

ABSTRAK

Pembelajaran menggunakan *Science Technology Engineering and Mathematics* (STEM) dapat membantu peserta didik memecahkan masalah dan menarik kesimpulan dari pembelajaran sebelumnya dengan mengaplikasikannya melalui sains, teknologi, teknik dan matematika. Penelitian ini bertujuan untuk mengetahui pengaruh pendekatan *Science Technology Engineering and Mathematics* (STEM) terhadap kemampuan berpikir kritis peserta didik pada materi bioteknologi. Jenis penelitian ini *pre-experimental* dengan desain *One-Group Pretest-Posttest*. Teknik sampling yaitu *total sampling*. Sampel berjumlah 67 peserta didik dari kelas IX, dimana indikator berpikir kritis yaitu 1) Memberikan Penjelasan Sederhana, 2) Membangun Keterampilan Dasar, 3) Menyimpulkan, 4) Membuat Penjelasan Lanjut, 5) Strategi dan Taktik. Teknik pengumpulan data dengan menggunakan instrument pretest dan posttest, Teknik analisis data yang digunakan *One-Sample Kolmogorov-Smirnov Test* dengan hasil penelitian menunjukkan bahwa ada peningkatan hasil pretest dan posttest, yaitu skor rata-rata pretest 23,03 Posttest dengan rata-rata skor 80,30 dan N-Gain rata-rata 0,74 dengan kategori tinggi. Berdasarkan hasil uji hipotesis menunjukkan bahwa nilai signifikansinya adalah 0,000 dimana $< 0,005$ dengan demikian ada pengaruh pendekatan *Science Technology Engineering and Mathematics* (STEM) terhadap kemampuan berpikir kritis peserta didik yaitu H_0 ditolak dan H_a diterima.

Kata kunci: *Science Technology Engineering and Mathematics*, Berpikir kritis

ABSTRACT

Learning using Science Technology Engineering and Mathematics (STEM) can help students solve problems and draw conclusions from previous learning by applying them through science, technology, engineering and mathematics. This study aims to determine the effect of Science Technology Engineering and Mathematics (STEM) approach on students' critical thinking skills in biotechnology major. This type of research is pre-experimental with a One-Group Pretest-Posttest design. The sampling technique used was total sampling with a total of 67 students from class IX, where indicators of critical thinking are 1) Elementary Clarification, 2) Basic Support, 3) Inference, 4) Advanced Clarification, 5) Strategies and Tactics. Data collection techniques used pretest and posttest instruments, data analysis techniques used the One-Sample Kolmogorov-Smirnov Test with the results of the study showing that there was an increase in pretest and posttest results, namely the average pretest score of 23.03 with an average posttest score of 80.30 and the average N-Gain is 0.74 in the high category. Based on the results of the hypothesis test, it shows that the significance value is 0.000 where <0.005 , it means there is an influence of the Science Technology Engineering and Mathematics (STEM) approach on students' critical thinking skills, namely H_0 is rejected and H_a is accepted.

Keywords: *Science Technology Engineering and Mathematics, Critical thinking*