ABSTRAK

Melky Djetro Sinaga, NIM 4213311064 (2025). Pengembangan E-LKPD Berbasis *Liveworksheet* Untuk Meningkatkan Keterampilan Berpikir Kritis Siswa SMAS Bandung Percut Sei Tuan.

Penelitian ini dilakukan untuk mengetahui pengembangan Lembar Kerja Peserta Didik (LKPD) berbasis *Liveworksheet* untuk meningkatkan keterampilan berpikir kritis siswa kelas XI IPA SMAS Bandung Percut Sei Tuan pada materi fungsi invers. Metode penelitian ini adalah *Research and Development* (R&D) yang menggunakan model pengembangan ADDIE memiliki 5 tahapan, yaitu tahap *Analysis* (Analisis), tahap *Design* (Desain), tahap *Development* (Pengembangan), Tahap *Implementation* (Implementasi) dan tahap *Evaluation* (Evaluasi). Teknik pengumpulan data menggunakan observasi, wawancara, tes, dan angket. Berdasarkan hasil penelitian pengembangan yang dilakukan oleh peneliti menunjukan bahwa kualitas E-LKPD berbasis *Liveworksheet* pada materi fungsi invers telah memenuhi aspek kevalidan berdasarkan penilaian validator materi dan media, dengan perolehan skor rata-rata berturut-turut 3,82% dan 3,77% dengan karegori sangat layak. Ditinjau dari aspek kepraktisan, dari hasil angket respon siswa dan guru dengan perolehan skor rata-rata berturut-turut 3,34% dan 3,78% dengan karegori sangat praktis. Ditinjau dari aspek keefektifan: (a) tercapainya ketuntasan belajar secara klasikal yaitu sebanyak 89% siswa yang mengikuti pembelajaran mencapai nilai ≥70, (b) tercapainya indikator/ketuntasan tujuan pembelajaran dengan rata-rata sebesar 84,81 dan (c) siswa memberikan respon positif terhadap pembelajaran. Hasil belajar memperoleh kenaikan rata-rata sebesar 42,78 dari *pretest* dimana rata-rata siswa adalah 42,03 meningkat menjadi 84,81 pada *posttest*. Dan berdasarkan analisis N-Gain diperoleh rata-rata peningkatan keterampilan berpikir kritis siswa sebesar 0,74 dengan rata-rata 62,96% mengalami peningkatan dalam kategori tinggi dan 37,03% mengalami peningkatan dalam kategori sedang. Berdasarkan hasil penelitian menunjukkan bahwa pengembangan E-LKPD berbasis *Liveworksheet* mampu meningkatkan keterampilan berpikir kritis siswa kelas IX IPA SMAS Bandung Percut Sei Tuan.

Kata Kunci: E-LKPD berbasis *Liveworksheet*, Berpikir Kritis.

ABSTRACT

Melky Djetro Sinaga, Student ID 4213311064 (2025). Development of *Liveworksheet*-Based E-LKPD to improve the Critical Thinking Skills of Students at SMAS Bandung Percut Sei Tuan.

This research was conducted to determine the development of a *Liveworksheet*-based Student Worksheet (LKPD) to improve the critical thinking skills of grade XI IPA students at SMAS Bandung Percut Sei Tuan on inverse function material. The research method used was Research and Development (R&D) using the ADDIE development model, which has 5 stages: Analysis, Design, Development, Implementation, and Evaluation. Data collection techniques included observation, interviews, tests, and questionnaires. Based on the results of the development research conducted by the researcher, it is indicated that the quality of the *Liveworksheet*-based E-LKPD on inverse function material met the validity aspects based on material and media validator assessments, with average scores of 3,82% and 3,77%, respectively, categorized as very feasible. In terms of practicality, the results of student and teacher response questionnaires yielded average scores of 3,34% and 3,78%, respectively, categorized as very practical. In terms of effectiveness: (a) classical learning mastery was achieved, with 89% of students participating in the learning achieving a score ≥70, (b) the learning objective indicators/mastery were achieved with an average of 84.81, and (c) students provided a positive response to the learning. Learning outcomes showed an average increase of 42,78 points from the pretest average score of 42,03, increasing to 84,81 in the posttest. Based on the N-Gain analysis, the average increase in students' critical thinking skills was 0.74, with an average of 62.96% experiencing an increase in the "high" category and 37.03% experiencing an increase in the medium category. Based on the research results, it is shown that the development of the *Liveworksheet*-based E-LKPD is capable of improving the critical thinking skills of grade XI IPA students at SMAS Bandung Percut Sei Tuan.

Keywords: E-LKPD based on *Liveworksheet*, Critical Thinking.