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Working Paper Summary

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Individualized Self-learning Program to Improve Primary Education: Evidence from a Randomized Field Experiment in Bangladesh

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Research Project: Growth and Poverty Reduction

■Contributions

In this paper we investigated the effectiveness of a globally popular individualized self-learning method also known as Kumon in overcoming the issue of low quality of teaching and learning in the context of developing countries. Our study makes a significant contribution to the literature that uses an experimental approach to improve the quality of primary education in developing countries; especially the literature that examines the effectiveness of pedagogical interventions on student learning outcomes. Moreover, we also analyzed its impact on non-cognitive abilities – the knowledge gap regarding non-cognitive aspects of education intervention is particularly scarce in the context of developing countries.

■Research Design

We implemented a cluster randomized control trial to test the effectiveness of the Kumon mathematics learning program on improving the BRAC primary school (BPS) students' cognitive and non-cognitive abilities in Dhaka and surrounding areas. We randomly selected 34 BPS having third and fourth graders from the 179 BRAC Primary Schools, 17 schools received Kumon materials and 17 schools did not receive these materials so that they could serve as treatment and control schools, respectively. The intervention for the treated schools consists of 30 minutes Kumon study session prior to regular school session. We finally tracked about 1000 students over eight months period.

■Main Findings (including Policy Implications)

The results show that students in the treatment schools record substantial and significant improvement in their cognitive abilities as measured by two different mathematics tests (Kumon diagnostic test score per minute and proficiency test score) compared to the control schools' students. In terms of non-cognitive abilities, we find positive and significant impacts, particularly on the self-confidence of the pupils. Interestingly, this intervention also had a positive and significant impact on the teachers' ability to assess their students' performance. From the policy perspective, this study shows that Kumon could be an effective complementary intervention to the existing lecture style primary education in disadvantageous settings (e.g., the dropouts from formal education, and those with low-socioeconomic status). Moreover, such non-digital instructions and materials could also be versatile in a setting that is digitally constrained, or has limited equipment and/or instructors. Overall the results suggest the wider applicability of a properly designed non-formal education program in solving the learning crisis in developing countries.