

ABSTRAK

Daliyah Salma Fitriyatillah. 2026. **PENGARUH MODEL PEMBELAJARAN *CONDITION, CONSTRUCTION, DEVELOPMENT, SIMULATION, REFLECTION* (CCDSR) BERBANTUAN *HANDS-ON EXPERIMENT* TERHADAP KETERAMPILAN PROSES SAINS PESERTA DIDIK PADA MATERI GERAK JATUH BEBAS**

Keterampilan proses sains merupakan salah satu kompetensi penting dalam pendidikan sains abad ke-21, namun hasil studi pendahuluan menunjukkan keterampilan proses sains peserta didik masih rendah. Salah satu alternatif untuk mengatasi hal tersebut adalah penerapan model *condition, construction, development, simulation, reflection* (CCDSR) berbantuan *hands-on experiment*. Penelitian ini bertujuan untuk mengetahui pengaruh model pembelajaran CCDSR berbantuan *hands-on experiment* terhadap keterampilan proses sains peserta didik pada materi Gerak Jatuh Bebas. Metode penelitian yang digunakan adalah kuasi eksperimen dengan desain *posttest-only control group design*. Populasi penelitian adalah kelas X SMA Negeri 6 Tasikmalaya yang belajar Fisika. Sampel dipilih menggunakan teknik *purposive sampling*, yaitu X-12 sebagai kelas eksperimen dan X-2 sebagai kelas kontrol. Keterampilan proses sains peserta didik diukur dengan melakukan tes setelah perlakuan (*posttest*) dengan 11 butir soal berbentuk uraian pada materi gerak jatuh bebas. Hasil analisis data keterlaksanaan model pembelajaran secara keseluruhan dapat terlaksana dengan sangat baik. Hasil analisis data dengan uji normalitas Chi-kuadrat menunjukkan bahwa data penelitian tidak berdistribusi normal. Hasil uji hipotesis menggunakan uji Mann Withney U pada taraf signifikansi ($\alpha = 0,05$) menunjukkan bahwa $Z_{hitung} > Z_{tabel}$ yang berarti H_a diterima dan H_0 ditolak, artinya terdapat pengaruh model pembelajaran *condition, construction, development, simulation, reflection* (CCDSR) berbantuan *hands-on experiment* terhadap keterampilan proses sains peserta didik pada materi gerak jatuh bebas. Model pembelajaran CCDSR berbantuan *hands-on experiment* berpengaruh terhadap keterampilan proses sains karena karakteristiknya yang berbasis saintifik yang menuntut peserta didik melakukan kegiatan ilmiah, seperti melakukan kegiatan eksperimen, mengembangkan rancangan eksperimen, dan melakukan evaluasi terhadap hasil dan proses eksperimen.

Kata kunci: keterampilan proses sains, CCDSR, *hands-on experiment*, gerak jatuh bebas, pembelajaran fisika.

ABSTRACT

Daliyah Salma Fitriyatillah. 2026. **THE EFFECT OF THE CONDITION, CONSTRUCTION, DEVELOPMENT, SIMULATION, REFLECTION (CCDSR) LEARNING MODEL ASSISTED BY HANDS-ON EXPERIMENTS ON STUDENTS' SCIENCE PROCESS SKILLS IN FREE- FALL MOTION**

Science process skills are one of the important competencies in 21st century science education, but preliminary study results show that students' science process skills are still low. One alternative to overcome this is the application of the condition, construction, development, simulation, reflection (CCDSR) model assisted by hands-on experiments. The aims of this research is to examine the effects of the CCDSR learning model assisted by hands-on experiments on students' science process skills in Free-Fall Motion. This study employed a quasi-experimental posttest-only control-group design. The population of this research is 10th grade students of SMA Negeri 6 Tasikmalaya who study Physics. The sample was selected using purposive sampling namely class X-12 as the experimental group and class X-2 as the control group. Students' science process skills were measured through a post-test consisting of 11 essay items focusing on free-fall motion. The data analysis indicated that the overall implementation of CCDSR learning model was executed excellently. Results from the Chi-square normality test confirmed that the research data were not normally distributed. Furthermore, the hypothesis testing using the Mann-Whitney U test at a significance level of ($\alpha = 0,05$) revealed that $Z_{\text{statistic}} > Z_{\text{table}}$. Consequently, H_a was accepted and H_0 was rejected, indicating that the Condition, Construction, Development, Simulation, and Reflection (CCDSR) learning model, supported by hands-on experiments, has a significant effect on students' science process skills in free-fall motion. The effect of the CCDSR learning model, supported by hands-on experiment, on science process skills is driven by its scientific nature, which encourages students to engage in scientific activities such as conducting experiments and designing learning tools focused on science process skills. The effect of the CCDSR learning model, supported by hands-on experiment, on science process skills is driven by its scientific approach, which encourages students to engage in scientific activities such as conducting experiments, developing experimental designs, and evaluating the results and processes of the experiments.

Keywords: science process skills, CCDSR, hands-on experiment, free fall motion, physics learning.