

PRELIMINARY RESULTS:

TARGETED LESSONS TO IMPROVE BASIC SKILLS

The Teacher Community Assistant Initiative, which provided targeted instruction in basic skills to small groups of low-performing students, significantly increased student learning in Ghana.

While school enrolment rates in developing countries have significantly improved in the last decade, learning levels have not matched this progress. Free primary education boosted enrolment among students from poorer backgrounds who often have illiterate parents and little support at home. As a result, teachers must manage classes that include pupils with very different levels of preparation, hindering their ability to target instruction appropriately. In order to complete the curriculum, teachers often need to leave a large fraction of pupils behind. The 2011 National Education Assessment in Ghana showed that only 24.2 percent of P3 pupils reach expected proficiency levels in English, and 18.2 percent in maths. With the government already spending 30 percent of its budget on education, cost-effective strategies to improve learning levels are urgently needed.

Studies in India and Kenya have shown that significant improvements can be achieved at relatively low cost by targeting the level of instruction to pupils' achievement levels. Based on these insights, the Ghana Education Service (GES), in partnership with the Ghana National Association of Teachers (GNAT), the Ghana Youth Employment and Entrepreneurial Development Agency (GYEEDA), and Innovations for Poverty Action (IPA) developed and evaluated the Teacher Community Assistant Initiative (TCAI). Under this initiative, programmes enabled teachers and community assistants to teach to the learning level of their pupils through several possible mechanisms. To identify which programme variations were most effective at improving test scores, schools were randomly allocated into four treatment arms which received different combinations of Teacher Community Assistants (TCAs), lessons targeted by pupil ability, a remedial pedagogy for the lowest performing students, and during- or after-school activities.



- **Positive impacts on student learning were achieved despite important implementation challenges, including irregular payment of TCAs and poor monitoring.** These issues, common in government systems, led to low attendance of community assistants and poor compliance by teachers in implementing targeted teaching methods.
- **The provision of targeted lessons for low performing pupils by community assistants caused the largest increases in learning compared to the control group: a 0.14 standard deviation (6.4%) increase for students in P3 and P4 classes.** Simply providing community assistants to split classes with the normal teacher for a few hours a day, though also effective, had smaller impacts on pupil achievement: around 0.11 standard deviations (5%) increase in test scores per child.
- **Training teachers to deliver targeted lessons had the smallest effect, probably because teachers were even less consistent than community assistants at implementing the targeted teaching methods.** Unless teachers can be given strong enough incentives to change their methods then it is likely that community assistants providing targeted instruction for small groups of low-performing pupils will provide the largest increases in learning.
- **The impact of the four treatments varied greatly across regions. These regional differences in impact are closely linked with variations in implementation issues,** and were larger than the differences in impacts across the different treatments.

EVALUATION

To ensure that the schools in this evaluation were representative of Ghana as a whole, 42 districts were randomly selected from the 170 districts around the country. Across these districts 500 schools, representing 3.5 percent of Ghana’s basic schools, were randomly selected and allocated into one of four treatment groups, or a comparison group which received no new materials or services.

INTERVENTIONS	TCAs	TARGETED LESSONS	REMEDIAL TEACHING MATERIALS	AFTER SCHOOL HOURS
The In-School Remedial TCAs intervention provided in-school remedial classes through Teacher Community Assistants (TCAs) for two hours a day, focusing on basic literacy and numeracy skills. These remedial sessions were targeted to the weakest pupils in the class among pupils in P1—P3.	X	X	X	
The After-School Remedial TCAs intervention provided remedial classes taught by TCAs after school hours, focusing on basic literacy and numeracy skills. These remedial sessions were targeted to the weakest pupils in the class among pupils in P1—P3.	X	X	X	X
The Normal Curriculum TCAs intervention tested the effect of providing an assistant and reducing class size, without targeted instruction. The TCAs pulled out pupils in P1—P3 at random to review the teacher’s lessons on literacy and numeracy for a few hours a day. The group pulled out was alternated with the teacher’s group.	X			
The Targeted Lessons Training for Teachers intervention trained civil-service teachers to provide small-group instruction targeted at pupils’ actual learning levels in P1—P3. Starting in the second year of implementation, these teachers split their students by ability levels, rather than grades, for one hour daily.		X	X	

TRAINING TEACHERS AND TCAs. The during-school and after-school remedial TCAs, as well as teachers in the targeted lessons training intervention, were given one week of training on delivering targeted literacy and numeracy lessons, followed by periodic refresher trainings. This pedagogy was adapted from the Indian education NGO Pratham, in partnership with a local organization, School for Life. The training included instruction in rapid testing methods to easily identify which children were in need of remedial activities, as well as classroom management, activity-based learning, and how to effectively use the teaching materials provided. Head teachers, district officials, and school management committees were given an orientation to the programme, explaining the purpose of the activities and how they could provide support.

MEASURING IMPACTS. A baseline survey was performed before the interventions began, gathering information on schools, pupils, and teachers, as well as testing pupils in English, maths, and their local language, through oral and written tests developed in partnership with the GES Curriculum Research and Development Unit. Continuous monitoring of the attendance of teachers, TCAs, and pupils was conducted throughout the programme’s timeline and a first endline survey measuring test scores was administered in late 2011. A second endline survey was completed in July 2013.

RESULTS

By the second endline survey, P2 and P3 pupils had been exposed to two full academic years of the interventions, while P1 pupils were exposed to between one and three semesters. Because children were assigned to remedial classes each term based on their performance, around 70 percent of pupils in P2 and P3, and about 50 percent of pupils in P1, were assigned to remedial classes at some point during the evaluation.

Having TCAs provide remedial instruction targeted to the lowest performing pupils significantly improved children's basic skills in numeracy and literacy, on average. Of the four interventions, the in-school and after-school remedial TCAs had the largest impact on pupil achievement. Among students in P3, average test scores improved by 0.14 standard deviations (6.4%). Because only a portion of students were assigned to remedial sections, and the effects are measured as an average across the whole class, the impacts on the students who participated in remedial classes was likely even higher. Although P4 students had been out of the programme for a year by the second endline survey, they experienced similar impacts, indicating that the effects persist even after children have stopped remedial lessons.

Test scores improved across all subjects, but the greatest impacts were achieved for literacy and for subjects that were specifically targeted by the remedial lessons. Reading skills scores improved by 0.17 standard deviations for the local language (18%) and 0.15 standard deviations for English (10%), and test scores for computations increased by 0.13 standard deviations (10%). While effects were highest for the most basic skills, there were also effects on more complex skills, indicating that mastering basic literacy and numeracy concepts helps students to learn other things.

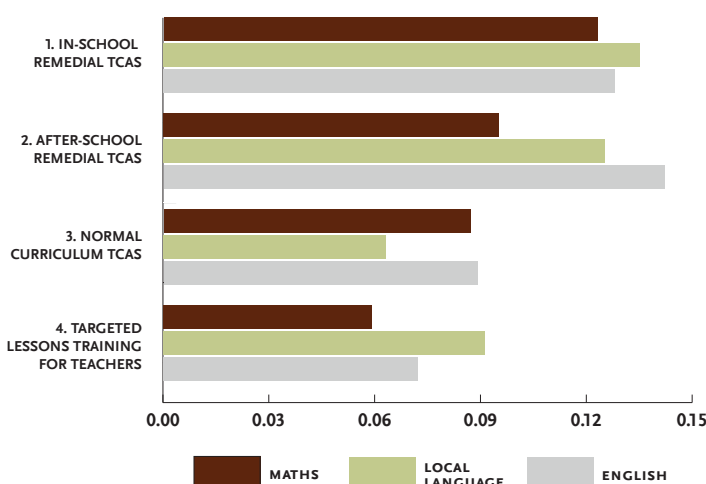


Smaller impacts from the normal curriculum TCAs and the targeted lessons training suggest that the improvements in schools that received remedial TCAs were caused by the combination of targeted instruction and TCAs who, unlike teachers, were entirely dedicated to this purpose. While adding a normal-curriculum TCA improved students' test scores by 0.11 standard deviations (5%) for P3 and P4 students, impacts were smaller than in the remedial TCA interventions, suggesting that the targeted instruction component is important in addition to the assistant. Similarly, training teachers to provide targeted instruction only led to an effect of 0.08 standard deviations (4%) per student. This suggests that targeted instruction could potentially be delivered by teachers, but that under the current system teachers were unlikely to systematically implement targeted teaching methods in which they had been trained.

The delivery of targeted lessons was not implemented consistently, and variation in TCA attendance and monitoring led to significant differences in programme success in different regions. Early in the program, attendance among TCAs was similar to that of classroom teachers (around 75 percent), but over time non-payment of TCA salaries contributed to increasing TCA absence rates. TCA attendance also varied significantly by district, indicating that variations in district supervision quality played an important role. The teacher-led targeted instruction intervention was implemented with even less consistency: an average of 15 percent of the time according to midline survey observations. Because of varying implementation quality, effects in some regions were up to three times higher than the average, while in other regions the interventions had no impact at all.

All four arms of the TCAl programme increased student learning, by varying amounts, and they also incurred different costs, meaning that some arms achieved learning gains more cost-effectively than others. Although it is slightly cheaper to provide either small group instruction through normal curriculum TCAs, or targeted lessons through classroom teachers, these interventions did not improve test scores as much as the combination of targeted instruction for low performing students and community assistants.

EFFECT OF TREATMENT BY SUBJECT



POLICY LESSONS

Numerous studies show that spending focused time on basic skills with the lowest-level learners can improve literacy and numeracy more cost-effectively than other approaches. Results from Ghana confirm findings from other countries, including Kenya and India, that targeted instruction in basic skills for the lowest-performing students can lead to significant gains in learning. Capitalizing on these findings provides a key strategy for moving closer to Ghana's early grade reading goal of 80 percent literacy by 2017.

Secondary school graduates with limited training can be effectively used to improve children's literacy and numeracy, when they are present to teach and are given the right tools to target their lessons. Using existing service schemes that provide youth employment opportunities, such as Ghana's Community Education Training Assistants programme, to provide targeted instruction has the potential maximize the government's return on its investment by significantly increasing student learning. By building on existing programs, targeted lessons for low-performing students could be achieved relatively inexpensively.

Targeted lessons for low-performing students could have even greater impacts if children's exposure to the programme is increased. This could be achieved by allowing schools to determine the timing of the remedial lesson depending on their circumstances to maximize the likelihood that it will take place, and by creating more effective monitoring mechanisms or better incentives for TCAs to attend work.

Teacher-led remedial instruction is unlikely to be effective in the short term unless there are systematic changes in teacher and supervisor incentives or classroom structure. Grouping children from across lower primary classes by ability to receive literacy and numeracy instruction could provide an opportunity for targeted instruction, but the TCAI evaluation revealed that teachers did not change their instructional practices to make this approach effective.



Photos by Aude Guerrucci

For further reading:

Innovations for Poverty Action, 2014. Implementation Lessons: The Teacher Community Assistant Initiative (TCAI).
Innovations for Poverty Action, 2014. Cost-Effectiveness Report: The Teacher Community Assistant Initiative (TCAI).

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Key Partners

The Children's Investment Fund Foundation, Ghana Education Service, National Youth Employment Program, Ghana National Association of Teachers, Innovations for Poverty Action

