

ABSTRAK

Desi Arum Porwitasari. 2026. Pengembangan *Real Math Worksheet* Berbasis PMRI untuk Menumbuhkan Kemampuan Numerasi Pada Siswa Kelas IV Sekolah Dasar. Program Studi Pendidikan Guru Sekolah Dasar, FKIP, Universitas PGRI Madiun. Pembimbing (I) Dr. Rissa Prima Kurniawati, M.Pd., (II) Naniek Kusumawati, M.Pd.

Proses pembelajaran matematika di SDN Tumpuk 02 masih menggunakan LKS cetak dengan aktivitas yang terbatas, tampilan yang kurang menarik, serta belum menyajikan permasalahan yang dekat dengan kehidupan siswa. Sehingga menyebabkan keterlibatan siswa dalam pembelajaran belum optimal dan kurang mendukung pengembangan kemampuan numerasi. Penelitian ini bertujuan untuk mengembangkan dan mendeskripsikan kelayakan *Real Math Worksheet* berbasis PMRI untuk menumbuhkan kemampuan numerasi siswa kelas IV sekolah dasar. Penelitian ini menggunakan metode *Research and Development* (R&D) dengan model ADDIE meliputi tahapan *Analysis, Design, Development, Implementation, dan Evaluation*. Penelitian ini dilakukan di SDN Tumpuk 02 Kabupaten Pacitan dengan melibatkan 16 siswa kelas IV. Data dikumpulkan melalui observasi, wawancara, angket validasi ahli, angket respon, dan hasil *pre-test* dan *post-test*. Teknik analisis data yang digunakan yaitu analisis deskriptif kuantitatif dan kualitatif. Hasil penelitian menunjukkan bahwa *Real Math Worksheet* berbasis PMRI dikembangkan dalam bentuk *flipbook* digital yang terintegrasi video pembelajaran berbasis *Artificial Intelligence* (AI) dan *visualisasi 3D Assemblr EDU* yang bertemakan jajanan pasar. Hasil validasi ahli memperoleh persentase 90% dari ahli bahasa, 91% dari ahli materi, dan 100% dari ahli media dengan kategori sangat layak. Hasil dari angket respon siswa mendapat nilai rata-rata persentase 90,5% dan angket respon guru 97%. Hasil implementasi menunjukkan bahwa penggunaan *Real Math Worksheet* berbasis PMRI mampu menumbuhkan kemampuan numerasi siswa yang ditunjukkan oleh peningkatan rata-rata nilai dari *pre-test* ke *post-test* sebesar 21 point dan ketercapaian kemampuan numerasi.

Kata Kunci : Matematika, PMRI, *Real Math Worksheet*, Numerasi

ABSTRACT

Desi Arum Porwitasari. 2026. Development of a PMRI-Based Real Math Worksheet to Foster Numeracy Skills among Fourth Grade Elementary School Students. Undergraduate Thesis. Elementary School Teacher Education Study Program, Faculty of Teacher Training and Education, Universitas PGRI Madiun. Advisors: (I) Dr. Rissa Prima Kurniawati, M.Pd., (II) Naniek Kusumawati, M.Pd.

The mathematics learning process at SDN Tumpuk 02 still relies on printed student worksheets with limited learning activities, unattractive layouts, and learning materials that are not closely related to students' daily lives. As a result, students' engagement in learning has not been optimal and has not sufficiently supported the development of numeracy skills. This study aimed to develop and describe the feasibility of a PMRI-based Real Math Worksheet to foster the numeracy skills of fourth-grade elementary school students. This research employed the Research and Development (R&D) method using the ADDIE model, which consists of the Analysis, Design, Development, Implementation, and Evaluation stages. The study was conducted at SDN Tumpuk 02, Pacitan Regency, involving 16 fourth-grade students. Data were collected through observations, interviews, expert validation questionnaires, response questionnaires, and pre-test and post-test results. The data were analyzed using descriptive quantitative and qualitative analysis techniques. The results showed that the PMRI-based Real Math Worksheet was developed in the form of a digital flipbook integrated with Artificial Intelligence (AI) based learning videos and 3D visualizations using Assemblr EDU, featuring the theme of traditional Indonesian snacks. The expert validation results indicated scores of 90% from the language expert, 91% from the material expert, and 100% from the media expert, all categorized as to foster numeracy skills. The students' response questionnaire obtained an average percentage score of 90.5%, while the teacher's response questionnaire reached 97%. The implementation results demonstrated that the use of the PMRI-based Real Math Worksheet was able to foster students' numeracy skills, as indicated by an increase of 21 points in the average score from the pre-test to the post-test, as well as the achievement of the expected numeracy competencies.

Keywords: Mathematics, PMRI, Real Math Worksheet, Numeracy.