PENGEMBANGAN E-KOMIK INTERAKTIF BERBASIS ETNOMATEMATIKA UNTUK MENINGKATKAN PEMAHAMAN KONSEP MATERI BANGUN RUANG SISI DATAR PADA SISWA KELAS VII SMP

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ABSTRAK

Satu diantara penyebab rendahnya pemahaman konsep matematika siswa diartikan media yang dipakai dalam pembelajaran tidak efektif. Penelitian ini bertujuan untuk mengembangkan e-komik interaktif berbasis etnomatematika yang valid, praktis dan efektif untuk meningkatkan kemampuan pemahaman konsep materi bangun ruang sisi datar pada siswa kelas VII SMP. Jenis penelitian tertulis diartikan *Research and Development* (R&D) dengan model pengembangan ADDIE (*Analyze, Design, Development, Implementation, Evaluation).* Teknik pengumpulan data pada penelitian tertulis meliputi observasi, wawancara, angket, dokumentasi dan tes pemahaman konsep. Subjek penelitian diartikan 31 siswa kelas VII A dan satu guru matematika di SMP Negeri 1 Sukasada. Penelitian tertulis menghasilkan E-Komik yang memiliki karakteristik berikut: 1) E-Komik memiliki interaktivitas tinggi dengan adanya fitur single choice, fitur checkbox, fitur menjodohkan, fitur drag and drop, fitur link, dan fitur lainnya; 2) E-Komik menekankan aktivitas pembelajaran berbasis etnomatematika bangungan Bale untuk mengajarkan konsep Bangun ruang sisi datar; 3) E-Komik terintegrasi dengan berbagai platform pendidikan lain seperti GeoGebra, Wordwall, dan 3D Warehouse; 4) E-Komik dikembangkan dengan website liveworksheet yang dapat diakses secara digital. Hasil skor validasi e-komik interaktif menurut penilaian ahli materi dan ahli media memiliki rerata sejumlah 4,68 termasuk dalam kategori yang sangat baik. Kepraktisan e-komik interaktif menurut *User Experience Questionnaire* (UEQ) didapatkan hasil pada aspek kejelasan berkategori baik, sedangkan aspek daya Tarik, efisiensi, ketepatan, stimulasi serta kebaruan berkategori unggul. Keefektifan e-komik interaktif menurut hasil *pretest-posttest* pemahaman konsep memiliki skor N-gain sejumlah 0,46 dan termasuk dalam kategori sedang. Menurut dari hasil penelitian yang didapat, disimpulkan e-komik interaktif diartikan valid, praktis, dan efektif untuk meningkatkan pemahaman konsep materi bangun ruang sisi datar pada siswa kelas VII SMP.

Kata Kunci: E-komik interaktif, Etnomatematika, Kemampuan Pemahaman Konsep Matematika Siswa.

DEVELOPMENT OF ETHNOMATHEMATICS-BASED INTERACTIVE E-COMICS TO IMPROVE CONCEPT UNDERSTANDING OF FLAT-SIDED SPACE BUILDING MATERIAL IN GRADE VII SMP STUDENTS

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ABSTRACT

One of the causes of students' low understanding of mathematical concepts is the media used in learning is not effective. This study aims to develop ethnomathematics-based interactive e-comics that are valid, practical and effective for improving the ability to understand the concept of flat-sided space building material in grade VII junior high school students. The type of written research is interpreted as Research and Development (R&D) with the ADDIE development model (Analyze, Design, Development, Implementation, Evaluation). Data collection techniques in written research include observation, interviews, questionnaires, documentation and concept understanding tests. The research subjects were 31 students of class VII A and one mathematics teacher at SMP Negeri 1 Sukasada. Written research produces E-Comics that have the following characteristics: 1) E-Comics has high interactivity with the single choice feature, checkbox feature, matching feature, drag and drop feature, link feature, and other features; 2) The E-Comic emphasises ethnomathematics-based learning activities for Bale buildings to teach the concept of Flat-sided Spatial Buildings; 3) E-Comics is integrated with various other educational platforms such as GeoGebra, Wordwall, and 3D Warehouse; 4) The E-Comic is developed with a liveworksheet website that can be accessed digitally. The results of the interactive e-comics validation score according to the assessment of material experts and media experts have an average of 4.68 including in the very good category. The practicality of interactive e-comics according to the User Experience Questionnaire (UEQ) obtained results in the aspect of clarity in the good category, while the aspects of attractiveness, efficiency, accuracy, stimulation and novelty are in the superior category. The effectiveness of interactive e-comics according to the pretest-posttest results of concept understanding has an N-gain score of 0.46 and is included in the moderate category. According to the results of the research obtained, it is concluded that interactive e-comics are interpreted as valid, practical, and effective to improve concept understanding of flat-sided space building material in grade VII junior high school students

Keywords: *Interactive E-comics, Ethnomathematics, Students' Mathematics Concept Understanding Ability*