

IMPROVE THE QUALITY OF EDUCATION: The Case of the Teacher Community Assistance Initiative in Ghana

Mona Niina Idrissu



Case Study
N° 1

SYNOPSIS

School enrollment levels in many developing countries have improved in recent years however there has not been a similar rise in learning level. This case study analyzes a scheme piloted by the Government of Ghana through its educational arm, the Ghana Education Service, in partnership with the National Youth Employment Scheme. It mobilises unemployed high school graduates as teaching assistants to help improve teaching and learning in primary school especially in rural and deprived communities. The 2-year pilot project included four different components: (1) community assistants provide remedial instruction to low-performing children during or after school (2), community assistants share classes with normal teachers to reduce class sizes (3), teachers split classes by ability and provide targeted instruction for one hour each day (4). Principal teachers are trained to identify and provide targeted lessons to smaller groups of pupils based on ability levels. Despite some implementation challenges, such as reduced attendance by TCAs, results from evaluation conducted by Innovations for Poverty Action (IPA) revealed that the TCAI initiative was very effective and cost-effective in improving learning levels amongst primary school pupils.

Introduction¹

Ghana has chalked some significant successes in recent times in improving the enrollment rates in primary schools to 95% Gross Enrollment Rate and 80% Net Enrollment Rate in 2009, especially with the introduction of the free primary education, which has helped boost the enrolment rates of students from poorer backgrounds (NEA, 2009). However, there has not been an associated improvement in the quality of education. In 2010, while gross enrollment rates in Ghana's primary schools were about 95%, the national proficiency

levels in maths and English for class three pupils was about 25% and 20% respectively (NEA 2009).

As a remedy to this issue, the Government of Ghana, through the Ghana Education Service (GES), launched the Teacher Community Assistance Initiative (TCAI) in partnership with the National Youth Employment Program (NYEP), the Ghana National Association of Teacher (GNAT), and the Innovations of Poverty Action (IPA). TCAI aimed to help students in P1, P2 and P3 across Ghana to achieve proficiency levels in English, math, and local languages. The initiative was based on a growing body of evidence especially from India and Kenya, showing that learning levels of early grade pupils can be improved not only by concentrating on

¹ This study has been prepared by Mona Niina Idrissu in anticipation of the "Youth for Results Knowledge and Training Event" (Tunis, April 2nd-4th 2014).

IMPROVE THE QUALITY OF EDUCATION

improving resource and infrastructure, but also by targeting pupils in the bottom half of the class to ensure they are not left behind. Regardless of how well trained a teacher is, it remains a considerable challenge delivering lessons that cater for the wide disparity in learning capabilities of pupils in the early grade.

In India, an initiative known as the Balsakhi program showed that learning outcomes improved significantly basic skills in reading and math when trained volunteers were engaged to deliver targeted lessons to the weakest pupils in a class (Banerjee, Cole, Duflo, and Linden 2005). Similarly in Kenya, when teachers were trained to track and deliver lessons by ability levels, students' test scores increased significantly (Duflo, Dupas and Kremer, 2008).

TCAI seeks to incorporate these research insights from India and Kenya by implementing a similar community assistants program, which was made more favorable by the fact that Ghana has an excess pool of untrained teachers from its National Youth Employment Program and from the National Service Scheme, who could be engaged to serve as volunteer teachers.

Case study

In May 2011, a random sample of 400 schools nationwide was selected to form the sample for a two-year pilot of TCAI in order to inform on what works best, before a national roll-out of the program. The main goal of TCAI was to raise, not only the learning levels of pupils who were below average in class, but also that of the average learning levels of the entire class. This was to be achieved by recruiting recently graduated Senior High School students through the National Youth Employment Scheme to serve as Teacher Community Assistants (TCAs) who would either assist the principal teacher in class or offer remedial lessons to weak pupils in grades P1 to P4. This strategy was particularly helpful in making the initiative more efficient and cost-effective, since it

tapped into Ghana's existing pool of untrained and unemployed youth who aspired to be teachers. On the side of the youth, the TCAI provided an opportunity to gain experience in the teaching profession.

Project design

The pilot project was designed around four types of components. These interventions aimed to test some prevalent hypotheses on the determinants of poor education quality such as high pupil-teacher ratios and teachers' lack of training in teaching basic skills. Each intervention consisted of a random selection of 100 schools across 42 districts in all the 10 regions in Ghana.

The interventions are detailed below:

- Intervention 1: Trained TCAs would pull out and offer remedial classes for the weakest students in each class for about 2 hours a day during school hours. The lessons would be in basic math and reading and delivered in both English and in the local language. The pupils who would participate in the remedial class were identified by the use of simple standardized assessments developed by experts from the Ghana Education Service.
- Intervention 2: This is similar to intervention 1, except that remedial classes were held after school hours. Together with Intervention 1, this allowed for observations into the best time to provide remedial sessions to pupils.
- Intervention 3: Here, the principal teacher and the TCA randomly split the class into even halves with the TCA and the teacher switching sections each day. With this intervention pupils were neither grouped based on initial ability levels nor offered any remedial classes. This was to find out if reducing the class size alone could increase the learning levels of pupils.
- Intervention 4: Principal teachers are trained to identify and provide targeted lessons to smaller groups of pupils based on ability levels. Hence no TCA was engaged. This was to test

KNOWLEDGE SERIES

whether learning problems could be solved by improving the quality of teaching of the regular teachers.

Recruitment of the teacher community assistants

A nation-wide recruitment exercise in all the 10 regions was held, to hire TCAs. The process was championed by the NYEP. As part of its commitment to the TCAI program, the NYEP had committed to funding the salaries of TCAs. Hence technically a TCA was employed by the NYEP and simply seconded to a selected school. It is important to note that designing the program this way was key to ensuring its sustainability and reflected the ability of the program to make use of the existing pool of talents. Hence TCAI served to complement the National Youth Employment Scheme rather than an add-on.

To qualify as a TCA, the graduates should have passed in three core subjects, English, math, and science and should have successfully gone through an interview organised by the NYEP and the GES. In addition, candidates were shortlisted based on their affiliation to the communities where the TCAI schools are located and recommendation from the beneficiary communities. This helped to foster community ownership, engagement and participation in the initiative.

Training of the teacher community assistants

It was essential to the success of the TCAI to be able to equip TCAs and principal teachers with the right training and resources to effectively carry out the various interventions they would be assigned to. Resources included developing teaching aids and the right teaching methodology.

The first step in the training process was to train and sensitize GES Circuit Supervisors (CS) for all the 42 districts. The CS in turn were expected to serve as master trainers for the TCA trainings and also to sensitize the TCAI school communities about the initiative. The training equipped the CS with the needed skills and information to serve as focal persons for TCAI in their respective districts and communities.

The next step was the training of the TCAs. In May 2011, six-day training was held in four different zones across the country for TCAs, principal teachers and head teachers. Components of the trainings included how to effectively use the teaching materials provided, instructions in rapid testing methods to identify the ability levels of pupils, classroom management as well as how to engage effectively with kids. Teaching materials used included games and songs. The pedagogy was adapted from the Indian education non-governmental organization Pratham, in partnership with a local organization, School for Life.

In addition to this initial training, TCA's and principal teachers received periodic refresher training at the district level. These trainings were more focused on particular challenges that may have been observed during the course of implementation. Over the course of the 2-year project period, TCAs received a total of about 15 days of training.

Also, sensitization activities were held in the TCAI school communities with School Management Committees (SMC) and the Parent Teacher Associations (PTA). It was essential for parents and community opinion leaders to understand the program in order to enhance its implementation. As highlighted in the section below, the SMCs and PTAs were to play a key role in monitoring the attendance of the TCAs.

TCAI monitoring

Engaging the various stakeholders

Monitoring of the TCAs had two main goals: to ensure that the assistants attend classes and teach the assigned children. The monitoring was necessary to minimize perverse incentives such as principal teachers not attending or skipping classes due to the presence of the TCAs.

As a multi-stakeholder initiative, it was necessary to fully outline and engage all the implementation partners in the monitoring process. On the part of the GES, circuit supervisors and head teachers, in

addition to their usual monitoring of teacher attendance were to supervise the attendance of TCAs as well. Some circuit supervisors were very effective in monitoring and visited schools at least once per term. They spent averagely an hour in their visits to the schools and monitored particularly the use of teaching and learning materials and TCAs adherence to the TCAI pedagogy. They also checked the regularity of TCAs in the schools.

The GNAT and the NYEP designate individuals in the various districts to serve as monitors. On the side of IPA, regional coordinators (RC) were employed who were in charge of paying regular visits to the schools in their zones. During these visits the RCs would observe TCAs teaching, offer guidance and correction on basic methodology and on other problems confronting TCAs.

Another stakeholder body that played a vital role for monitoring the TCAI project was the School Management Committees (SMCs) and Parent Teacher Associations (PTAs) in the various TCAI schools. Results from Kenya had shown that involving SMCs in monitoring and giving them the mandate to renew the teacher's contract after a year had made hiring community teachers more effective on children learning (Innovations for Poverty Action, 2010). SMCs were to designate at least two persons living close to the school to serve as monitors.

Monitoring tools and reporting systems

Simple forms were developed to be used by each individual involved in the monitoring process based on their observations. These forms recorded certain data points such as TCA and teacher attendance. Mobile phones with these forms pre-programmed into them were distributed to head teachers of the various TCAI schools. Some reports such as the SMC TCA Attendance Reports and Head Teachers Attendance Registers were to be completed daily. These were to be texted daily to allow the TCAI

management team to have access to immediate feedback on the performance of the program.

Another monitoring tool that was used is the midline survey. This consisted in surprise visits made to TCAI schools. In addition to serving as a tool to monitor compliances, the midlines provided information on factors that could affect the results of the program. These factors include attendance of children, teachers and TCAs, teaching methods, and the application of the program design and methodology. The results of the midlines greatly aided the achievement of outcomes of the TCAI program discussed below.

Implementation challenges

As a pilot of a national program, TCAI faced several implementation challenges that affected the program's impact on pupil learning levels.

To begin with, in some districts, RC reports indicate that the NYEP coordinators hand-picked TCAs who were not from the communities where the TCAI schools were located and did not meet the selection criteria or were not recommended by the schools SMC. In other places, TCAs were hand-picked by community members, assemblymen, GES staff and head teachers without taking into consideration the qualifications of the TCAs. This resulted in the selection of poor quality and uncommitted TCAs in certain schools (Innovations for Poverty Action, 2013).

Secondly, TCAI's proposed monitoring plan was not implemented as anticipated. GNAT and NYEP officials rarely visited the TCAI schools. This was attributed to delays in the release of resources by the national office to conduct this exercise. Also the SMC participation was high at the beginning of the program but died down as time went on. SMC's visited only 20 percent of the schools. This was similar to the head teacher monitoring, which had dropped to about 30 percent by November 2011, (Innovations for Poverty Action, 2012). Consistent monitoring was however done by the RCs from IPA, who were able to visit each school at least once in a

KNOWLEDGE SERIES

school term. In addition, the mobile phone monitoring was ineffective for some schools for reasons such as the lack of network coverage in some TCAI schools, the use of the mobile phone by some HTs for personal calls, the inability of some HTs and CSs to use the mobile phone for the monitoring.

Furthermore, the attendance of the TCAs, while higher than that of teachers, was fairly low. During the first term that the program was run, only 79 percent of TCAs were present at the time of the survey visit (Innovations for Poverty Action, 2012). Over time, attendance rates decreased, probably because the payment of TCA stipends was also quite delayed, with the first installment coming six months after the program roll-out. The attendance rates of TCAs hovered around 80% for all regions with the exceptions of Volta, Northern, and Upper West, where attendance was substantially lower (Innovations for Poverty Action, 2011).

Also, when the TCAs were in school, they were not necessarily teaching the remedial class (sometimes because it was not the assigned time, but often for other reasons). Especially for the in-school remedial classes, TCAs spent less time-on-task although they were present in the school more often. TCAs were usually observed taking up other tasks in the school such as teaching other classes instead of conducting remedial classes.

Overall the interventions seem to have been implemented according to their design, but politicization of recruitment, breakdowns in the monitoring system, TCA absenteeism, and low assignment to remedial sections may have impacted the results of the program.

Outcomes and overall assessment

Impact evaluation and research design

Based on the evaluations of the Indian and Kenyan program, policymakers had strong convictions about the benefits of the program. However, this was the first time this program was being

implemented directly by public sector institutions. Given the context, the dimension and magnitude of the impact was varied. Also, as mentioned before, the evaluation was conducted to give insights on the effectiveness of the different interventions including identification of the intervention that is most cost-effective in improving learning levels and therefore to advise the government in the process of a national scale-up. Also knowledge gained from the evaluation was intended to inform neighboring countries as well.

Randomized Controlled Trials (RCTs) have proven to be one of the most effective ways to address research gaps and to provide evidence on what works best, especially for the poor. An added advantage is that RCTs allow for performing clear and unbiased cost-effectiveness comparisons of various components of a program, and to answer the question: —in order to achieve a specific goal, “what program is the most cost-effective?” (Innovations for Poverty Action, 2010). This is usually done by providing a counterfactual, a group similar to the sample intervention that, in the absence of the intervention program, would have had similar outcomes as the group exposed to the program, the treatment group. The counterfactual provides a picture of what outcomes would look like in the absence of the program for the given period of time. A point to note about the TCAI RCT was its sample size, which consisted of 42,000 children. Results in RCT have proven to be more valid when the sample size is larger (Glennerster and Takavarasha 2013). The TCAI evaluation was handled by a research team from IPA with the lead investigators being Annie Duflo and Jessica Kiessel.

Evaluation design

In addition to the randomly selected 400 schools, of which 100 were assigned to each of the 4 interventions, 100 schools nationwide were randomly selected to serve as the counterfactual group who would not receive any form of intervention. Balance checks were done to ensure that there were no significant demographic or school-quality differences between the

counterfactual group and the intervention groups. This way, effects measured during and at the end of the study can be attributed to the program. At the school level, a maximum of 25 pupils from each grade (P1 – P3) were randomly selected using the class register to constitute the evaluation sample. Equal numbers of male and female were selected.

Baseline surveys

Before the implementation of the program, a baseline survey was conducted to ascertain the learning levels of the chosen sample of 42,000 pupils from P1 to P3. This gave a picture of the average leaning levels of pupils before receiving any intervention. The tools used for testing were individually-administered oral tests in English, math, and the local language (determined by the official language chosen by the National Literacy Acceleration Programme, NALAP). These tests were developed by experts from the GES and covered the critical objectives of the P1 to P3 syllabus.

End-line surveys

Two end-line surveys were conducted: one in November/December 2011 and the other in June/July 2013, when the program came to an end. The same pupils who had been tested during the baseline survey were re-tested in addition to newly sampled P1 pupils using the oral assessment components of the baseline in addition to a new component: a grade-wise written test, developed by GES. By the second end-line survey, P2 and P3 pupils had been exposed to two full academic years of interventions, while P1 pupils were exposed to between one and three semesters. A sample of P4 students were also tested, although they had exited the program for about a year by then, to test the persistence of the program.

It should be stressed that the sample tested in each class was randomly selected and their performance followed through the two-year period and hence may or may not have received any treatment. Especially for the remedial interventions, a pupil selected for testing may not have belonged to the remedial class at any point in time or may have

moved in and out of the remedial class (depending on if they felt in the bottom half) during the lifespan of the TCAI. Hence the results of the baseline and end-line tests, providing learning levels for individual pupils, were representative of the average learning levels of a class.

The TCAI results

Of the four interventions, TCAs remedial instruction in-school and after-school, targeted to the lowest performing pupils (Interventions 1 and 2), had the largest impact on pupil's achievement. Children's basic skills in numeracy and literacy had significantly improved on average. Among students in P3, average test scores improved by 0.14 standard deviations, with a likely higher impact on students who participated to the remedial classes (Innovations for Poverty Action, 2014a). Although P4 students had been out of the program for a year by the second end-line survey, they experienced similar impacts, indicating that the effects persist even after children have stopped remedial lessons.

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 and 0.15 standard deviations for English, and test scores for computations increased by 0.13 standard deviations (Innovations for Poverty Action, 2014a).

Cost-effectiveness: providing targeted instruction to the lowest-performing pupils through TCAs (Interventions 1 and 2) is more cost-effective than either smaller-group instruction (Intervention 3) or targeted lessons alone (Intervention 4). Although it is slightly cheaper to provide either small group instruction through normal curriculum TCAs or targeted lessons through classroom teachers, these interventions do not improve test scores as much as the combination of targeted instruction for low-performing students and community assistants (Innovations for Poverty Action, 2014b).

Pupils were not the only ones who benefited from TCAI. Reports by Regional Coordinators indicate

KNOWLEDGE SERIES

that the TCAI program spiked TCAs interests in teaching. For instance for the three Northern Regions, amongst the poorest regions in Ghana, about 45% of TCAs now pursue further studies in the Untrained Teachers Diploma Basic Education Program (UTDBEP), in nursing, and in Higher National Diplomas (Innovations for Poverty Action, 2013).

The teaching and learning materials developed for the TCAI program have become popular amongst regular teachers with some schools adopting these as supplementary teaching aids to support their regular syllabi (Innovations for Poverty Action, 2013).

Conclusions and policy implications

Despite some implementation challenges, such as poor monitoring and a drop in TCA attendance, the TCAI program has shown that recruiting minimally trained assistant teachers to offer remedial classes either in-school or after school proves to be both an effective and cost-effective way of improving learning levels amongst primary school pupils. The program also highlighted the impact of reducing class sizes alone or improving teaching quality, which turned out to be less effective than the above remedial classes.

A key lesson highlighted by TCAI is the potential benefit that a nation seeks to obtain when governments carefully design and adopt programs/policies to tackle a problem, drawing from existing 'youthful' resources (in this case unemployed high school graduates). TCAI is also an example of how the youth can be effectively engaged in contributing to national development and at the same time benefitting in terms of career development.

In sum, some policy implications from TCAI include:

Focusing the attention on basic skills with the lowest-level learners can improve literacy and numeracy more cost-effectively than other approaches. These results from Ghana add up to

that of India and Kenya in providing evidence in support of this. Capitalizing on these findings provides a key strategy for moving closer to Ghana's early grade reading goal of 80% literacy by 2017.

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

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.

References

- Banerjee, Abhijit, Shawn Cole, Esther Duflo, and Leigh Linden. 2005. *Remedying Education: Evidence from Two Field Experiments in India*. Department of Economics, MIT.
- Duflo, Esther, Pascaline Dupas and Michael Kremer. 2008. "Peer Effects and the Impact of Tracking: Evidence from a Randomized Evaluation in Kenya."
- Glennerster, Rachel and Takavarasha, Kudzai, 2013. "Running Randomized Evaluation; A practical guide. Princeton University Press.
- Innovations for Poverty Action, 2010. "A Collaboration between Ghana Education Service and Ghana National Association of Teachers: teacher community assistant initiative to improve quality".
- Innovations for Poverty Action. 2011 "Teacher Community Assistant Initiative: Midline 1 Report".
- Innovations for Poverty Action, 2012. "Teacher Community Assistant Initiative: Endline 1 Report."

IMPROVE THE QUALITY OF EDUCATION

Innovations for Poverty Action, 2013. "Teacher Community Assistant Initiative: Northern Zone Regional Coordinator Report".

Innovations for Poverty Action, 2014a. "Final Results: The Teacher Community Assistant Initiative (TCAI)".

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



This knowledge series is intended to summarize good practices and key policy findings on managing for development results. The views expressed in the notes are those of the authors. Notes are widely disseminated and are available on the website of the Africa for Results initiative (AfriK4R), at: www.afrik4r.org/page/resources