*ABSTRAC*

*Implementation of PACE Model Based on Lesson Study for Students' Proportional Reasoning in Solving Ratio Problems, Considering Cognitive Styles*

*Keyword: Cognitive Styles, Lesson Study, PACE Model, Proportional Reasoning, Ratio,*

*The research aims to describe two aspects: the implementation of the PACE Model based on Lesson Study on comparison material and the proportional reasoning of students with field-independent (FI) and field-dependent (FD) cognitive styles in solving comparison problems after applying the PACE Model based on Lesson Study in class VII of SMPIT Al-Hidayah Sumenep during the 2023/2024 academic year.*

*This research uses a qualitative approach with an exploratory type of research. The research subjects are two students from class VII of SMPIT Al-Hidayah, selected based on two instruments: the Mathematics Ability Test (TKM) and the Cognitive Style Questionnaire. The criteria for the subjects are having different cognitive styles, the same gender, and equal TKM scores. Subsequently, Both subjects will be given Problem-Solving Tasks (TPM) and interviewed to measure proportional reasoning in solving comparison problems. The data's validity is tested using temporal triangulation.*

*The research of this study indicate that the PACE model based on Lesson Study was successfully implemented and produced findings for further evaluation. Additionally, students with a Field Independent (FI) cognitive style met two out of three indicators of proportional reasoning in solving comparison problems, namely understanding covariation and recognizing situations suitable for using ratios. In contrast, students with a Field Dependent (FD) cognitive style only met one indicator of proportional reasoning in solving comparison problems, which was understanding covariation. Before the implementation of the PACE model based on Lesson Study, students had significant difficulty in solving word problems related to comparison topics.*