

# The Relationship Between Thinking Styles and Mathematics Achievement Among Grade 10 Students in Rakhine State

Kyaw Zan Hla<sup>1</sup> and Khin Aye Soe<sup>2</sup>

## Abstract

The purpose of this study was to investigate the relationship between thinking styles and mathematics achievement of Grade 10 students in Rakhine State. The sample of this study consisted of 430 Grade 10 students from eight high schools in Rakhine State. The participants were chosen through random sampling. A survey study with a descriptive research design was adapted and used in this study. Thinking Styles Inventory (TSI) scale developed by Robert J. Sternberg and Richard K. Wagner (1991) was used to measure the students' thinking styles and the researcher-made mathematics achievement test was used to measure the students' mathematics achievement. The data were analyzed using the descriptive statistics, independent sample *t*-test, and multiple regression analysis. The findings indicated that students' such thinking styles as legislative, executive, judicial, local, hierarchic, monarchic, internal and liberal were significantly correlated with mathematics achievement. However, the students' such thinking styles as conservative, anarchic, global, oligarchic and external were not significantly correlated with mathematics achievement. The result of independent sample *t*-test showed that there were significant differences in mathematics achievement between the male and female students at .001 level. And significant differences were found in legislative, executive, judicial, local, hierarchic, monarchic, internal and liberal by gender at .001 level. Then, the significant differences were found in thinking styles and mathematics achievement among schools. Regression analysis revealed that such thinking styles as legislative, executive, judicial, hierarchic, monarchic, internal, external liberal and conservative were found as the significant predictors for mathematics achievement. The results of regression analysis indicated that 71.3% of variance in students mathematics achievement could be explained by the model. The findings of this study indicated that thinking styles such as legislative, executive, judicial, local, hierarchic, monarchic, internal and liberal were the most influential factors for mathematics achievement of Grade 10 students.

**Key words:** thinking styles, mathematics achievement

---

1. Lecturer, Dr., Department of Educational Psychology, Yangon University of Education  
2. Senior Assistant Teacher, B.E.H.S (Branch), Kanni, Minbya Township, Rakhine State