# ABSTRAK

Syafina Putri Nurjanah, 2026. *Pengembangan E-LKPD Matematika Interaktif Berbasis Etnomatematika pada Arsitektur Lokal Magetan untuk Meningkatkan Pemahaman Konsep Bangun Ruang.* Skripsi. Program Studi Pendidikan Matematika, FKIP, Universitas PGRI Madiun. Pembimbing (I) Dr. Vera Dewi Susanti, M.Pd., (II) Tri Andari, M.Pd.

Rendahnya pemahaman konsep peserta didik SMP terhadap materi bangun ruang sisi datar disebabkan oleh pembelajaran konvensional, minimnya media digital, dan materi ajar yang belum dikaitkan dengan budaya lokal (etnomatematika), sehingga peserta didik cenderung menghafal rumus tanpa memahami konsep secara mendalam. Penelitian ini bertujuan mengembangkan serta mengetahui kevalidan, kepraktisan, dan keefektifan E-LKPD matematika interaktif berbasis etnomatematika pada arsitektur lokal Magetan untuk materi bangun ruang sisi datar peserta didik SMP. Penelitian menggunakan pendekatan *Research and Development* (R&D) dengan model ADDIE (*Analysis, Design, Development, Implementation, Evaluation*). Subjek penelitian adalah peserta didik kelas VIII SMP Negeri 1 Kawedanan yang dipilih melalui *purposive sampling*, meliputi kelas VIII-B pada uji coba terbatas (10 peserta didik) dan kelas VIII-A pada uji coba lapangan (27 peserta didik). Data dikumpulkan melalui wawancara, observasi, angket validasi ahli, angket respon peserta didik, serta *pre-test* dan *post-test*, dianalisis menggunakan statistik deskriptif persentase, *Paired Sample T-Test*, *Wilcoxon Signed Rank*, dan *N-Gain*. Hasil penelitian menunjukkan kevalidan sebesar 89,6% (sangat valid), kepraktisan 88,4% pada uji terbatas dan 85,7% pada uji lapangan (sangat praktis), serta keefektifan dengan *N-Gain* kategori sedang (0,533 dan 0,421) disertai ketuntasan klasikal di atas 80%. Berdasarkan hasil analisis diketahui bahwa E-LKPD ini valid, praktis, dan efektif, sehingga dapat dijadikan alternatif bahan ajar yang mengintegrasikan budaya lokal dalam pembelajaran bangun ruang sisi datar di jenjang SMP.

**Kata Kunci:** E-LKPD interaktif, etnomatematika, arsitektur lokal, bangun ruang, pemahaman konsep

# ABSTRACT

Syafina Putri Nurjanah, 2026. *Development of an Interactive Mathematics E-LKPD Based on Ethnomathematics of Magetan's Local Architecture to Improve Students' Conceptual Understanding of Solid Geometry. Undergraduate Thesis. Mathematics Education Study Program, Faculty of Teacher Training and Education* (FKIP), Universitas PGRI Madiun. *Advisors*: (I) Dr. Vera Dewi Susanti, M.Pd., (II) Tri Andari, M.Pd.

**Keywords:** *interactive E-LKPD, ethnomathematics, local architecture, flat-sided solid geometry, conceptual understanding*

*The low level of students' conceptual understanding of junior high school (SMP) students regarding flat-sided solid geometry material is caused by conventional teaching methods, limited digital media, and teaching materials that have not been linked to local culture (ethnomathematics), causing students to tend to memorize formulas without understanding the concepts in depth. This research aims to develop and determine the validity, practicality, and effectiveness of an interactive mathematics E-LKPD (Electronic Student Worksheet) based on ethnomathematics of local Magetan architecture for flat-sided solid geometry material for junior high school students. The research uses a Research and Development (R&D) approach with the ADDIE model (Analysis, Design, Development, Implementation, Evaluation). The research subjects were eighth-grade students of SMP Negeri 1 Kawedanan, selected through purposive sampling, comprising class VIII-B for the limited trial (10 students) and class VIII-A for the field trial (27 students). Data were collected through interviews, observations, expert validation questionnaires, student response questionnaires, and pre-tests and post-tests, analyzed using descriptive percentage statistics, Paired Sample T-Test, Wilcoxon Signed Rank test, and N-Gain. The results showed a validity of 89.6% (very valid), practicality of 88.4% in the limited trial and 85.7% in the field trial (very practical), and effectiveness with N-Gain in the moderate category (0.533 and 0.421) accompanied by classical mastery above 80%. Based on the analysis results, it is known that this E-LKPD is valid, practical, and effective, so it can be used as an alternative teaching material that integrates local culture into the learning of flat-sided solid geometry at the junior high school level.*