

# Evidence in Education

## Innovations for Poverty Action: Ghana



### Key Policy Takeaways from IPA Education Research

- 1. Reorienting teaching to the level of the student, rather than the expectations of the curriculum, has been shown to consistently improve learning outcomes in different countries, including Ghana.**

Ongoing research in Ghana is investigating if stronger management support increases teacher compliance with these targeted instruction programs, which will inform how the approach can be effectively scaled in Ghana and beyond.

- 2. A training program for KG teachers, which focuses on key principles of early childhood education and provides on-going mentorship and support, can improve classroom quality,**

**instruction, and teachers' knowledge of the national pre-primary curriculum.** The program, Quality Preschool for Ghana, also improved children's school readiness. More research is needed on how best to scale the programs with promising results, especially in rural areas.

- 3. School fees (rather than the opportunity cost of being in school) are a major barrier to educational attainment for youth, according to one study.** Removing that barrier produced large gains in educational attainment, skills, knowledge, and preventative health behaviors. Women also delayed childbirth and marriage relative to their peers who were not offered scholarships.

### Bringing Evidence to Policy: Targeted Instruction

Since 2010, IPA has partnered with the Ghana Education Service to develop scalable ways to improve the quality of education in Ghana, using evidence to inform program design and testing solutions at scale. The results from an evaluation of a targeted instruction program, TCAI (see details below), reaffirmed results from studies elsewhere—that targeted instruction is an effective approach to improve child learning. However, that study also raised implementation questions about how the program can be more effective and cost-effective at a nationwide scale.

This partnership continues through the Strengthening Teacher Accountability to Reach All Students (STARS) project (see below), in which researchers with support from UNICEF and the World Bank have partnered with GES, The National Teaching Council (NTC), The National Council for Curriculum and Assessment (NaCCA), The National Inspectorate Board (NIB), to evaluate whether additional support from head teachers and circuit supervisors can increase the likelihood that teachers implement targeted instruction in their classrooms. The results will help inform Ghana's Ministry of Education on whether teacher-led targeted instruction can be replicated at scale in schools in Ghana.

# Evidence in Education in Ghana: All IPA Projects

## *Education Evaluations with Results*

### **Quality Preschool for Ghana: The Impacts of Teacher Training and Parental Education on Kindergarten Quality in Ghana**

*An in-service training program for pre-primary teachers improved instruction and children's school readiness, while a parental education program appeared to counteract some of these positive effects.*

**Timeline:** 2015-2018

**Researchers:** Sharon Wolf, University of Pennsylvania; J. Lawrence Aber, New York University; Jere R. Behrman, University of Pennsylvania

**Partners:** Ghana Education Service, National Nursery Teachers Training Centre

Many students arrive at primary school already behind, experiencing a lack of skills that may compromise their long-term learning and wellbeing. One way to address this issue is through high quality pre-primary education. In the Greater Accra Region, Ghana, where enrollment in pre-primary education is high, researchers evaluated the impact of an affordable, in-service kindergarten teacher training. Results thus far have shown that the training improved the quality

of pre-primary teachers' instruction and classroom quality, and improved children's "school readiness" skills. Researchers also tested the additional impact of a parent training component administered through schools. This program did not add value to the teacher-training program, and appeared to have negative effects on some aspects of teaching quality and child outcomes.

### **The Impact of the Fast Track Transformational Teacher Training Program in Ghana**

*Mentoring and experiential learning for early education student teachers improved implementation and knowledge of the curriculum, but these improvements did not translate into improved teaching quality or learning outcomes.*

**Timeline:** 2016-2017

**Researchers:** Sharon Wolf, University of Pennsylvania

**Partners:** Ghana Education Service, Sabre Trust

Although enrollment and access to education has increased across sub-Saharan Africa, student learning remains low. Educators and policymakers want to strengthen teacher training in order to improve student learning, but evidence is lacking about what makes teacher training most effective, especially in early childhood education. Researchers worked with Innovations for Poverty Action, Sabre Trust, and Ghana Education Service in Ghana's Western region to evaluate

a mentoring and pre-service training program for student teachers learning to teach kindergarten. Results indicate that the program significantly improved student teachers' implementation and knowledge of the national kindergarten curriculum. However, in the first year of posting as newly qualified teachers, these changes did not translate into improved teaching quality or impacts on child learning outcomes.

### **The Impact of Satellite-Transmitted Classes on Learning in Rural Ghana**

*After-school satellite-transmitted classes improved primary students' numeracy and pre-reading literacy skills.*

**Timeline:** 2013-2016

**Researchers:** Jamie Johnston, Stanford University; Christopher Ksoll, Mathematica

**Partner:** Varkey Foundation

Recent efforts to increase primary school education enrollment in developing countries have been extremely successful, yet major challenges persist in improving educational outcomes. In rural areas, this challenge is even more severe, as remote communities struggle to attract and retain professionally trained teachers. This study assessed

the impact of a program that aims to improve student learning for marginalized pupils in rural Ghana through an interactive distance learning model. The study found that the transmitting distance instruction via satellite into daily school lessons significantly improved primary students' numeracy and pre-reading literacy skills.



## Returns to Secondary Schooling in Ghana

*Cost was a key barrier to secondary school enrollment among middle school graduates in Ghana, and full scholarships increased young people's educational attainment, knowledge, skills, and preventative health behaviors. For women, secondary schooling also delayed marriage and pregnancy.*

**Timeline:** 2008-2020

**Researchers:** Esther Duflo, Massachusetts Institute of Technology; Pascaline Dupas, Stanford University; Michael Kremer, Harvard University

**Partner:** Ghana Education Service

Primary school enrollment has risen in Sub-Saharan Africa over the past two decades, but secondary school enrollment rates remain relatively low. In this ongoing study in Ghana, researchers are evaluating the effect of secondary school scholarships on educational attainment and cognitive skills in the short run, and on life outcomes in the longer run, from employment and health outcomes to civic participation and attitudes. Results thus far showed that cost was a key barrier to secondary school enrollment among middle school

graduates, and full scholarships increased young people's educational attainment, knowledge, skills, and preventative health behaviors. For women, secondary schooling also delayed marriage and pregnancy. Scholarship winners who enrolled in academic tracks were more likely to enroll in tertiary education, and winners who enrolled in vocational tracks had higher earnings than non-winners. Researchers will continue to track participants to 2020 and beyond.

## Guidance and Information for Improved Secondary School Decisions in Ghana

*Informing students and parents about the secondary school changed students' priorities and application decisions, but likely did not improve their enrolment or attendance.*

**Timeline:** 2016-2018

**Researchers:** Kehinde F. Ajayi, Boston University; Willa Friedman, University of Houston; Adrienne M. Lucas, Lerner College of Business and Economics, University of Delaware

**Partner:** Ghana Education Service

Although attending and completing a high quality secondary school program can propel students towards greater success in adulthood, many students do not enroll in secondary school. Further, some of those who do enroll either drop out or attend low quality secondary schools, even when they qualify for higher performing options. Researchers in Ghana are evaluating whether a program informing students and parents about the secondary school choice process

helps students make more strategic decisions about which schools to attend, and whether these choices lead to better educational outcomes for students. Preliminary results indicate that the information changed students' priorities and application decisions, but likely did not improve their enrolment or attendance. Additional analysis will help understand why this intervention had limited effects.

## Evaluating Targeted Instruction in Ghana: The Teacher Community Assistant Initiative

*Targeted instruction improved student achievement on average, with regional variations.*

**Timeline:** 2010-2013

**Researchers:** Annie Duflo, Jessica Kiessel, Adrienne Lucas

**Partners:** Ghana Education Service, Ghana National Association of Teachers, National Youth Employment Program

Studies in India and Kenya found 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 IPA, developed and evaluated the Teacher Community Assistant Initiative (TCAI). Under this initiative, teachers and community assistants received training in how to teach to the learning level of their pupils. Researchers tested several variations of the program

(in-school, after-school; teacher-led, assistant-led). They found improvements in numeracy and literacy on average, with regional variations (which appeared to be correlated with variations in implementation quality). Of four interventions, in-school and after-school remedial lessons delivered by Teacher Community Assistants had the largest impact on pupil achievement; compliance with the program was lower among classroom teachers than with the assistants.

## The Effects of a Play-Based Preschool Learning Program in Rural Ghana

*A low-cost, play-based learning program improved children's cognitive and socio-emotional development.*

**Timeline:** 2017-2018

**Researchers:** Orazio Attanasio, University College London; Sonya Krutikova, Institute for Fiscal Studies

**Partner:** Lively Minds

As in many other developing countries, children under the age of five in rural Ghana often fail to reach their developmental potential. Researchers partnered with the Institute for Fiscal Studies and the organization Lively Minds to evaluate the impact of a low-cost, play-based

learning program on early childhood cognitive development. Preliminary results suggest that the Lively Minds program is an effective and potentially scalable way to improve children's cognitive and socio-emotional development, health, and school readiness.

## Returns to Apprenticeship Training in Ghana

A government program placing young people in traditional apprenticeships and matching them with training providers shifted youth out of wage work and into self-employment, but on average earnings were lower in the short run. However, apprentices training with the most experienced trainers or most profitable firms had higher earnings.

**Timeline:** 2012-2017

**Researchers:** Morgan Hardy, Brown University; Isaac Mbiti, University of Virginia; Jamie McCasland, University of British Columbia

**Partner:** Council for Technical and Vocational Education and Training (COTVET)

Youth unemployment and underemployment are pressing policy challenges in Sub-Saharan Africa and job-training programs have not proven to be effective (or cost-effective) at improving youth labor market outcomes. In Ghana, researchers conducted a randomized evaluation to estimate the impact of a government program that placed young people in traditional apprenticeships and matched them with

training providers. The study found that apprenticeships shifted youth out of wage work and into self-employment, but on average their earnings were lower in the short run. However, apprentices who trained with the most experienced trainers or the most profitable firms had higher earnings, suggesting that training programs can be made more effective through better recruitment of trainers.

## Ongoing Education Research – Awaiting Results

### The Impact of Parental Education on Child Health and Cognitive Development in Ghana

**Timeline:** 2017-2021

**Researchers:** Esther Duflo, Massachusetts Institute of Technology; Pascaline Dupas, Stanford University; Elizabeth Spelke, Harvard University; Mark Walsh, Stanford University

**Partner:** Ghana Education Service

Around the world, studies show that children's health and cognitive development tend to be higher when parents have more education. However, it is unclear whether education itself causes improved child health, or if other factors account for this relationship. In Ghana, researchers are building

on the ongoing Returns to Secondary Schooling study to evaluate the causal impact of parental education on child health and cognitive development, and to identify the specific channels through which increased parental education might improve child health.

### The Importance of Management Support for Teacher-Led Targeted Instruction in Ghana

**Timeline:** 2018-2019

**Researchers:** Adrienne Lucas, University of Delaware; Sabrin Beg, University of Delaware; Anne Fitzpatrick, University of Massachusetts, Boston

**Partners:** Ghana Education Service, The National Council for Curriculum and Assessment, The National Teaching Council, The National Inspectorate Board, UNICEF and World Bank

This research builds on results from the Teacher Community Assistant Initiative (TCAI), described above, which found that targeted instruction improved children's basic skills in numeracy and literacy, but that implementation was uneven and compliance with the program was low among classroom teachers. This new study evaluates whether

additional managerial support from head teachers and circuit supervisors can increase the likelihood that teachers implement targeted instruction in their classrooms. The results will help inform Ghana's Ministry of Education on how teacher-led targeted instruction can be replicated at scale in Ghana.

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## Innovations for Poverty Action—Ghana

HN8 Saflo Street, Abelemkpe, Accra, Ghana  
+233 030-279-0372 | [info-ghana@poverty-action.org](mailto:info-ghana@poverty-action.org)  
[www.poverty-action.org/ghana](http://www.poverty-action.org/ghana)

