

ABSTRAK

Shofi Shofiah: 1222070065 (2022) “Pengembangan Bahan Ajar Berbasis Model *Learning Cycle* 7E untuk Meningkatkan Keterampilan Proses Sains Peserta Didik pada Materi Gelombang Bunyi”.

Penelitian ini dilatarbelakangi oleh rendahnya keterampilan proses sains (KPS) peserta didik di MAS Persis Pajagalan akibat belum optimalnya integrasi aktivitas ilmiah dalam bahan ajar pada materi gelombang bunyi. Penelitian ini bertujuan untuk mengetahui kelayakan bahan ajar model *learning cycle* 7E, keterlaksanaan pembelajaran serta peningkatan keterampilan proses sains peserta didik kelas XI B setelah diterapkannya bahan ajar model *learning cycle* 7E. Metode penelitian yang digunakan adalah pendekatan kombinasi (*mixed methods*) dengan model *Research and Development* (R&D) yang mengadaptasi kerangka ADDIE, desain *one group pretest-posttest*. Subjek penelitian terdiri dari 25 orang, data dikumpulkan melalui lembar validasi ahli, lembar observasi keterlaksanaan pembelajaran, serta tes KPS (*pretest* dan *posttest*). Data dianalisis menggunakan *Indeks Validitas Gregory*, persentase keterlaksanaan, skor *N-Gain*, dan uji *Paired Sample T-test*. Hasil penelitian menunjukkan bahwa: (1) bahan ajar dinyatakan valid berdasarkan hasil validasi ahli materi dengan *Indeks Validitas Gregory* sebesar 1,00 (kategori sangat tinggi) dan; (2) bahan ajar dinyatakan praktis berdasarkan persentase keterlaksanaan pembelajaran sebesar 95,15% untuk aktivitas guru dan 89,22% untuk aktivitas peserta didik (kategori sangat baik); serta (3) bahan ajar dinyatakan efektif meningkatkan KPS peserta didik yang ditunjukkan oleh peningkatan rata-rata skor dari 46 (*pretest*) menjadi 82 (*posttest*) dengan nilai *N-Gain* sebesar 0,67 (kategori sedang) dan nilai *Sig. (2-tailed)* $< 0,05$ pada uji *Paired Sample T-test*. Dengan demikian, bahan ajar berbasis model *Learning Cycle* 7E berbantuan *Flipbook* terbukti memenuhi kriteria valid dalam meningkatkan keterampilan proses sains peserta didik pada materi gelombang bunyi.

Kata kunci: Bahan Ajar, *Learning Cycle* 7E, Gelombang Bunyi, Keterampilan Proses Sains.

ABSTRACT

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This study was motivated by the low science process skills (SPS) of students at MAS Persis Pajagalan, resulting from the sub-optimal integration of scientific activities in learning materials on sound wave topics. This study aimed to determine the feasibility of the 7E Learning Cycle model learning materials, the implementation of learning, and the improvement of Class XI B students' science process skills following the application of the 7E Learning Cycle model learning materials. The research method employed a mixed-methods approach using a Research and Development (R&D) model adapted from the ADDIE framework with a one-group pretest-posttest design. The research subjects consisted of 25 students. Data were collected through expert validation sheets, learning implementation observation sheets, and SPS tests (pretest and posttest). Data were analyzed using the Gregory Validity Index, implementation percentage, N-Gain score, and Paired Sample T-test. The results showed that: (1) the learning materials were declared valid based on expert validation with a Gregory Validity Index of 1.00 (very high category); (2) the learning materials were declared practical based on the learning implementation percentage of 95.15% for teacher activities and 89.22% for student activities (very good category); and (3) the learning materials were declared effective in improving students' SPS, as indicated by an increase in the mean score from 46 (pretest) to 82 (posttest) with an N-Gain value of 0.67 (medium category) and a *Sig. (2-tailed)* value < 0.05 on the Paired Sample T-test. Thus, the Flipbook-assisted 7E Learning Cycle model-based learning materials are proven to meet the valid criteria in improving students' science process skills on sound wave topics.

Keywords: Learning Materials, 7E Learning Cycle, Flipbook, Science Process Skills, Sound Waves.