ABSTRAK

Penelitian ini bertujuan untuk (1) mengembangkan bahan ajar matematika berbasis tradisi *roko molas poco* untuk digunakan dalam pembelajaran matematika materi kombinatorika, dan (2) mengetahui kelayakan serta keefektifannya dalam meningkatkan motivasi belajar peserta didik. Penggunaan bahan ajar berbasis budaya lokal ini diharapkan dapat memfasilitasi peserta didik dalam memahami konsep kombinatorika secara lebih kontekstual dan relevan dengan lingkungan mereka.

Penelitian ini menggunakan metode *Research and Development* (R&D) dengan model ADDIE, yang meliputi lima tahap: *Analysis*, *Design*, *Development*, *Implementation*, dan *Evaluation*. Subjek penelitian adalah peserta didik kelas XII IPA 2 SMAS Santa Familia Wae Nakeng, Kabupaten Manggarai Barat, Nusa Tenggara Timur, yang terlibat dalam tahap implementasi bahan ajar guna mengetahui potensi keefektifannya dalam mendorong motivasi belajar peserta didik. Proses validasi dilakukan oleh dua orang ahli materi dan media serta uji keterbacaan terhadap sekelompok kecil peserta didik untuk memastikan kelayakan bahan ajar sebelum diimplementasikan dalam pembelajaran.

Hasil penelitian menunjukan bahwa: (1) Proses pengembangan dilakukan dari tahap analisis yang mencakup observasi pembelajaran, angket analisis kebutuhan peserta didik, dan wawancara guru mata pelajaran, yang mengungkap rendahnya motivasi belajar peserta didik pada materi kombinatorika. Temuan ini mendorong pengembangan bahan ajar berbasis budaya lokal, di mana tradisi *roko molas poco* yang ditemukan di wilayah setempat mencerminkan prinsip-prinsip kombinatorika. Pada tahap perancangan, disusun struktur utama bahan ajar yang kemudian pada tahap pengembangan dikembangkan, divalidasi oleh ahli materi dan media, serta diuji keterbacaannya pada sekelompok kecil peserta didik. Tahap implementasi dilakukan dengan mengujicobakan bahan ajar dalam satu pertemuan pembelajaran, dilanjutkan evaluasi melalui angket dan wawancara untuk mengetahui respons peserta didik. (2) Bahan ajar berbasis tradisi *roko molas poco* dinyatakan layak berdasarkan hasil validasi oleh ahli media yang memperoleh persentase kelayakan sebesar 95% (kategori sangat layak), validasi oleh ahli materi sebesar 94% (kategori sangat layak), dan uji keterbacaan sebesar 97% (kategori sangat baik). Implementasi bahan ajar dalam kegiatan pembelajaran menunjukkan bahwa peserta didik terlibat secara aktif dan menunjukkan antusiasme tinggi. Melalui angket, peserta didik memberikan respons yang sangat positif terhadap penggunaan bahan ajar tersebut, dengan persentase sebesar 89% (kategori sangat baik). Peserta didik menyatakan bahwa bahan ajar ini membantu mereka memahami materi dengan lebih mudah, meningkatkan motivasi belajar, serta memberikan pengalaman belajar yang menyenangkan dan bermakna. Dengan demikian, bahan ajar berbasis tradisi *roko molas poco* dinyatakan layak dan efektif dalam meningkatkan motivasi belajar peserta didik pada pembelajaran matematika materi kombinatorika. Bahan ajar ini diharapkan dapat menjadi alternatif inovatif dalam pembelajaran matematika yang kontekstual, menarik, dan turut mendukung pelestarian budaya lokal.

Kata kunci: kombinatorika, pembelajaran berbasis budaya, pembelajaran matematika, pengembangan bahan ajar, tradisi *roko molas poco.*

ABSTRACT

This study aims to (1) develop mathematics instructional materials based on the roko molas poco tradition for use in teaching combinatorics, and (2) determine their feasibility and effectiveness in enhancing students' learning motivation. The use of this culturally-based teaching material is expected to facilitate students in understanding combinatorics concepts in a more contextual and environmentally relevant manner.

The study employed a Research and Development (R&D) method using the ADDIE model, which consists of five stages: Analysis, Design, Development, Implementation, and Evaluation. The research subjects were students of class XII IPA 2 at SMAS Santa Familia Wae Nakeng, West Manggarai Regency, East Nusa Tenggara, who were involved in the implementation stage of the teaching material to examine its potential effectiveness in enhancing students' learning motivation. The validation process was carried out by two content and media experts, and a readability test was conducted with a small group of students to ensure the appropriateness of the teaching material before classroom implementation.

The research results indicate that: (1) The development process began with the analysis stage, which included learning observations, a student needs analysis questionnaire, and interviews with subject teachers. These activities revealed that students had low learning motivation in combinatorics. This finding prompted the development of culturally-based teaching materials, incorporating the roko molas poco tradition found in the local area, which reflects combinatorial principles. At the design stage, the main structure of the teaching material was developed, which was then elaborated during the development stage, validated by subject matter and media experts, and tested for readability on a small group of students. The implementation stage was carried out by testing the teaching materials in a single learning session, followed by an evaluation through questionnaires and interviews to assess students' responses. (2) Roko molas poco-based teaching material was considered feasible based on expert validation, with media expert assessment scoring 95% (categorized as very feasible), content expert scoring 94% (categorized as very feasible), and a readability test result of 97% (very good category). The implementation in classroom activities revealed active student engagement and high enthusiasm. Questionnaire results showed that students responded very positively to the use of the material, with an approval rate of 89% (very good category). Students reported that the material helped them understand the content more easily, increased their learning motivation, and provided an enjoyable and meaningful learning experience. Therefore, the roko molas poco based teaching material is declared feasible and effective in enhancing students' learning motivation in mathematics, particularly in combinatorics. It is expected to serve as an innovative alternative for contextual and engaging mathematics learning, while also contributing to the preservation of local culture.

***Keywords**: combinatorics, culture-based learning, mathematics learning, roko molas poco tradition, teaching material development.*