

# **A Study on the Relationship between Mathematics Achievement and Linguistic Aspects**

## **-Secondary Analysis of SACMEQ II-III focusing on Reading Achievement-**

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This study reveals the relationship between students' mathematics achievement and linguistic aspects including their reading achievement from a viewpoint of cross-national comparisons by making secondary analysis of SACMEQ II and SACMEQ III data set.

In order to achieve this the objective, two statistical methodologies were employed: 1) the analysis of country- and pupil -level variables based on hierarchical linear modeling (HLM), and 2) the analysis of country-level item discrimination of the test items based on item differential functioning.

The results indicate that there is a positive correlation not only between mathematics and reading achievement level but also between mathematics achievement level and the size of regression coefficient in different counties and between item discrimination of difficult items and the size of regression coefficient in different countries. This paper suggests that reading ability has considerable role to improve mathematics achievement especially in lower level mathematics achievement countries such as Malawi and Zambia.