

Randomized evaluation of markets for impact in the Ghana and Sierra Leone basic education sectors

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Motivation

- Governments in low and high-income settings are grappling with how to deliver public services effectively within increasingly tight budgets.
- Outcomes-based financing has been touted as a possible answer.
 - A form of contracting out—private actors brought into the delivery chain (see Crawford et al., 2024, for a recent review).
 - The key feature is that these private actors are paid for public service outcomes achieved (against pre-defined targets) rather than activities undertaken.
 - This form of contracting creates different incentives to common PPPs (Barrera-Osorio et al., 2022; Romero et al., 2020, e.g.); grantees have flexibility, can innovate over time.
- Typical form is an impact bond. Upfront funding from a social impact investor.
- Growing: 320 impact bonds, with over \$860m raised (FitzGerald et al., 2026).

Motivation cont.

Despite growing usage, there is theoretical ambiguity—and so a need for reliable empirical evidence—on whether OBF schemes can work to achieve outcomes.

+ Plausibly yes: Creates a **market for impact**. By allowing flexibility on inputs in service of incentivized outcomes, proponents claim the market will find, and contractual incentives will refine, efficient delivery of outcomes.

? But remaining uncertainty:

- Can incentives work for **downstream** outcomes (rather than for upstream inputs or outputs)? Requires sustained progress, know-how to achieve outcomes, etc.
- Is room for further **innovation and refinement** efficient if 'what works' might already be known?
- Incentives could distort and crowd-out **non-incentivized outcomes**.
- Outcome funders typically pay a **risk premium** and incur high **contracting costs for complex outcomes funding contracts**. Is it worth the cost?

What we do

We study two of the largest OBF programmes globally to date, both in the basic education sector:

- Ghana Education Outcomes Project (GEOP), 2023–26, fund size \$30m.
- Sierra Leone Education Innovation Challenge (SLEIC), 2022–25, fund size \$18m.

Together, the two programmes targeted close to 240,000 students in 1,000 schools.

Outcomes evaluated for payment via lot-level RCTs. We use these 11 RCTs to estimate impacts on outcomes and consider potential for crowd-out, mechanisms, and cost-effectiveness.

Control = no outcomes funding support. But there were other programmes running in all these schools (World Bank's GALOP in Ghana and GPE programmes in SL.)

Context: public private partnership model

- Government invited consortia (NGO + social impact investor) to bid for a contract to be the sole provider of support to basic schools in a geographic lot.
- Bidders submitted detailed documents setting out their proposed activities, a target budget, and anticipated learning impacts.
- Government chose one winning bidder per lot, [the provider](#).
- Bidding
 - SL: 12 bidders, competition in all 5 lots, five providers won one lot each.
 - Ghana: 10 bidders, competition in all except 1 lot, three providers won two lots each.

Context: Contractual outcome incentives

	Sierra Leone	Ghana
Outcome-based payments?	Yes, from Year 2	Yes, in theory , from Year 2
Incentivised grades	P1-P6	P2, P4
Payment formula	Payment = enrollment metric $\times$ learning metric $\times$ price	
Higher price for girls?	Yes	Yes
Data on outcomes collected by?	Independent firm	Government
Verification of outcomes?	Independent firm	Independent firm
Baseline learning data?	Yes	No
Paid only if gain is stat sig?	Yes	No

Interventions

Core idea in OBF is that grantees have **autonomy** to define and refine activities they implement in pursuit of achieving outcomes.

Interventions become an object of study.

Using qual interviews, we identified various activity categories across five domains:

- Teachers, e.g. training and implementing structured pedagogy, targeted instruction, etc.
- Head teachers, e.g. training on coaching and mentoring
- Districts, e.g. joint monitoring visits to schools
- Caregivers, e.g. training on supporting learning
- SMCs, e.g. training on roles & responsibilities

Variation in the reported package of activities across providers.

Data and Sample

Outcomes

- Student literacy and numeracy; independent one-to-one oral enumeration.
- Student grit and growth mindset: Grit-S (Duckworth and Quinn, 2009) and GM-C (Muradoglu et al., 2024).

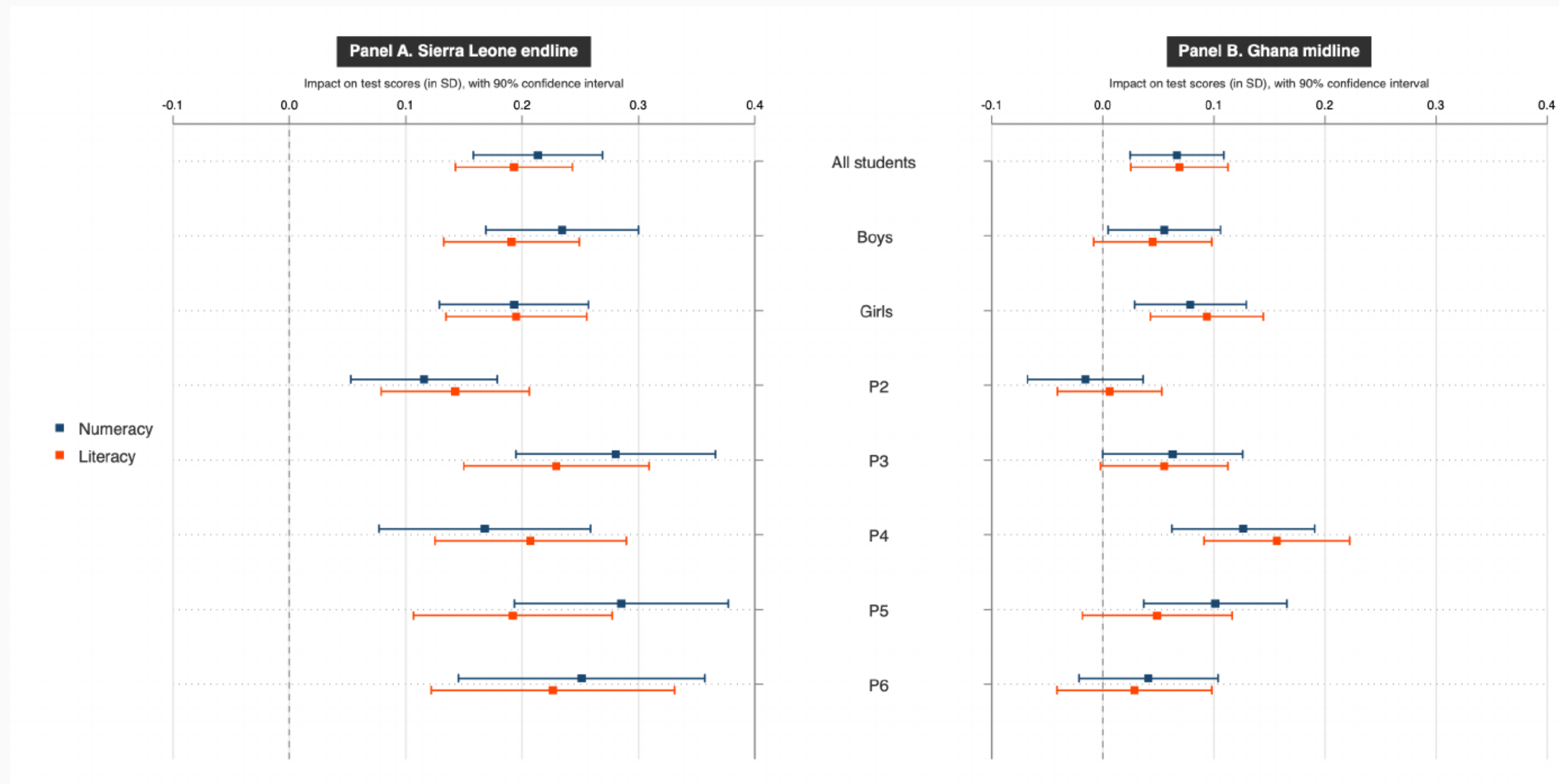
Mechanisms Rich data on practices used in schools and communities from surveys and class observations to capture variation in implementation.

Sample

- 648 (out of 650) schools in SL, 1,213 (out of 1220) schools in Ghana.
- Aimed to assess 10 students per school, one boy and one girl in each of grades P2-P6. Response rates over over 99%.
- Endline in SL; midline and endline in Ghana.
- Find overall balance per lot in balance checks.

Main Results

Positive impacts on student numeracy and literacy

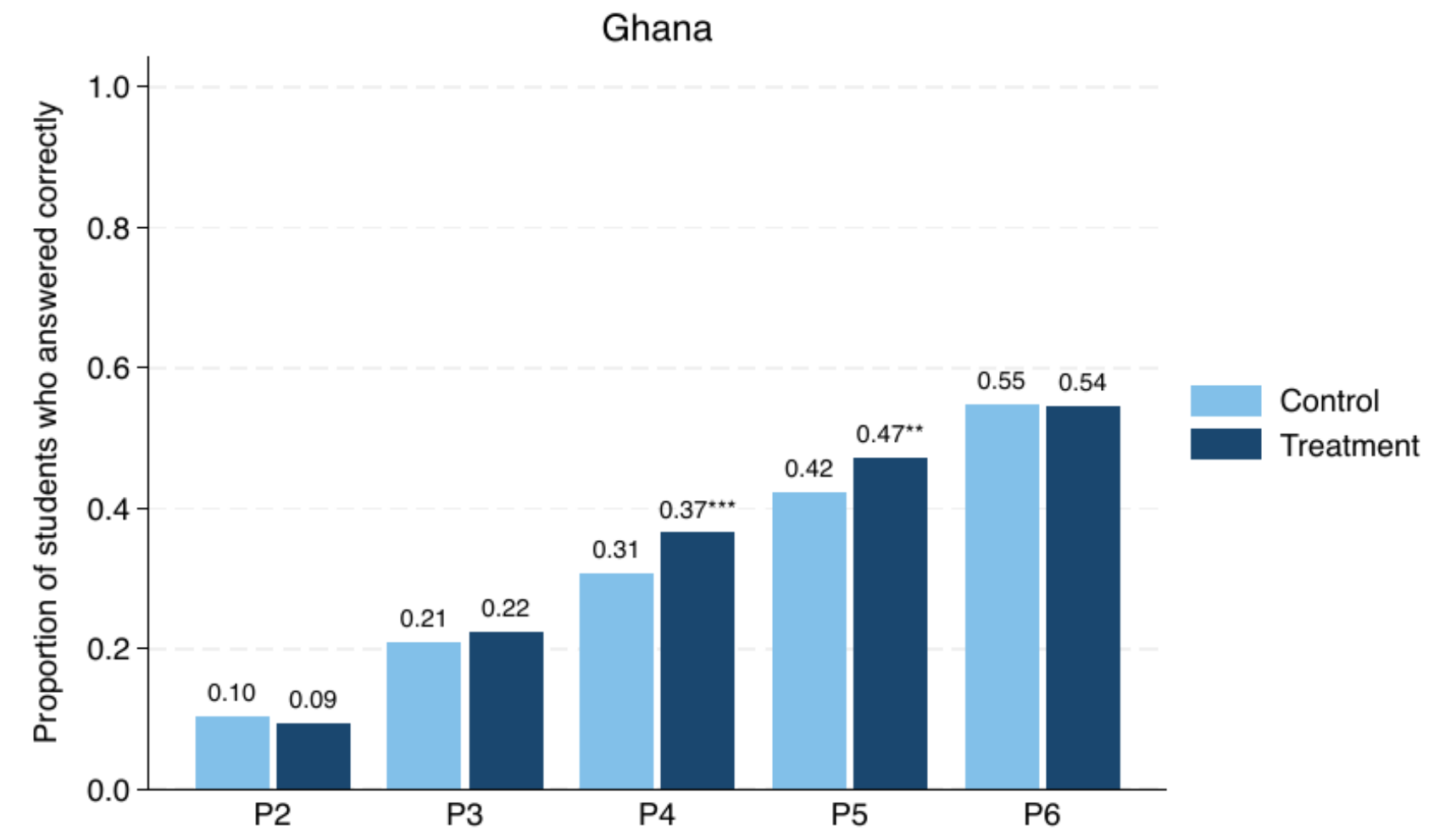
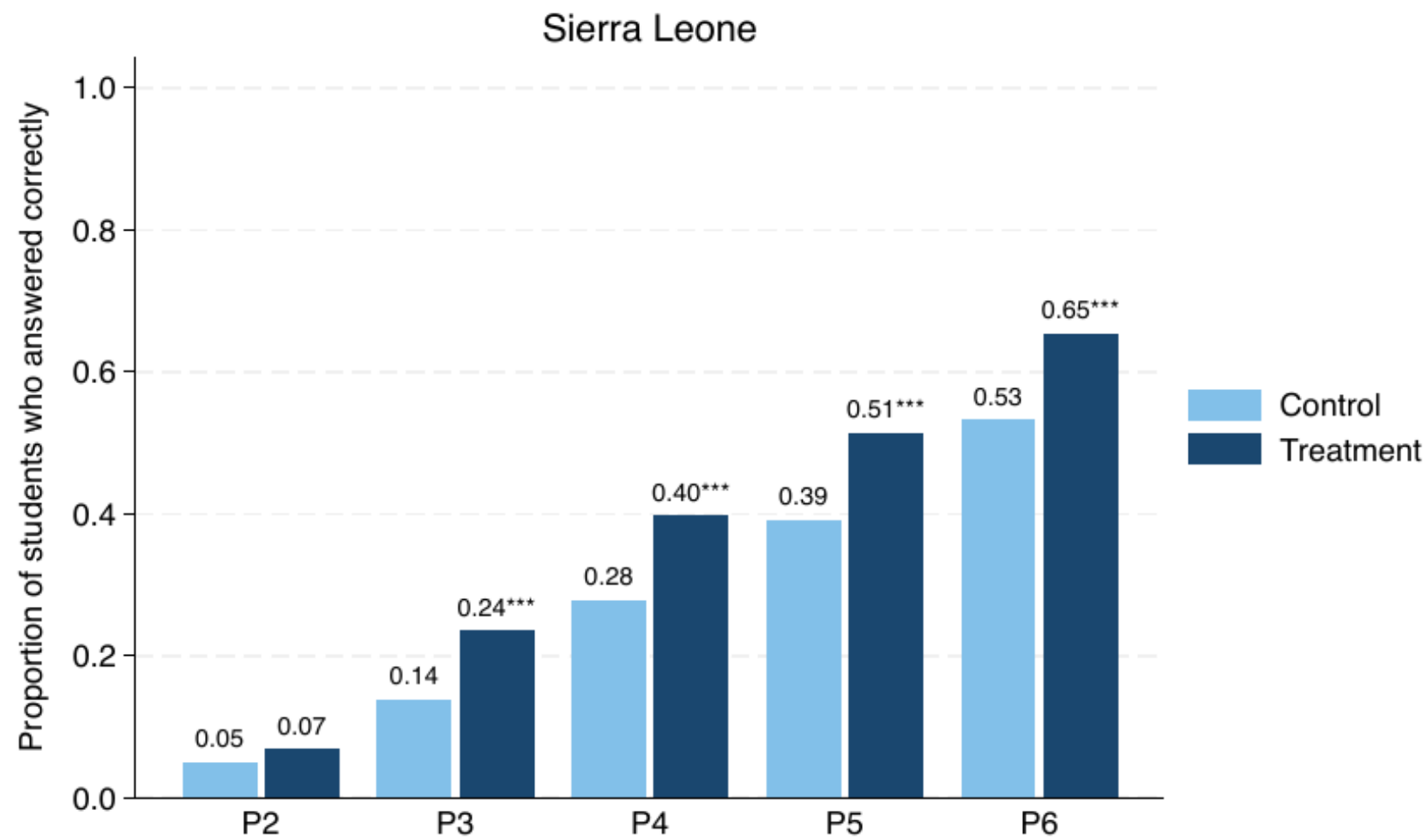


Bigger impacts in SL at endline, 0.2 SD; smaller impacts in Ghana at midline, 0.07 SD.

No detectable negative effects on grit or growth mindset – incentives did not crowd out holistic skills.

OBF increased foundational skills in most grades, especially in SL

How many students can do 2-digit addition with carryover



Mechanisms: Changing classroom practice, flexibly

- Previous plot consistent with **innovation in the classroom**: teachers shifting away from a rigid curriculum.
- Direct evidence for the mechanism in the paper (currently just for SL)
 - Biggest impacts on student learning seen in Lot 3 and 4.
 - Providers in these lots chose interventions that prioritized teacher pedagogy (SP and/or TaRL) **and achieved successful implementation, changing teacher classroom practice**.
- Providers used the flexibility inherent in OBF
 - Providers in Lot 3 and 4 chose **different signature pedagogies**.
 - Provider in Lot 1 chose a different strategy again—prioritizing working with HTs to change classroom practice—and still achieved big impacts.

Cost-effectiveness analysis, SL

Grantees in Lot 1, 3 and 4 were the most cost-effective.

	Total cost	PV impact per indiv.	Beneficiaries	Total impact	Cost per add. SD	Add. SD per \$100
Lot 1	1,656,626	0.19	30,327	5,685	291	0.34
Lot 2	1,558,206	0.08	26,514	2,224	700	0.14
Lot 3	1,715,364	0.26	27,208	7,100	241	0.41
Lot 4	1,888,580	0.25	27,154	6,762	279	0.36
Lot 5	1,958,792	0.12	28,889	3,540	553	0.18

Notes: Year of analysis (2026) costs in USD. PV of impact based on 10% discount rate.

Compared to other education interventions, ranks roughly in the middle.

But could be very politically salient, and given the flexibility afforded by OBF, cost-effectiveness at scale could be higher. Providers dropped/refined activities over time, costs fell.

Conclusion

- OBF used by governments + donors. Yet limited evidence on impacts and CEA.
- Evidence that OBF improved student learning, but varied across countries & lots.
- Mechanisms:
 - OBF produced more **effective implementation** (e.g. focus on foundational skills, adopting effective pedagogies in the classroom) and more **efficient implementation** (e.g., lower costs over time, prioritized activities)
 - Providers that produced the most learning adopted 'evidence-backed' approaches, but 'what works for whom' varied, a potential advantage of OBF flexibility over prescribed practices.
- Incentives do not appear to have produced only narrowly defined gains at the expense of other outcomes—no evidence of crowd-out on broader holistic skills.
- CEA shows **moderate cost-effectiveness**. Likely more cost-effective than business-as-usual government or multilateral spending on a rigid set of activities.



Government partners



Co-funders



Implementing partners



laterite

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Geographic lots in the GEOP

