

ABSTRAK

PENGEMBANGAN MODUL AJAR BERBASIS KETERAMPILAN PROSES SAINS DENGAN *PROBLEM BASED LEARNING* PADA MATERI PERUBAHAN WUJUD ZAT UNTUK MENUMBUHKAN DIMENSI BERNALAR KRITIS SISWA KELAS IV SD

Agnes Hesti Widyaningsih

Univeritas Sanata Dharma

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Penelitian ini dilatarbelakangi oleh rendahnya kemampuan bernalar kritis siswa dalam memahami konsep perubahan wujud zat, terutama yang berkaitan dengan kehidupan sehari-hari. Tujuan penelitian ini dilakukan untuk mengembangkan dan mendeskripsikan kualitas modul ajar berbasis keterampilan proses sains dengan *Problem Based Learning* pada materi perubahan wujud zat untuk menumbuhkan dimensi bernalar kritis siswa di kelas IV SD.

Metode penelitian yang digunakan adalah *Research and Development* (RnD) dengan jenis model pengembangan ADDIE (*Analyze, Design, Develop, Implement, Evaluate*). Di tahap analisis terdapat wawancara, studi dokumentasi, serta kuesioner analisis kebutuhan. Tahap desain mulai perancangan modul ajar disesuaikan dengan hasil analisis. Selanjutnya tahap pengembangan melalui validasi modul ajar. Modul ajar direvisi dari hasil validator berisi masukan, saran, dan komentar, lalu diimplementasikan di SD Negeri VBaran.

Hasil validasi modul ajar keseluruhan mendapatkan skor rata-rata 3,46 dengan kategori “sangat baik”. Hasil rata-rata *pretest* 53,5 dan *posttest* 81,2 dengan persentase kenaikan 53%. Hasil perhitungan *N-gain* 0,60 berkategori “sedang” atau sebesar 60,30% dengan tafsiran “cukup efektif”. Dengan demikian, modul ajar berbasis keterampilan proses sains dengan model PBL cukup efektif untuk menumbuhkan dimensi bernalar kritis siswa kelas IV SD pada materi perubahan wujud zat.

Kata Kunci: Modul ajar, keterampilan proses sains, *Problem Based Learning*, perubahan wujud zat, bernalar kritis.

ABSTRACT

DEVELOPMENT OF A TEACHING MODULE BASED ON SCIENCE PROCESS SKILLS WITH PROBLEM BASED LEARNING ON THE MATERIAL OF CHANGES IN THE FORM OF SUBSTANCES TO DEVELOP CRITICAL REASONING DIMENSIONS OF GRADE IV ELEMENTARY SCHOOL STUDENTS

Agnes Hesti Widyaningsih

Sanata Dharma University

2025

This research is motivated by the low critical reasoning ability of students in understanding the concept of changes in the state of matter, especially those related to everyday life. The purpose of this study was to develop and describe the quality of teaching modules based on science process skills with Problem Based Learning on the material of changes in the state of matter to foster critical reasoning dimensions of students in grade IV of elementary school.

The research method used is Research and Development (RnD) with the ADDIE (Analyze, Design, Develop, Implement, Evaluate) development model type. In the analysis stage there are interviews, documentation studies, and needs analysis questionnaires. The design stage starts with designing teaching modules adjusted to the results of the analysis. Furthermore, the development stage is through validation of teaching modules. The teaching module was revised from the validator results containing input, suggestions, and comments, then implemented at SD Negeri Baran.

The overall validation results of the teaching module obtained an average score of 3.46 with the category of "very good". The average pretest result was 53.5 and the posttest was 81.2 with a percentage increase of 53%. The results of the N-gain calculation were 0.60 in the category of "moderate" or 60.30% with the interpretation of "quite effective". Thus, the teaching module based on science process skills with the PBL model is quite effective in developing the critical reasoning dimension of grade IV elementary school students on the material of changes in the state of matter.

Keywords: *Teaching module, science process skills, Problem Based Learning, changes in the state of matter, critical reasoning*