

ABSTRAK

Rindi Septiani Br Depari, NIM 4182131007 (2022), Pengaruh Model Pembelajaran *Project Based Learning (PjBL)* Berorientasi *Collaborative Learning* Dengan Media Video Animasi Terhadap Kemampuan Pemecahan Masalah Siswa pada Materi Termokimia.

Penelitian ini bertujuan untuk mengetahui apakah kemampuan pemecahan masalah siswa dengan model pembelajaran *project based learning (pjbl)* berorientasi *collaborative learning* dengan media video animasi pada materi termokimia dapat memenuhi N-Gain kriteria tinggi dan aspek kemampuan pemecahan masalah apa yang berkembang melalui model pembelajaran *project based learning (pjbl)* berorientasi *collaborative learning* dengan media video animasi pada materi termokimia. Jenis penelitian ini bersifat kuantitatif dan jenis penelitian eksperimen yang menggunakan bentuk desain *Pre-Experimental Design*. Sampel dalam penelitian ini terdiri dari satu kelas yang berjumlah 35 siswa yaitu kelas XI IPA 2 SMA Negeri 2 Kabanjahe yang dipilih secara random sampling. Instrumen yang digunakan berupa instrumen tes kemampuan pemecahan masalah yang telah divalidasi dalam bentuk *essay* sebanyak 5 soal dengan memenuhi syarat validitas isi yaitu nilai pada rentang 0,53 sampai 0,72 dan memenuhi syarat realibilitas dengan nilai realibilitas sebesar 0,76. Dari hasil penelitian diperoleh rata-rata *pretest* sebesar 24,571(+3,987) dan *posttest* sebesar 80,857(+6,198), dan varian *pretest* sebesar 15,899 dan *posttest* sebesar 38,420 yang menyatakan data bersifat homogen. Pada uji normalitas diperoleh nilai Chi-Kuadrat *pretest* sebesar 10,932 dan *posttest* sebesar 7,848 yang menyatakan data berdistribusi normal. Berdasarkan hasil analisis uji hipotesis (*one sample t-test*) diperoleh $t_{hitung} > t_{tabel}$ yaitu $5,5903 > 1,6902$. Pada pengujian gain ternormalisasi diperoleh nilai n-gain sebesar 0,747(74,7%) yang menyatakan bahwa kemampuan pemecahan masalah siswa yang dibelajarkan dengan menggunakan model pembelajaran *project based learning (pjb)* berorientasi *collaborative learning* dengan media video animasi pada materi termokimia memenuhi kriteria tinggi. Hasil penelitian menunjukkan bahwa kemampuan pemecahan masalah siswa untuk aspek memahami masalah diperoleh sebesar 88%, aspek merencanakan penyelesaian diperoleh sebesar 83%, aspek melakukan rencana penyelesaian diperoleh sebesar 79% dan aspek memeriksa kembali diperoleh sebesar 74%. Sehingga dapat disimpulkan bahwa aspek kemampuan pemecahan masalah yang berkembang adalah aspek memahami masalah.

Kata Kunci : model pembelajaran *project based learning*, kemampuan pemecahan masalah, video animasi, termokimia

ABSTRACT

Rindi Septiani Br Depari, NIM 4182131007 (2022), The Effect of Collaborative Learning Oriented Project Based Learning (PjBL) Learning Model with Animated Video Media on Students' Problem Solving Ability on Thermochemical Materials.

This study aims to determine whether students' problem-solving abilities using the *project-based learning (pjbl)* learning model oriented to *collaborative learning* with *animated video* media on thermochemical material can meet the high N-Gain criteria and what aspects of problem-solving abilities are developed through the *project-based learning (pjbl)* learning model oriented *collaborative learning* with *animated video* media on thermochemical material. This type of research is quantitative and the type of experimental research is using the *Pre-Experimental Design*. The sample in this study consisted of a class of 35 students, namely class XI IPA 2 SMA Negeri 2 Kabanjahe which was selected by *random sampling*. The instrument used in the form of a problem solving ability test instrument that has been validated in the form of an *essay* as many as 5 questions by fulfilling the content validity requirements, namely the value in the range of 0.53 to 0.72 and fulfilling the reliability requirements with a reliability value of 0.76. From the research results, the average *pretest* was 24,571 (+3.987) and *posttest* was 80,857 (+6,198), and the *pretest* variance was 15,899 and *posttest* was 38,420 which stated that the data was homogeneous. In the normality test, the Chi-Square value of the *pretest* was 10,932 and the *posttest* was 7,848 which stated that the data were normally distributed. Based on the results of the analysis of the hypothesis test (*one sample t - test*) obtained $t_{count} > t_{table}$ that is $5.5903 > 1.6902$. In the normalized gain test, the n-gain value is 0.747 (74.7%) which states that the problem solving ability of students who are taught using the *project based learning (pjbl)* learning model oriented to *collaborative learning* with *animated video* media on thermochemical material meets the high criteria. The results showed that the problem solving ability of students for the aspect of understanding the problem was obtained by 88%, the aspect of planning a settlement was obtained by 83%, the aspect of carrying out a settlement plan was obtained by 79% and the aspect of re-examining was obtained by 74%. So it can be concluded that the aspect of problem solving ability that is developed is the aspect of understanding the problem .

Keywords: project based learning model, problem solving ability, animated video, thermochemistry