

ABSTRAK

ERWI NURLISA: Pengaruh Model Pembelajaran RADEC (*Read, Answer, Discuss, and Create*) Berbasis *Socio-Scientific Issue* (SSI) Pada Materi Reaksi Redoks Terhadap Pemahaman Konsep dan Motivasi Belajar Peserta Didik. **Program Studi Pendidikan Kimia FKIP Universitas Malikussaleh**

Penelitian ini bertujuan untuk mengetahui pengaruh model pembelajaran RADEC (*Read, Answer, Discuss, and Create*) berbasis *Socio-Scientific Issue* (SSI) pada materi reaksi redoks terhadap pemahaman konsep dan motivasi belajar peserta didik. Penelitian ini menggunakan pendekatan kuantitatif dengan jenis *Quasi-Experimental* menggunakan desain *Non-Equivalent Posttest Only Control Group Design*. Sampel diambil dengan cara *purposive sampling* di SMAN 5 Lhokseumawe semester genap tahun ajaran 2024/2025, terdiri dari kelas eksperimen (24 peserta didik) dan kelas kontrol (26 peserta didik). Instrumen pengumpulan data berupa soal tes dan lembar angket motivasi yang telah diuji validitas, reliabilitas, tingkat kesukaran, dan daya beda soal melalui uji coba. Dari 10 soal, 7 dinyatakan valid dan angket motivasi belajar juga valid digunakan.

Hasil penelitian menunjukkan pemahaman konsep dan motivasi belajar peserta didik pada kelas eksperimen lebih tinggi dibanding kelas kontrol, dengan nilai rata-rata *posttest* masing-masing 72,92 dan 55,66, serta rata-rata angket motivasi sebesar 90,42 dan 74,93. Uji normalitas dan homogenitas data menunjukkan distribusi data normal dan homogen. Uji-t menghasilkan nilai signifikansi (2-tailed) $0,000 < 0,05$ untuk kedua variabel, sehingga H_0 ditolak dan H_a diterima. Dengan demikian, dapat disimpulkan bahwa model pembelajaran RADEC (*Read, Answer, Discuss, and Create*) berbasis *Socio-Scientific Issue* (SSI) pada materi reaksi redoks berpengaruh positif terhadap peningkatan pemahaman konsep dan motivasi belajar peserta didik. Penelitian ini memberikan rekomendasi penggunaan model RADEC berbasis SSI sebagai strategi pembelajaran efektif di sekolah.

Kata kunci: Model Pembelajaran RADEC, *Socio-Scientific Issue* (SSI), Pemahaman Konsep, Motivasi Belajar, Reaksi Redoks.

ABSTRACT

ERWI NURLISA: The Effect of the RADEC (Read, Answer, Discuss, and Create) Learning Model Based on Socio-Scientific Issue (SSI) on Conceptual Understanding and Learning Motivation of Students in Redox Reaction Material. **Chemistry Education Study Program, FKIP Malikussaleh University.**

This study aims to examine the effect of the RADEC learning model (Read, Answer, Discuss, and Create) based on Socio-Scientific Issues (SSI) on students' conceptual understanding and learning motivation in redox reaction material. This quantitative study employed a quasi-experimental approach using a Non-Equivalent Posttest Only Control Group design. The sample was selected by purposive sampling at SMAN 5 Lhokseumawe during the even semester of the 2024/2025 academic year, consisting of an experimental class (24 students) and a control class (26 students). Data collection instruments included test questions and motivation questionnaires, which had been validated for validity, reliability, difficulty level, and distinguishing power through a trial. Out of 10 test questions, 7 were declared valid, and the motivation questionnaire was also valid for use.

The results showed that students' conceptual understanding and learning motivation in the experimental class were higher than those in the control class, with mean posttest scores of 72.92 and 55.66, and mean motivation questionnaire scores of 90.42 and 74.93, respectively. Normality and homogeneity tests indicated that the data were normally distributed and homogeneous. The t-test produced a significance value (2-tailed) of $0.000 < 0.05$ for both variables, thus rejecting the null hypothesis and accepting the alternative hypothesis. Therefore, it can be concluded that the RADEC learning model based on SSI in redox reaction material positively influences students' conceptual understanding and learning motivation. This study recommends using the RADEC model based on SSI as an effective learning strategy in schools.

Keywords: RADEC Learning Model, Socio-Scientific Issue (SSI), Conceptual Understanding, Learning Motivation, Redox Reaction.