika materi Usaha dan Energi. Teknik observasi digunakan untuk memperoleh data ketrampilan proses sains siswa. Data dianalisis menggunakan anava dua jalan dengan isi sel tak sama.

Simpulan dari penelitian ini adalah: (1) ada perbedaan pengaruh antara penggunaan model CORE melalui metode eksperimen dan demonstrasi terhadap kemampuan kognitif Fisika siswa pada materi Usaha dan Energi ( $F_{obs} = 4,813 > F_{tabel} = F_{0.05;1;62} = 4,00$ ), (2) ada perbedaan pengaruh antara ketrampilan proses sains siswa kategori tinggi dan rendah terhadap kemampuan kognitif Fisika siswa pada materi Usaha dan Energi ( $F_{obs} = 27,852 > F_{tabel} = F_{0.05;1;62} = 4,00$ ), (3) tidak ada interaksi antara pengaruh penggunaan model CORE melalui metode pembelajaran dan ketrampilan proses sains siswa terhadap kemampuan kognitif Fisika siswa pada materi Usaha dan Energi ( $F_{obs} = 0,281 < F_{tabel} = F_{0.05;1;62} = 4,00$ ).

**Kata kunci** : Model *Connecting, Organizing, Reflecting, and Extending* (CORE), metode eksperimen, metode demonstrasi, kemampuan kognitif Fisika, ketrampilan proses sains siswa.

## ABSTRACT

Assitta Muthia Remaisya. **EXPERIMENTATION OF *CONNECTING, ORGANIZING, REFLECTING, EXTENDING* (CORE) THROUGH EXPERIMENT AND DEMONSTRATION METHOD ABOUT WORK AND ENERGY VIEWED TOWARD STUDENTS' SCIENCE PROCESS SKILLS IN SENIOR HIGH SCHOOL.** Thesis, Surakarta: Teacher Training and Education Faculty, Sebelas Maret University, October 2018.

The aims of this study were to know, (1) whether or not there is differences in effect between use of the *Connecting, Organizing, Reflecting, and Extending* (CORE) through experimental methods and demonstration on physical cognitive abilities of students on the Work and Energy material, (2) whether or not there is a difference in influence between students 'high and low category science process skills on students' physical cognitive abilities in the Work and Energy material, (3) whether or not there is of interaction between the influence of the application of the CORE model and students 'science process skills on students' physical cognitive abilities in the Work and Energy material.

This study used a quasi-experimental method with a 2x2 factorial design. Population of this study is all of grade X students in SMA Negeri 1 Gemolong Academic Year 2017/2018. The sample was collected by using cluster random sampling technique and the selected sample was class X MIA 3 with 33 students as an experimental class and class X MIA with 33 students as a control class. The technique of collecting data used is document review, test techniques, and observation techniques. Document review in the form of score of final test in the odd semester. Test technique was used to obtain students' physical cognitive abilities data after learning the Physics of Business and Energy material. Observation technique was used to obtain science process skills data of the students. Data were analyzed using two-way ANAVA with different cell contents.

The conclusions of this study are: (1) there is a difference in the effect between the use of the CORE model through experimental methods and demonstration of students' physical cognitive abilities in Work and Energy material ( $F_{obs} = 4.813 > F_{table} = F_{0.05;1;62} = 4,00$ ), (2) there is a difference in influence between students 'high and low category science process skills on students' physical cognitive abilities in Work and Energy material ( $F_{obs} = 27,852 > F_{tabel} = F_{0.05;1;62} = 4,00$ ), (3) there is no interaction between the influence of the use of the CORE model through learning methods and student science process skills on students' physical cognitive abilities in the Work and Energy material ( $F_{obs} = 0,281 < F_{tabel} = F_{0.05;1;62} = 4,00$ ).

**Keywords:** *Connecting, Organizing, Reflecting, and Extending* (CORE) model, experimental methods, demonstration methods, physical cognitive abilities, student science process skills.