

# IMPLEMENTATION OF ONLINE LEARNING COOPERATIVE STRATEGIES TO INCREASE ENGAGEMENT AND LEARNING OUTCOMES LATHE MACHINING

by Thomas Sukardi, Dwi Rahdiyanta, Bambang Setiyo Hari Purwoko, Widarto, Fajar Afrianto, Adam Tri Mustafa, Cahya Prasetiawan

## ABSTRACT

### ABSTRACT

This study aims to determine; (1) differences in student involvement in the practice of Lathe Machining with cooperative online learning (COL) strategies and online learning (OL) strategies; (2) differences in Lathe Machining learning outcomes between students in the class with the COL strategy and the class with the traditional OL strategy; (3) Differences in Lathe Machining learning outcomes between students with high involvement in class with COL strategy and class with traditional OL strategy; (4) Differences in Lathe Machining learning outcomes for students with low involvement in class with COL strategy and class with traditional OL strategy. This research is a quasi-experimental, the sample selection for the experimental class and the control class is done randomly from eight Lathe Machining classes. Data analysis in this study used 2-way ANOVA with one treatment variable and one attribute variable. The results showed; (1) student involvement in Lathe Machining learning with the COL strategy is higher than with the traditional OL strategy; (2) the learning outcomes of Lathe Machining with COL strategy are higher than those with traditional OL strategies; (3) there is no difference in Lathe Machining learning outcomes of students with high involvement between the COL class and the traditional OL class; (4) there is no difference in students' Lathe Machining learning outcomes with low involvement between the COL class and the traditional OL class.

*Key word: lathe learning outcome, cooperative learning, online learning,*

*Kata Kunci: lathe learning outcome, cooperative learning, online learning*