

ABSTRAK

ANNISA ARUN (8226182014). Pengembangan Buku Ajar IPA Tema Peristiwa Dalam Kehidupan Berbasis Keterampilan Proses Sains Untuk Meningkatkan Kemampuan Berpikir Kritis Siswa Kelas V SD Swasta Arisa Medan. Tesis. Medan: Program Pascasarjana Universitas Negeri Medan, September 2024.

Penelitian ini bertujuan untuk menghasilkan buku ajar IPA berbasis keterampilan proses sains untuk meningkatkan kemampuan berpikir kritis siswa yang layak, praktis dan efektif. Penelitian dilaksanakan di SD Swasta Arisa Medan. Subjek penelitian ini adalah kelas V sebanyak 28 orang siswa. Metode penelitian ini adalah penelitian pengembangan dengan menggunakan model pengembangan 4-D. Instrumen penelitian yang digunakan dalam pengumpulan data yaitu observasi, wawancara, angket validasi dan tes. Hasil penelitian menunjukkan (1) Berdasarkan hasil validasi ahli materi 87,14% kriteria sangat valid, Hasil validasi ahli desain 96,21% kriteria sangat valid, Hasil validasi ahli bahasa 88,46% kriteria sangat valid. Dari hasil validasi para ahli buku ajar IPA berbasis keterampilan proses sains layak untuk digunakan. (2) Berdasarkan hasil respon siswa diperoleh uji coba kelompok kecil 91,25% kriteria sangat praktis, Hasil uji coba lapangan 91,29% kriteria sangat praktis, hasil respon guru sebesar 95,83% sangat praktis. Dari hasil respon siswa dan guru terbukti bahwa buku ajar IPA berbasis keterampilan proses sains praktis untuk digunakan; (3) Berdasarkan hasil uji coba lapangan telah diperoleh bahwa buku ajar IPA berbasis keterampilan proses sains mampu meningkatkan kemampuan berpikir kritis siswa kelas V SD Swasta Arisa Medan. Hasil uji hipotesis *independent sample t test* diperoleh hasil uji t (2-tailed) yang diperoleh sebesar 0,000 Mengacu pada dasar pengambilan keputusan berarti $0,000 < 0,05$ atau H_0 ditolak dan H_1 diterima. Dengan demikian, disimpulkan terdapat pengaruh buku ajar IPA berbasis keterampilan proses sains terhadap berpikir kritis siswa kelas V SD Swasta Arisa Medan. Peningkatan berpikir kritis siswa terlihat pada nilai N-Gain kelas eksperimen dengan skor 0,637 yang dinyatakan berkategori sedang. Hasil N-Gain kelas kontrol 0,361 kategori rendah. Artinya buku ajar IPA berbasis keterampilan proses sains efektif digunakan dalam proses pembelajaran di kelas eksperimen pada tema peristiwa dalam kehidupan di kelas V SD Swasta Arisa Medan.

Kata kunci: Buku IPA Berbasis Keterampilan Proses Sains, 4-D, Berpikir Kritis

ABSTRACT

ANNISA ARUN (8226182014). *Development of Science Textbooks on the Theme of Events in Life Based on Science Process Skills to Improve Critical Thinking Skills of Fifth Grade Students of Arisa Private Elementary School, Medan. Thesis. Medan: Postgraduate Program, State University of Medan, September 2024.*

This study aims to produce a science textbook based on science process skills to improve students' critical thinking skills that are feasible, practical and effective. The study was conducted at Arisa Private Elementary School, Medan. The subjects of this study were 28 students in grade V. The research method was development research using the 4-D development model. The research instruments used in data collection were observation, interviews, validation questionnaires and tests. The results of the study showed (1) Based on the results of the validation of material experts, 87.14% of the criteria were very valid, the results of the validation of design experts, 96.21% of the criteria were very valid, the results of the validation of language experts, 88.46% of the criteria were very valid. From the results of the validation of experts, science textbooks based on science process skills are feasible to use. (2) Based on the results of student responses, small group trials obtained 91.25% of the criteria were very practical, the results of field trials 91.29% of the criteria were very practical, the results of teacher responses were 95.83% very practical. From the results of student and teacher responses, it was proven that science textbooks based on science process skills were practical to use; (3) Based on the results of the field trial, it was found that science textbooks based on science process skills were able to improve critical thinking skills of fifth grade students of Arisa Medan Private Elementary School. The results of the independent sample t-test hypothesis test obtained the results of the t-test (2-tailed) obtained by 0.000 Referring to the basis for decision making, it means $0.000 < 0.05$ or H_0 is rejected and H_1 is accepted. Thus, it is concluded that there is an influence of science textbooks based on science process skills on critical thinking of fifth grade students of Arisa Medan Private Elementary School. The increase in students' critical thinking can be seen in the N-Gain value of the experimental class with a score of 0.637 which is stated as being in the moderate category. The N-Gain result of the control class is 0.361 in the low category. This means that science textbooks based on science process skills are effective for use in the learning process in the experimental class on the theme of events in life in fifth grade students of Arisa Medan Private Elementary School.

Keywords: Science Books Based on Science Process Skills, 4-D, Critical Thinking