*ABSTRACT*


**DEVELOPMENT OF POCKET BOOKS BASED ON REALISTIC MATHEMATICS MATHEMATICS EDUCATION TO IMPROVE STUDENTS' MATHEMATIC COMMUNICATION ABILITY**
*By*


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*The role of education is very important in order to create a change. In school education, all components in the school environment are interrelated. Components in this case include students and teachers needed in the knowledge transfer process. Science must be mastered as an effort to improve the ability to solve problems. One of them is mathematical communication skills. Facts on the ground show that mathematical communication skills still need to be improved. This is in line with students finding it difficult to be active in learning, which has an impact on both oral and written results, which are related to difficulties in completion. This causes the author to develop a pocket book based on Realistic Mathematics Education (RME). This study aims to produce a pocket book based on Realistic Mathematics Education (RME) to improve valid, practical and effective mathematical communication skills. This research is a research and development of 4-D model. The research and development process includes four stages, namely: definition (Define), planning (Design), development (Develop), dissemination (Disseminate). The research sample included the entire population, students of class X AKL 1 as the experimental class and class X AKL 2 as the control class. The instruments used include Tests and Nontests. The test instruments include test questions of mathematical communication skills through pre-test and post-test sheets. Non-test instruments include expert, teacher and student validation questionnaires. The data were not analyzed descriptively, the data test was descriptive and statistical analysis used SPSS 22. The results showed that from the aspect of validity it was included in the valid category with an average of 79.50%, the practical aspect was included in the practical category with an average of 87, 92% while the statistical analysis test with Independent sample t-test stated that there was a difference in the improvement of students' mathematical communication skills using pocket books based on Realistic Mathematics Education (RME) compared to using conventional learning. Based on the results of the study, it can be said that the pocket book based on Realistic Mathematics Education (RME) is valid, practical and effective to use in learning.*

***Keywords: Pocket Book, Mathematical Communication Ability, Realistic Mathematical Education.***

**ABSTRAK**

**PENGEMBANGAN BUKU SAKU BERBASIS *REALISTIC MATHEMATICS
EDUCATION* UNTUK MENINGKATKAN KEMAMPUAN KOMUNIKASI
MATEMATIS PESERTA DIDIK**

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Peran pendidikan sangat penting guna terciptannya suatu perubahan. Dalam pendidikan di sekolah, semua komponen yang ada di lingkungan sekolah saling berkaitan, termasuk siswa dan guru yang dibutuhkan dalam proses transfer ilmu pengetahuan. Ilmu pengetahuan harus dikuasai sebagai upaya dalam meningkatkan kemampuan dalam menyelesaikan masalah. Salah satunya ialah kemampuan komunikasi matematis. Fakta di lapangan menunjukkan bahwa kemampuan komunikasi matematis masih perlu ditingkatkan. Hal ini sejalan dengan peserta didik sulit untuk aktif dalam pembelajaran, yang berdampak pada hasil belajar baik secara lisan maupun tertulis, yang berkaitan dengan kesulitan dalam penyelesaian soal. Hal ini menyebabkan penulis melakukan pengembangan buku saku berbasis *Realistic Mathematics Education* (RME). Penelitian ini bertujuan untuk menghasilkan buku saku berbasis *Realistic Mathematics Education* (RME) untuk meningkatkan kemampuan komunikasi matematis yang valid dan praktis serta efektif. Penelitian ini merupakan penelitian dan pengembangan model 4-D. Proses penelitian dan pengembangan meliputi empat tahapan yaitu: pendefinisian *(Define)*, perencanaan *(Design)*, pengembangan *(Develop)*, penyebaran *(Disseminate)*. Sampel peenelitian mengikutsertakan seluruh populasi, peserta didik-siswi kelas X AKL 1 sebagai kelas eksperimen dan kelas X AKL 2 sebagai sebagai kelas kontrol. Instrumen yang digunakan meliputi Tes dan Nontes. Instrumen Tes meliputi soal tes kemampuan komunikasimatematis melalui lembar *pre-test* dan *post- test*. Instrumen nontes meliputi angket validasi ahli, guru dan siswa. Data Nonten dianalisis secara deskriptif, sedangkan data tes secara deskriptif dan analisis statistik menggunakan *SPSS 22*. Hasil penelitian menunjukkan bahwa dilihat dari aspek kevalidan termasuk dalam kategori valid dengan rata-rata 79.50%, aspek kepraktisan termasuk kedalam kategori praktis dengan rata-rata 87.92% sedangkan uji analisis statistik dengan *Independent sample t-test* menyatakan ada perbedaan kenaikan *Ngain* kemampuan komunikasi matematis peserta didik yang menggunakan buku saku berbasis *Realistic Mathematics Education* (RME) dibanding menggunakan pembelajaran konvensional. Berdasarkan hasil penelitian dapat disimpulkan bahwa buku saku berbasis *Realistic Mathematics Education* (RME) adalah valid, praktis dan efektif digunakan dalam pembelajaran.

**Kata kunci:** *Buku Saku, Kemampuan Komunikasi Matematis, Realistic Mathematic Education.*