

## ABSTRAK

**Apsari Sabela, 1192050023 (2026). “Peningkatan Kemampuan Pemecahan Masalah Matematis Dan *Self Efficacy* Melalui Pembelajaran *Issue, Discussion, Establish, And Apply* (IDEA) Berbantuan *Geogebra*”**

Kemampuan pemecahan masalah matematis merupakan salah satu kemampuan penting yang perlu dikembangkan dalam pembelajaran matematika karena berkaitan dengan kemampuan siswa memahami masalah, merencanakan strategi, melaksanakan penyelesaian, dan memeriksa kembali hasil. Penelitian ini bertujuan untuk mendeskripsikan kemampuan pemecahan masalah matematis siswa melalui pembelajaran *Issue, Discussion, Establish, and Apply* (IDEA) berbantuan *GeoGebra*. Penelitian menggunakan pendekatan kuantitatif dengan desain kuasi eksperimen yang melibatkan kelas eksperimen dan kelas kontrol. Instrumen penelitian berupa tes kemampuan pemecahan masalah matematis yang diberikan sebelum dan sesudah pembelajaran. Peningkatan kemampuan dianalisis menggunakan *Ngain*, sedangkan perbedaan peningkatan antarkelas dianalisis dengan uji *t'* karena data *Ngain* tidak homogen. Hasil analisis menunjukkan rata-rata *Ngain* kelas eksperimen sebesar 0,6563, sedangkan kelas kontrol sebesar 0,5664. Kedua kelas berada pada kategori peningkatan sedang, tetapi rata-rata peningkatan kelas eksperimen lebih tinggi sebesar 0,0899. Hasil tersebut menunjukkan bahwa pembelajaran IDEA berbantuan *GeoGebra* memberikan hasil peningkatan kemampuan pemecahan masalah matematis yang lebih baik secara deskriptif dibandingkan pembelajaran pada kelas kontrol. Tahapan IDEA memberi kesempatan kepada siswa untuk mengidentifikasi persoalan, berdiskusi, membangun konsep, dan menerapkan strategi penyelesaian, sedangkan *GeoGebra* membantu siswa memvisualisasikan objek matematika dan mengeksplorasi hubungan antarrepresentasi.

**Kata kunci:** IDEA; *GeoGebra*; *Ngain*

## ABSTRACT

**Apsari Sabela, 1192050023 (2026). “Improving Students’ Mathematical Problem-Solving Ability and Self-Efficacy through Issue, Discussion, Establish, and Apply (IDEA) Learning Assisted by GeoGebra”**

Mathematical problem-solving ability is an important competence in mathematics learning because it involves students’ ability to understand problems, plan strategies, carry out solutions, and check results. This study aimed to describe students’ mathematical problem-solving ability through the Issue, Discussion, Establish, and Apply (IDEA) learning model assisted by GeoGebra. A quantitative approach with a quasi-experimental design was employed involving an experimental class and a control class. The research instrument was a mathematical problem-solving test administered before and after the learning intervention. Improvement was analyzed using Ngain, while the difference in improvement between the two classes was analyzed using an independent t-prime test because the Ngain variances were not homogeneous. The results showed that the mean Ngain score of the experimental class was 0.6563, while that of the control class was 0.5664. Both classes were in the medium improvement category, but the experimental class achieved a higher mean improvement by 0.0899. These findings descriptively indicate that IDEA learning assisted by GeoGebra produced greater improvement in students’ mathematical problem-solving ability than the learning implemented in the control class. The IDEA stages provided opportunities for students to identify issues, discuss, establish concepts, and apply solution strategies, while GeoGebra supported visualization and exploration of mathematical relationships.

**Key words:** IDEA; GeoGebra; Ngain