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The Impact of Food for Education Program on Literacy Improvement in Mali

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Background

Despite the widely held view that school feeding programs improve school participation, there exists little causal evidence on the broad impact of the program on children's learning outcomes, especially on the impact of different elements of the school feeding program interventions on learning and nutrition. This study presents evidence of the impact of a food for education program in Mali, operated by the Catholic Relief Services (CRS), on children's learning outcomes. Using data collected from two survey rounds in 2016 and 2018 and a cohort-comparison quasi-experimental evaluation methodology, we obtain estimates of the program's impact on children's reading scores due to exposure to trained teachers.

The United States Department of Agriculture funded CRS for three project phases of the McGovern-Dole (MGD) International Food for Education and Child Nutrition Program in Mali. Although the enrollment and attendance improved during the first two phases of the project, there was concern about the quality of education, particularly literacy in primary grades. The third phase, which is a five-year intervention, expands on the previously implemented MGD projects and aims to improve literacy of school-aged children in the Mopti and Koulikoro regions. The third phase of the project included elements of previous phases, including school meals, take-home rations and vitamin A and deworming medications distribution, and the formation of savings and internal lending community groups. In addition, new project activities include training to teachers and administrators on the balanced literacy approach and school management committee members' capacity building expansion. In this research, we seek to identify the causal effect of the teacher training intervention on the literacy of primary-school-aged children.

Methodology and Data Sources

To measure the causal impact of the program on improving children's literacy outcomes, we employed a quasi-experimental cohort comparison method. The methodology measures the two- and three- year effects of having exposure to teachers trained in the balanced literacy approach (BLA) on improvements in children's literacy as captured by students' reading assessment scores. The design uses earlier cohorts as a comparison group to later cohorts, and controls for any time effects that could be influencing our results simultaneously. We can use this method in accordance with the BLA roll out plan. In Year 1 of the project intervention (2015-2016), only grade 1 teachers received BLA intervention training. In Year 2 (2016-2017), grade 1 teachers became grade 2 teachers and received additional training, and new grade 1 teachers received BLA training. In Year 3, grade 2 teachers became grade 3 teachers, grade 1 teachers became grade 2 teachers, and all received retraining; and new grade 1 teachers received BLA training. To implement the cohort comparison method, we collected data, including administering a literacy test, from grade 1, grade 2, grade 3, and grade 4 students in 2016 and collected data from new cohorts in the same grades in 2018.

We capture the effect of two years of exposure to BLA-trained teachers on grade 2 students (treatment group) in 2018 as compared to grade 2 students (comparison group) in 2016. The grade 1 students' data from 2018 and 2016 are used to capture the time effects of the program intervention between 2016-2018. Similarly, we estimate the three-year program effects by using grade 3 student data. The cohort comparison design allows us to determine spillover effects of the

BLA intervention on students within BLA schools. Some of the BLA-trained teachers end up teaching the comparison groups when the teachers assigned to those grades are absent from school. Taking that fact into account is important because teacher absenteeism has been documented as a serious concern in developing countries. For example, grade 4 students will have been taught directly by a BLA-trained teacher but may have benefitted from the BLA intervention through spillover effects. By comparing this group in 2018 with the grade 4 students in 2016, we determine the three-year spillover effect on literacy progress of being in a BLA school.

In order to implement the quasi-experimental design, we collected data from 2,506 students (1,216 boys and 1,290 girls) and 189 teachers. Our identification strategy rests on the assumption that there are no unobserved variables that affect both the probability of being part of the intervention group and the literacy rates of children. We also assume that the time effects experienced by students in different grades are the same. To ensure the validity of our methodology, we include time effect controls for all year-specific, individual-shared increases in literacy outcomes for all individuals. Additionally, our evaluation involves a substantial data collection on different variables, thereby allowing us to control for other factors arising from students and teachers.

Key Research Insights

Our cohort comparison design shows a clear proof of program impact: children's literacy outcomes improved by one level due to two years of exposure to a BLA-trained teacher and increased by more than a level and a half due to three years of exposure to BLA-trained teachers. These findings are robust to adding other covariates, such as the student's gender. However, we do not find any evidence of indirect spillover effects indicating the mechanism of success: children who receive direct, intensive, and prolonged exposure to well-trained teachers are able to improve their reading proficiencies.

Research Contributions and Potential for Discussion

The research makes unique contribution to our understanding of what works in improving children's educational attainment and sustaining its long-term effect, especially in extremely poor, politically unstable contexts. From a policy perspective, the research demonstrates the critical importance of investing in teachers by providing them training in teaching techniques and pedagogies. The findings suggest that even in areas with inadequate school infrastructure and services, children's learning outcomes has the potential of improving when exposed to effective teachers. Such investments in teachers are, therefore, a cost-effective means of bringing about sustainable changes in children's educational outcomes. From a methodological perspective, the research design is unique in that we are able to causally understand the mechanisms driving program impact by taking advantage of the set-up of these schools, despite the challenges imposed by attrition of schools due to political turmoil in Mali between 2016-2018.