ABSTRAK

Sayyidah Istinarissariri, 1212050161, 2025, "Pembelajaran *Case Study* Berbantuan *Microsoft Mathematics* untuk Meningkatkan Kemampuan Berpikir Kritis dan *Self-Regulated Learning* Peserta Didik"

Kemampuan berpikir kritis matematis dan *self-regulated learning* merupakan aspek penting yang harus dimiliki peserta didik dalam pembelajaran matematika. Namun, pada kenyataannya kedua kemampuan tersebut masih tergolong rendah. Integrasi model pembelajaran *case study* dengan dukungan aplikasi *Microsoft Mathematics* masih sangat jarang diteliti, sehingga memberikan ruang untuk menghadirkan pendekatan pembelajaran yang lebih inovatif. Penelitian ini bertujuan untuk mengetahui proses pembelajaran menggunakan model *case study* berbantuan *Microsoft Mathematics*, serta peningkatan kemampuan berpikir kritis matematis dan *self-regulated learning* peserta didik. Metode penelitian menggunakan kuasi eksperimen dengan desain *nonequivalent control group*. Populasi penelitian meliputi seluruh peserta didik salah satu MAN di Kabupaten Bandung tahun ajaran 2025/2026 yang terdiri dari sembilan kelas, dengan dua kelas sebagai sampel yang dipilih melalui teknik *cluster random sampling*. Instrumen penelitian berupa tes kemampuan berpikir kritis matematis yang telah memenuhi validitas dan reliabilitas tinggi. Analisis data dilakukan menggunakan uji t, uji Mann–Whitney, serta analisis deskriptif terhadap keterlaksanaan pembelajaran. Hasil penelitian menunjukkan bahwa pembelajaran *case study* berbantuan *Microsoft Mathematics* terlaksana dengan kategori baik. Selain itu, peningkatan kemampuan berpikir kritis matematis dan *self-regulated learning* peserta didik yang memperoleh pembelajaran *case study* berbantuan *Microsoft Mathematics* lebih baik dibandingkan dengan peserta didik yang memperoleh pembelajaran konvensional. Temuan penelitian ini memberikan kontribusi bahwa pembelajaran *case study* berbantuan *Microsoft Mathematics* dapat diimplementasikan secara efektif apabila peserta didik telah menguasai materi prasayarat, serta dapat mendorong penguatan *self-regulated learning* dalam proses pembelajaran.

Kata Kunci: *Case Study, Microsoft Mathematics*, Kemampuan Berpikir Kritis, *Self-Regulated Learning*

ABSTRACT

Sayyidah Istinarissariri, 1212050161, 2025, *"Case Study Learning Assisted by Microsoft Mathematics to Improve Students' Critical Thinking and Self-Regulated Learning."*

Mathematical critical thinking and self-regulated learning are important aspects that students must possess in mathematics learning. However, in reality, both abilities are still relatively low. The integration of the case study learning model with the support of the Microsoft Mathematics application is still very rarely researched, thus providing room for presenting a more innovative learning approach. This study aims to determine the learning process using the Microsoft Mathematics-assisted case study model, as well as the improvement of students' mathematical critical thinking and self-regulated learning abilities. The research method used a quasi-experimental design with a nonequivalent control group. The study population included all students of one MAN in Bandung Regency in the 2025/2026 academic year consisting of nine classes, with two classes as samples selected through cluster random sampling techniques. The research instrument was a mathematical critical thinking ability test that has met high validity and reliability. Data analysis was carried out using the t-test, the Mann–Whitney test, and descriptive analysis of the implementation of the learning. The results showed that the case study learning assisted by Microsoft Mathematics was implemented in the good category. Furthermore, students who received Microsoft Mathematics-assisted case study learning improved their mathematical critical thinking skills and self-regulated learning compared to those who received conventional learning. The findings of this study contribute to the effective implementation of Microsoft Mathematics-assisted case study learning if students have mastered the prerequisite material and can encourage self-regulated learning in the learning process.

Keywords: Case Study, Microsoft Mathematics, Critical Thinking Skills, Self-Regulated Learning