

ABSTRACT

Nisrina Rozalini (2021). *Analysis of Mathematical Critical Thinking Ability and Self-Efficacy of Middle School Students with STEM-Based Teaching Materials*

One of the mathematical abilities that students need to have is the ability to think critically mathematically and one of the abilities in the affective aspect that students need to have is self-efficacy. However, in reality, students' mathematical critical thinking skills and self-efficacy are still low. Teachers must strive to improve students' mathematical critical thinking skills and self-efficacy by using appropriate teaching materials, one alternative is through the Science, Technology, Engineering, Mathematics (STEM) approach. This study aims to: (1) analyze and describe the mathematical critical thinking skills of high school students using teaching materials developed based on Science, Technology, Engineering, Mathematics (STEM); (2) analyze and describe the self-efficacy abilities of high school students using teaching materials developed based on Science, Technology, Engineering, Mathematics (STEM); (3) analyze the correlation between mathematical critical thinking skills and self-efficacy. The method used in this research is a qualitative research method with the type of literature study research. The data sources used in the research are primary data and secondary data, namely data from articles from reputable national and international journals related to mathematical critical thinking skills, self-efficacy and approaches to Science, Technology, Engineering, Mathematics (STEM). The research techniques used in this research are Editing, Organizing, and Finding. Analysis of the data used in the form of Inductive and Interpretative. The results showed that: (1) the mathematical critical thinking ability of high school students by using teaching materials that were developed based on Science, Technology, Engineering, Mathematics (STEM) had increased significantly; (2) the self-efficacy ability of high school students using teaching materials developed based on Science, Technology, Engineering, Mathematics (STEM) has increased significantly; (3) there is a correlation between mathematical critical thinking ability and students' self-efficacy has a positive relationship, the higher the student's self-efficacy, the higher the mathematical critical thinking ability.

Keywords: *Mathematical Critical Thinking Ability, Self-Efficacy, Approach Sains, Technology, Engineering, Mathematics (STEM)*