

ABSTRAK

LAIRANI DWI ALVIRA. Pengembangan Perangkat Pembelajaran Berbasis Pendekatan *Contextual Teaching and Learning* untuk Meningkatkan Kemampuan Berpikir Kritis Matematis dan Resiliensi Siswa SMP Gajah Mada Medan. Tesis. Medan: Program Studi Pendidikan Matematika Pascasarjana Universitas Negeri Medan. 2022.

Penelitian ini bertujuan untuk mendeskripsikan: validitas, kepraktisan dan efektifitas perangkat pembelajaran berbasis pendekatan *Contextual Teaching and Learning*, peningkatan kemampuan berpikir kritis matematis dan resiliensi siswa dengan menggunakan perangkat pembelajaran yang dikembangkan dan proses jawaban siswa dalam menyelesaikan soal-soal kemampuan berpikir kritis matematis. Penelitian ini merupakan penelitian pengembangan dengan model pengembangan 4-D. Instrumen penelitian ini adalah lembar validasi dan observasi, Buku Siswa, Tes berpikir kritis matematis dan Angket Resiliensi Siswa. Uji coba I dilakukan pada siswa kelas VIII-A dan uji coba II di kelas VIII-B SMP Gajah Mada Medan. Dari hasil penelitian ini diperoleh bahwa: (1) Validitas Perangkat pembelajaran *Contextual Teaching and Learning* meliputi BS, LKPD, TKBKM, Angket Resiliensi Siswa yang dikembangkan termasuk dalam kategori valid; (2) Kepraktisan Perangkat pembelajaran berbasis *Contextual Teaching and Learning* yang dikembangkan diperoleh bahwa: perangkat dapat dipergunakan dengan sedikit revisi dan hasil pengamatan keterlaksanaan perangkat pembelajaran di kelas diperoleh rata-rata nilai praktis, reliabilitas instrumen perangkat baik; (3) Keefektifan Perangkat pembelajaran berbasis *Contextual Teaching and Learning* yang dikembangkan menunjukkan ketuntasan klasikal *pre-test* siswa pada uji coba I sebesar 22,73% dan *post-test* 72,73%. Sedangkan *pre-test* siswa pada uji coba II sebesar 27,27% dan *post-test* 86,36%, lebih dari 80% siswa memberikan respon positif terhadap perangkat pembelajaran yang dikembangkan dan lebih dari 85% setiap komponen keterlibatan siswa menunjukkan siswa aktif dalam pembelajaran; (4) Kemampuan berpikir kritis matematis dan resiliensi siswa menggunakan perangkat pembelajaran berbasis *Contextual Teaching and Learning* yang dikembangkan meningkat dengan skor N-gain 0,58 untuk kemampuan berpikir kritis matematis dan 0,51 untuk resiliensi siswa.

Kata kunci: Pengembangan Perangkat Pembelajaran, Model 4-D, Pendekatan *Contextual Teaching and Learning*, Kemampuan Berpikir Kritis Matematis, Resiliensi Siswa.



ABSTRACT

LAIRANI DWI ALVIRA. Development of Learning Devices Based on Contextual Teaching and Learning Approaches to Improve Mathematical Critical Thinking Ability and Resilience of Students at SMP Gajah Mada Medan. Thesis. Medan: Postgraduate Mathematics Education Study Program, State University of Medan. 2022.

This study aims to describe: the validity, practicality and effectiveness of learning tools based on the Contextual Teaching and Learning approach, increasing students' mathematical critical thinking skills and resilience of student by using developed learning tools and students' answer processes in solving mathematical critical thinking skills questions. This research is a development research with a 4-D model. The research instruments are validation and observation sheets, student books, mathematical critical thinking tests and Resilience Questionnaires. The first trial was conducted on students of class VIII-A and the second trial was in class VIII-B of SMP Gajah Mada Medan. The results of this study are: (1) The validity of Contextual Teaching and Learning learning tools included Student's book, Student's Worksheet, mathematical critical thinking test, The developed Resilience Questionnaire has fullfil in the valid category; (2) Practicality of learning tools based on Contextual Teaching and Learning that was developed, it was found that: the device could be used with a few revisions and the results of observing the implementation of learning tools in the classroom obtained an average practical value, the reliability of the instrument was good; (3) The effectiveness of the learning tools based on Contextual Teaching and Learning that the students' classical pre-test mastery in the first trial was 22.73% and the post-test was 72.73%. While the pre-test of students in the second trial was 27.27% and post-test was 86.36%, more than 80% of students gave a positive response to the learning tools developed and more than 85% of student are actively engage in learning; (4) Mathematical critical thinking ability and resilience of students taught by using learning tools which is developed based on Contextual Teaching and Learning was improved with N-gain score 0,58 for mathematical critical thinking ability and 0,51 for resilience of student.

Keywords: Development of learning tools, 4-D models, Contextual Teaching and Learning Approaches, Mathematical Critical Thinking Skills, Resilience of Student.

