

## ABSTRAK

Rizqiana Febtalinda, 2025. *Pengembangan E-LKPD Berbantuan Platform Infogram Untuk Meningkatkan Kemampuan Representasi Matematis Siswa Pada Materi Penyajian Data*. Skripsi Program Studi Pendidikan Matematika, FKIP, Universitas PGRI Madiun. Pembimbing (I) Dr. Wasilatul Murtafiah, M. Pd., (II) Dr. Sardulo Gembong, M. Pd.

Kemampuan representasi matematis merupakan aspek krusial dalam pembelajaran matematika yang mencerminkan pemahaman konseptual siswa, namun kenyataannya kemampuan ini masih tergolong rendah. Penelitian ini dilakukan untuk mengembangkan Elektronik Lembar Kerja Peserta Didik (E-LKPD) berbantuan *platform Infogram* yang valid, praktis, serta efektif dalam meningkatkan kemampuan representasi matematis siswa pada topik penyajian data. Metode yang digunakan adalah penelitian dan pengembangan (*Research and Development*) dengan model ADDIE (*Analysis, Design, Development, Implementation, and Evaluation*) dengan melibatkan siswa kelas VII di SMPN 7 Madiun sebagai subjek uji coba. Pengumpulan data dilakukan melalui instrumen yang meliputi lembar validasi ahli, angket respon siswa, serta soal tes representasi matematis. Teknik analisis data yang digunakan dalam penelitian ini disesuaikan dengan instrumen penelitian yaitu analisis terhadap hasil validasi media, angket respons serta soal tes representasi matematis. Hasil penelitian menunjukkan bahwa E-LKPD berbantuan *Infogram* memiliki tingkat kevalidan gabungan sebesar 88,33%, dengan rincian validasi ahli materi mencapai 91,67% sedangkan ahli media sebesar 85%, sehingga dikategorikan sangat valid. Tingkat kepraktisan E-LKPD ditunjukkan melalui tanggapan peserta didik dengan persentase 77,5% pada uji coba terbatas dan 84,9% pada uji coba lapangan, keduanya telah melebihi batas minimal 70%. Dari aspek efektivitas, terdapat peningkatan kemampuan representasi matematis siswa, dengan persentase keefektifan 65,36% (skor N-Gain 0,65) pada uji coba terbatas dan 77,49% (skor N-Gain 0,77) pada uji coba lapangan. Hasil tersebut menunjukkan bahwa E-LKPD berbantuan *Infogram* mampu memenuhi kriteria valid, praktis, dan efektif, serta dapat digunakan sebagai media pembelajaran dalam mengembangkan kemampuan representasi matematis siswa pada materi penyajian data.

Kata kunci: E-LKPD, Infogram, representasi matematis, penyajian data, pengembangan media.

## ABSTRACT

Rizqiana Febtalinda, 2025. The development of e-LKPD is assisted by Infogram Platform to improve students ' mathematical representation skills in Data presentation materials. Thesis of Mathematics Education Study Program, FKIP, PGRI Madiun University. Advisor (I) Dr. Wasilatul Murtafiah, M. Pd., (II) Dr. Sardulo Gembong, M. Pd.

The ability of mathematical representation is a crucial aspect in learning mathematics that reflects students ' conceptual understanding, but in reality this ability is still relatively low. This study was conducted to develop electronic worksheets learners (E-LKPD) assisted Infogram platform that is valid, practical, and effective in improving students ' mathematical representation skills on the topic of data presentation. The method used is research and Development (Research and Development) with ADDIE model (Analysis, Design, Development, Implementation, and Evaluation) involving seventh grade students at SMPN 7 Madiun as test subjects. Data collection was carried out through instruments including expert validation sheets, student response questionnaires, and mathematical representation test questions. Data analysis techniques used in this study are adapted to the research instruments, namely analysis of the results of media validation, response questionnaires and mathematical representation test questions. The results showed that e-LKPD assisted by Infogram has a combined validity rate of 88.33%, with the validation details of the material expert reaching 91.67% while the media expert at 85%, so it is categorized as very valid. The level of practicality of E-LKPD is shown through the responses of students with a percentage of 77.5% in limited trials and 84.9% in field trials, both of which have exceeded the minimum limit of 70%. From the aspect of effectiveness, there is an increase in students ' mathematical representation skills, with a percentage of effectiveness of 65.36% (n-Gain score 0.65) in limited trials and 77.49% (n-Gain score 0.77) in field trials. The results show that e-LKPD assisted by Infogram is able to meet valid, practical, and effective criteria, and can be used as a learning medium in developing students mathematical representation skills in data presentation materials.

Keywords: E-LKPD, Infogram, mathematical representation, data presentation, media development.