

# **Peningkatan Kemampuan Penalaran Matematis, Berpikir Logis dan *Self Esteem* Siswa SMP Melalui Model Pembelajaran Kooperatif Tipe Struktural.**

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## **ABSTRAK**

Penelitian ini bertujuan mengkaji peningkatan kemampuan penalaran matematis, berpikir logis, dan *self esteem* siswa yang mendapat model pembelajaran kooperatif tipe struktural dengan yang mendapat pembelajaran secara konvensional. Desain penelitian ini adalah *non equivalent pre-test and post-test design*. Populasi penelitian ini adalah seluruh siswa kelas VIII pada salah satu SMP Negeri di Kab. Majalengka. Sampel penelitian adalah kelas VIII C dan VIII D yang dipilih secara *purposive sampling* dari enam kelas yang ada. Satu kelas dijadikan sebagai kelas eksperimen, dan satu kelas lagi dijadikan sebagai kelas kontrol. Instrumen yang digunakan sebagai alat pengumpul data berupa soal tes kemampuan penalaran matematis, tes kemampuan berpikir logis, dan angket untuk mengungkap kemampuan *self esteem* siswa. Analisis data dilakukan secara kuantitatif. Analisis kuantitatif dilakukan terhadap data gain ternormalisasi kemampuan penalaran matematis, berpikir logis, dan *self esteem* siswa pada kedua kelas sampel dengan menggunakan uji perbedaan rata-rata dua populasi. Uji perbedaan rata-rata dua populasi dihitung dengan menggunakan *Independent Sample-T-Test* dan Uji *Mann-Whitney* dengan taraf signifikansi  $\alpha = 0,05$ . Hasil penelitian menunjukkan bahwa peningkatan kemampuan penalaran matematis, berpikir logis, dan *self esteem* siswa pada kelompok yang mendapat model pembelajaran kooperatif tipe struktural lebih baik daripada kelompok yang mendapat pembelajaran secara konvensional.

**Kata Kunci** : Model pembelajaran kooperatif tipe struktural, kemampuan penalaran matematis, berpikir logis, dan *self esteem*.

# **The Improvement of Mathematical Reasoning Ability, Logical Thinking and Self-Esteem of Junior Secondary School Students through Cooperative Instructional Model of the Structural Type**

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## **ABSTRACT**

The research aimed to study the improvement of mathematical reasoning ability, logical thinking, and self-esteem among students who were treated with cooperative instructional model using the structural type and those treated with conventional instruction. The research employed non-equivalent pre-test and post-test design. The population was all seventh graders of one of state junior secondary schools in Majalengka Regency. In a purposive sampling, the seventh grade students of C and D classes were selected out of the six existing classes. One class was made the experimental class and the other was made the control class. The instruments used to collect data were in the forms of mathematical reasoning ability test, logical thinking ability test, and questionnaires to reveal students' self-esteem. Data were analysed quantitatively. The quantitative analysis was conducted on the normalized gain data of mathematical reasoning ability, logical thinking and self-esteem of students in the sample of two classes using a difference test for two population means. The difference test was calculated using independent sample t-test and Mann-Whitney test with a level of significance  $\alpha = 0.05$ . Research results showed that the improvement of mathematical reasoning ability, logical thinking, and self-esteem of the students treated with cooperative instructional model using the structural type was better than the improvement of those treated with conventional instruction.

**Keywords:** Cooperative instructional model of the structural type, mathematical reasoning ability, logical thinking, and self-esteem.