ABSTRAK

Cecep Nandar, Pengembangan Perangkat Pembelajaran untuk Meningkatkan Kemampuan Penalaran Matematis dan *Self efficacy* Siswa melalui Pembelajaran *Think-Pair-Share* di SMP Prayatna Medan

Penelitian ini bertujuan untuk mengetahui: (1) Kualitas perangkat pembelajaran (valid, praktis, dan efektif) dengan pendekatan TPS. (2) Peningkatan kemampuan penalaran matematis siswa melalui penggunaan perangkat pembelajaran dengan pendekatan TPS. (3) Peningkatan kemampuan *self efficacy* melalui penggunaan perangkat pembelajaran dengan pendekatan TPS. Jenis penelitian yang digunakan adalah penelitian pengembangan model Dick & Carey. Perangkat pembelajaran yang dikembangkan terdiri dari buku siswa, buku petunjuk guru, silabus, RPP, LKS, tes penalaran matematis, lembar angket *self efficacy*, dan media pembelajaran. Instrumen penelitian yang digunakan yaitu lembar validasi, lembar observasi, angket, dan tes. Uji coba dilakukan sebanyak satu kali di kelas IX SMP Prayatna Medan. Hasil uji coba perangkat menunjukkan bahwa perangkat pembelajaran memenuhi kriteria valid, praktis dan efektif. (1) Hasil validasi menunjukkan bahwa perangkat yang dikembangkan layak digunakan (memenuhi kriteria $3 \leq$ Valid ≤ 5). Kepraktisan dilihat dari penilaian tim ahli atau validator yang menyatakan bahwa perangkat pembelajaran dapat digunakan dengan revisi kecil; kemampuan guru dalam mengelola pembelajaran diperoleh rata-rata 4,11 atau dalam kategori "baik". Keefektifan dilihat dari ketuntasan klasikal telah memenuhi kriteria ketuntasan mencapai 87,5% yakni $\geq$ 85% siswa mencapai kriteria ketuntasan minimal; Respon siswa terhadap pembelajaran diperoleh rata-rata 88,52%; dan waktu pembelajaran dalam penelitian tidak berbeda jauh dengan waktu pembelajaran biasa. (2) Peningkatan kemampuan penalaran matematis dengan N-Gain sebesar 0,42 (sedang). Hasil uji coba menunjukkan bahwa kemampuan penalaran matematis meningkat secara signifikan ditunjukkan dari nilai (sig.) = 0,00 ($\propto \leq 0{,}05$). (3) Peningkatan kemampuan *self efficacy* dengan N-Gain sebesar 0,38 (tinggi). Hasil uji coba menunjukkan bahwa kemampuan *self efficacy* meningkat secara signifikan ditunjukkan dari nilai (sig.) = 0,00 ($\propto \leq$ 0,05). Secara keseluruhan hasil penelitian menunjukkan bahwa perangkat pembelajaran valid, praktis dan efektif untuk digunakan.

Kata Kunci: Pengembangan Perangkat Pembelajaran, Kemampuan Penalaran, *Self Efficacy*, *Think-Pair-Share*, SMP

ABSTRACT

Cecep Nandar. Development of Learning Devices to Improve Mathematical Reasoning and Self Efficacy Ability through Think-Pair-Share Approach in Prayatna Junior High School Medan.

This study aims to find out: (1) The learning devices created based on TPS approach that was developed for 9th grade of SMP Prayatna Medan is valid, practical, and effective. (2) The students' mathematical reasoning abilities improved through the use of said learning tools. (3) The ability of self-efficacy improved through the use of said learning devices. In this study Dick & Carey models is used as research method. The learning devicesl developed which consist of student book, teacher manual, syllabus, RPP, LKS, mathematical reasoning test, self efficacy questionnaire, and instructional media. The research instruments used are validation sheet, observation sheet, questionnaire, and test. Device test is done once in class IX SMP Prayatna Medan. The device test results show that learning devices meet valid, practical and effective criteria. (1) Validation results indicate that the developed device is eligible to use (meeting the $3 \leq$ Valid ≤ 5 criteria). Practicality is seen from the response of an expert team or validator stating that learning devices can be used with small revisions; the ability of teachers in managing learning obtained an average of 4.11 or in the category of "good". The effectiveness seen from the classical completeness reached 87.5% has fulfilled the criteria of completeness that is $\geq$ 85% of students reach the minimum mastery criteria; Student responses to learning were averaged 88.52%; and the learning time in the study does not vary much with the usual learning time. (2) The improvement of mathematical reasoning ability using learning devices based on TPS learning that has been developed is seen from the N-Gain value of 0.42 in the medium category. The results of the experiments show that the mathematical reasoning ability increased significantly is shown from the value (sig.t) = 0.00 ($\propto \leq 0.05$). (3) The enhancement of self efficacy capability using learning devices based on the TPS learning developed has been seen from the N-Gain value of 0.38 in the high category. The results of the trials show that the ability of self efficacy to increase significantly is shown from the value (sig.t) = 0.00 ($\propto \leq 0.05$). Overall research results show that learning tools are feasible, easy, and effective to use.

Keywords: Development of Learning Devices, Reasoning Ability, Self efficacy, Think-Pair-Share, Junior High School