
NEWSLETTER

Class Size and Student Mathematics Achievement: An Empirical Study Based on PISA 2022's East Asian Data

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CLASS size reduction is a popular move to improve student academic achievement in many countries and territories. Based on the PISA 2022 data, this study compares the distribution characteristics of class sizes between East Asian countries/territories and OECD countries using chi-square tests, examines the relationship between class size and student mathematics achievement in East Asia through OLS regression models, and analyzes the heterogeneous effects of class size among students with varying levels of math performance using quantile regression models.

Research Findings:

- Compared with OECD countries, countries and territories in East Asia had lower proportions of small-sized classes. Also, there were disparities in class size between rural and urban schools and between public and private schools.
- There was a positive correlation between the size of the class and its students' mathematics performance, indicating that, within a reasonable range, larger class size predicted higher mathematics scores among East Asian students.
- The effect of class size on mathematics results varied among students with different academic levels. As the student's math performance improves, the effect of class size on it gradually diminish.

Based on its findings, the study proposes the following recommendations: (i) Research efforts should be intensified to explore legitimate sizes of classes. Scientific class sizes fall within an appropriate range, requiring an optimal balance between cost and benefit. The one-sided notion that "smaller is better" should be abandoned; (ii) It is important that the government increases investment in education and optimizes resource allocation as class size reduction efforts necessitates sound financial support; (iii) Innovation in pedagogical methods should be encouraged because educational advancement is not merely reflected in the size of classes but is more about effective organization of classroom instruction.

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