

**Penerapan Model Learning Cycle 5e di Era Revolusi Industri 4.0  
untuk Meningkatkan Keterampilan Berpikir Kritis Siswa  
pada Materi Perubahan Lingkungan Kelas X MIPA**

***Application of Learning Cycle 5e Model in the Industrial Revolution Era 4.0  
for Improving Students' Critical Thinking Skills  
on Material Change in Class X Mathematics and Natural Sciences***

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**Abstract:** *This study aims to analyze the learning model of Learning Cycle 5E in the Industrial Revolution 4.0 era in improving the critical thinking skills of students of class X MIPA. This research is a Class Action Research through the application of the 5E Learning Cycle model which includes engagement, exploration, elaboration, explanation, and evaluation. The study was conducted in 2 cycles, with each cycle consisting of planning, implementation, observation, and reflection. The research subjects were students of class X MIPA 5 of SMA Batik 1 Surakarta in the 2018/2019 academic year, totaling 45 students. Data sources came from observation sheets, teacher and student interviews, and documentation. Data validation uses triangulation techniques. Data analysis technique is done by data reduction, data presentation, and drawing conclusions based on qualitative descriptive analysis. The procedure of the research uses a spiral model of PTK which are interrelated. The results showed an increase in critical thinking skills by 27.25% from 37.98% pre-cycle to the second cycle 65.23%.*

**Keywords:** *Critical Thinking Skills, 5E Learning Cycle, Industrial Revolution 4.0, Environmental Change*

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