



Cost-Effective Options for Enhancing Transition and Progression of Hard-to-Reach Populations in Basic School in Ghana: Complementary Basic Education (CBE) Model and Formal Education System

Policy Brief

Summary

While Ghana has made much progress in improving access to education for all, the phenomenon of out-of-school children (OOSC) remains a major policy concern. In fact, the 2021 UIS (UNESCO Institute of Statistics) report on OOSC indicates that about 265,188 children of primary school age (155,175 males and 110,013 females) are still out of school, the majority of whom live in rural areas. Rural children are vulnerable to exclusion due to a range of reasons, including poverty, conflict, lack of resources, among others. Most especially, rural students face challenges with the quality of education they receive. Indeed, kids in most rural schools face shortage of learning materials, many receive an education in a language they do not understand, their teachers are often not from their communities and are unable to engage deeply in the process of learning. Moreover, rural schools are usually overcrowded, water and sanitation facilities are inadequate and many schools are still distant from the communities. Overall, the poor quality of rural education may have resulted in the low primary school retention and completion rates, high rates of dropout and extremely low literacy and numeracy outcomes in these areas. Furthermore, very few children

living in rural areas can access secondary schools, and children with disabilities and low achieving adolescent girls being particularly disadvantaged.

“Overall, the poor quality of rural education may have resulted in the low primary school retention and completion rates, high rates of dropout and extremely low literacy and numeracy outcomes in these areas”.

The evidence over the last 30 years suggest that traditional education models hold little promise for achieving universal and equitable access to quality basic education, particularly in hard-to-reach extreme poverty zones (UNESCO, 2018). Increasingly, alternative education models which focus on community approaches, local language of instruction, use of local facilitators, and alternative educational schedules, have proven to be extremely effective at engaging children in meaningful education and improving learning outcomes. Some of these alternative educational models provide an accelerated learning so that older children can learn foundational skills in a shorter time frame. In addition, alternative education can sometimes

complement formal schooling by providing strong links with the public education so that children can continue learning beyond the specific programme. Most alternative education models aim to provide access to education for disadvantaged, over-age, out-of-school children and youth. This may include those who missed out on, or had their education interrupted by poverty, marginalisation, conflict, and crisis (AEWG, 2020).

The key question that this policy brief aims to answer is whether a particular form of alternative education, namely complementary education with accelerated learning, provides value for money in terms of reaching out-of-school children (OOSC) in rural areas of Ghana. The specific case that this brief aims to explore is that of the Complementary Basic Education (CBE), which is a government-supported AEP that is focused on getting OOSC into school, especially in communities where girls education is not always prioritised. Since its inception in 1998 with School for Life (SFL), this form of complementary education has been in operation in Ghana for over two decades.

“The key question that this policy brief aims to answer is whether a particular form of alternative education, namely complementary education with accelerated learning, provides value for money in terms of reaching out-of-school children (OOSC) in rural areas of Ghana.”

The case of the CBE programme, as it is currently known, was the result of the expansion of SFL into fifty districts in five regions with support from the UK FCDO and USAID. Different cohorts of students, including Cycle 1 (2013/2014), Cycle 2 (2014/2015), Cycle 3 (2015/2016), Cycle 4 (2016/2017) and Cycle 5 (2017/2018), have successfully completed the CBE programme. As such the CBE model

provides the opportunity to compare the value of such programmes versus the cost of formal schooling in Ghana.

The key results to highlight are:

- Current unit cost in the CBE programme is estimated at GHS 598 (US\$ 105.28) for 2019/2020, which is 21.4 per cent lower than projected unit cost of 760.8 (US\$ 133.94) for the regular system. Yet, these figures exclude the cost of teacher training in formal education.
- Progress in learning outcomes made by children during the CBE programme are substantial, particularly in foundational mother tongue literacy and numeracy.
- Once students make the transition from the CBE programme into the formal schools, children in the CBE programme achieve comparable learning outcomes to that of children in formal schools. In some cases, CBE graduates are found to be more competent and confident.
- Regarding equity, the CBE programme is considered effective in bridging the gender gap in terms of completion of the programme and successful transition into formal schools.
- In addition, a year of CBE is equivalent to 2.4 grades of formal schooling, suggesting that for every CBE transitioner, the government saves more than twice the current unit cost per student promoted to grade 3 in the formal system. This means that CBE could be twice as cost-efficient as the formal system.
- Yet, there is a cost saving potential in upscaling and transitioning CBE to government of Ghana (GOG) budget, as the cost of engaging CBE facilitators (7% of total CBE costs) is far lower than the cost of teacher deployment in the regular sector (about 91% of total education expenditure).

Motivation

Sub-Saharan African (SSA) countries are faced with stagnating competitiveness and a lack of inclusive growth mainly due to poor human capital formation. Thus, countries like Uganda, Kenya, Tanzania, Ghana, and others, have taken steps to strengthen the human capital base of their economies through Education for All (EFA) initiatives, shifting from cost-sharing models to fee-free basic education policies. However, while this has lowered the user cost of education, paving the way for large numbers of school-age children to enter basic school, there is still an educational crisis in rural and other deprived communities. In Ghana, for example, significant inequities remain in educational opportunities for children living in rural communities. Although large scale investments in public education have been made, these have not been sufficient to reach many rural students with quality and meaningful education.

Against the backdrop of the little promise held by traditional education models for delivering inclusive education, civic actors in Ghana's education innovation space (School for Life, Afrikids, Pronet, Action Aid, etc.) have experimented with Accelerated Education Programs (AEPs) to reach out-of-school children (OOSC), aged 8-14 years, in underserved regions. These are flexible, age-appropriate programmes designed to provide numeracy, literacy and life skills, in an accelerated timeframe, to school-age children who have dropped out of formal schooling or never accessed education before, to transition them to either grade 3 or 4 of formal schools. The experiences of these accelerated education models provide evidence for the Ministry of Education to consider their value at scale and their potential in raising learning in underserved communities.

The effectiveness of the CBE programme in raising learning outcomes and supporting successful transitions into public schools has

been well documented. Yet, the investment made in the CBE programme has not been large enough to provide educational opportunities to all OOSC in Ghana. This provides an opportunity to compare the value of scaling up the CBE programme so that all OOSC are supported in education relative to the scalability of the formal education into areas previously underserved. We raise the following particular question: Is it more cost-effective to enlist and build the capacity of civic actors to ensure the inclusion of hard-to-reach populations or build the government's capacity to expand public schools to underserved areas that are unattractive to teachers? It is the answer to this question which we present in this policy brief.



Figure 1 CBE students being interviewed

Data Types, Sources and Assumptions

We relied on secondary data sources to conduct the analysis, which were adopted from CROWN AGENTS' report on the cost effectiveness of Ghana's CBE programme in 2015. The data comprises input data (operational cost per student), output data (cost per graduate and cost per transitioner) and outcome data (cost per proficient graduate). The input data were computed based on audited Implementing Partner (IP) expenditure (for Cycle 1), planned IP expenditure reports (for Cycle 2) and IP budgets (for Cycles 3 and 4). CBE graduates and Transitioners data (education data) were only

available for Cycle 1 at the time the report was generated. Thus, cost performance dimensions as cost per student/transitioner/proficient graduate were only computed for Cycle 1.

Interestingly, the output indicators for Cycle 1 exceeded the targets for Cycles 2 and 3, presupposing that future attainment would be as good or even better. Following this presumption, the education data for Cycle 1 were used as benchmark to project cost performance indicators for the other cycles.

CBE Efficiency

In evaluating the technical efficiency of CBE budget output, the brief conducts input versus output analysis. From Table 1, the operational cost per student (input) has averaged GHS534 (US\$ 137.11) over the five cycles, rising from its minimum value of GHS 339 (US\$ 110.42) in 2013/14 to its maximum value of GHS 876 (US\$ 183.26) in 2017/18. On the average, the indicator has increased at an average rate of 30 per cent per Cycle, which is likely explainable in terms of domestic price inflation. But how well have the inputs been converted into outputs (as indicated by a graduate or a school transitioner)?

Average graduation and transition rates for cycle 1 stood at 92 per cent and 80 per cent, respectively, which exceeded the targets for cycles 2 and 3. The outputs appear impressive given that cost per graduate and cost per transitioner, for Cycle 1, are minimally low compared to the average value. Taking cycle 1 as the benchmark returns a cost per graduate of GHS 584 (US\$147.47) and a cost per transitioner of GHS 663 (US\$ 167.40) for cycle 3 (2015/16). For Cycles 4 and 5, the cost per graduate and cost per transitioner have risen above the average levels though the number of enrolled students has dropped from 52,050 in 2015/16 to 20,000 in 2017/18. This shows that it has become relatively more costly to graduate and transition CBE students into the formal system, perhaps, due to the macroeconomic realities of rising inflation, volatile exchange rates, among others.

Table 1: Operational Cost Per Student and Cost Per Graduate/Transitioner (Ghana Cedi Terms)

GHS	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5	Average
Cohort	2013/14	2014/15	2015/16	2016/17	2017/18	
Total Number of Students	24,582	54,377	52,050	40,000	20,000	38,202
Operational Cost Per student	339	398	537	664	876	534
Cost Per graduate	368	433	584	699	922	574
Cost Per Transitioner	418	492	663	795	1,024	651

Source: Adopted from CROWN AGENTS' Report on the Cost-Effectiveness of Complementary Basic Education in Ghana (2015)

Table 2: Operational Cost Per Student and Cost Per Graduate/Transitioner (US Dollar Terms)

US\$	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5	Average
Cohort	2013/14	2014/15	2015/16	2016/17	2017/18	
Total Number of Students	24,582	54,377	52,050	40,000	20,000	38,202
Operational Cost Per student	110.42	105.01	135.61	151.25	183.26	137.11
Cost Per graduate	119.87	114.25	147.47	159.23	192.89	
Cost Per Transitioner	136.16	129.82	167.40	181.09	214.23	

Notes: Table 2 provides the US Dollar equivalent of Operational Cost Per Student and Cost Per Graduate/Transitioner based on average cedi-to-

dollar exchange rate for the academic year (spanning September to August)

CBE Effectiveness

Again, we evaluate the CBE programme for effectiveness by looking at how well the outputs achieve results relative to the unit cost per grade advanced, cost per proficient graduate and equity considerations. As shown in Table 4, the cost per grade for Pronet, School for Life, LINK, IBIS and Afrikids is below the average cost per grade progressed of GHS 178 (US\$ 57.98) for Cycle 1. This shows that the foregoing IPs are relatively more efficient in achieving results when compared with Action Aid, Plan Ghana, and World Education. The variation in unit costs among IPs could be linked to enrolment differential, as low levels of enrolment drive unit costs higher. The results are similar for cycles 2 and 3, whose average cost per grade progressed is relatively higher at GHS235 (US\$ 62.01) and GHS297 (US\$ 75.00), respectively.

Table 3: Cost Per Grade Progressed by Implementing Partner (IP) in Ghana Cedi Terms

Cost Per Grade and Ranking (R)			
GHS	Cycle 1 (R)	Cycle 2 (R)	Cycle 3 (R)
Action Aid	244 (7)	239 (6)	393 (6)
Afrikids	169 (5)	200 (5)	239 (5)
IBIS	146 (4)	168 (3)	234 (4)
LINK	139 (3)	186 (4)	218 (2)
Plan	208 (6)	380 (8)	402 (7)
Pronet	94 (1)	164 (2)	235 (3)
School for Life	102 (2)	156 (1)	210 (1)
WE	326 (8)	385 (7)	446 (8)
Average Cost Per Grade Progressed	178	235	297
Average IP Cost	132	185	249

Source: Adopted from CROWN AGENTS' Report on the Cost-Effectiveness of Complementary Basic Education in Ghana (2015)

Table 4: Cost Per Grade Progressed by IP in US dollar Terms

Cost Per Grade and Ranking (R)			
US\$	Cycle1 (R)	Cycle2 (R)	Cycle3 (R)
Action Aid	79.48 (7)	63.06 (6)	99.24 (6)
Afrikids	55.05 (5)	52.77 (5)	60.35 (5)
IBIS	47.56 (4)	44.33 (3)	59.09 (4)
LINK	45.28 (3)	49.08 (4)	55.05 (2)
Plan	67.75 (6)	100.26 (8)	101.52 (7)
Pronet	30.62 (1)	43.27 (2)	59.34 (3)
School for Life	33.22 (2)	41.16 (1)	53.03 (1)
WE	106.2 (8)	101.58 (7)	112.63 (8)
Average Cost Per Grade Progressed	57.98	62.01	75.00
Average IP Cost	43.00	48.81	62.88

Notes: Table 4 provides the US Dollar equivalent of Cost Per Grade Progressed by IP based on average cedi-to-dollar exchange rate for the academic year (spanning September to August)

Source: Exchange Rate Data were gleaned from Bank of Ghana's (BoG's) Summary Data on Economic and Financial Time Series

In terms of cost per proficient graduate, there appears to be no standardised proficiency measure to be used as a guide. Nevertheless, the brief relies on a trial conducted by UNICEF in a centre in Savelugu Nanton District, run by School for Life (SfL). From a total of 126 CBE learners that were assessed, the report suggests that 56 per cent achieved proficiency in literacy while 64 per cent achieved proficiency in numeracy. It must, however, be made known that the results are not generalisable to all

learners in the CBE programme due to the finite nature of the sample. Besides, no clear

definition was provided for proficiency. Applying 56% (the lowest) to the cost per graduate progressed for SfL yields cost per proficient graduate of GHS 1,042 (US\$ 263.13). No proficiency measures exist in the case of the other IPs, making it difficult to generate IP-specific cost performance indicators. Therefore, this brief follows CROWN AGENTS' report (2015) and adopts GHS 1,042 (US\$ 263.13) as a representative cost per proficient graduate for CBE.

On the gendered impacts of CBE, the report suggests that the target for absolute enrolment by girls was exceeded in Cycles 1 and 2, though actual enrolment was lower for girls than boys. But completion and transition rates were higher for girls than boys in Cycle 1, which indicates tilting of the gender gap in favour of girls.

Value for Money comparison between CBE and the Regular Sector

This level of the analysis provides value for money comparison between the CBE programme and the regular education system, highlighting the key differences between the two systems in terms of resource allocation and use. To start with, the cost per student per year for cycle 3 of the CBE programme (as shown in Table 5) is GHS 537, which is 20.4% lower than that of the regular sector (GHS 674.9). Accounting for the effect of inflation, which averaged 11.3 per cent between 2016 and 2020, the cost per student per year is projected at GHS 598 (US\$105.28) under CBE and GHS 760.8 (US\$ 133.94) under the regular sector for 2019/2020 (see Table 3).

Table 5: Summary of Value for Money Indicators

US\$	CBE 2015/16	GES 2015/16	CBE 2019/20*	GES 2019/20*
Measure				
Cost per student	537	674.9	598	760.8
Cost per graduate	584	653.5	650	736.8
Cost per transitioner	663	653.5	738	736.8
Cost per grade progressed	280	653.5	312	736.8
Cost per proficient graduate	1,042	NA	1,160	NA

Notes: * indicates projections for 2019/2020 using average inflation rate of 11.3 per cent over the 2016-2020 period

Source: Adopted from CROWN AGENTS' Report on the Cost-Effectiveness of Complementary Basic Education in Ghana (2015)

US\$	CBE 2015/16	GES 2015/16	CBE 2019/20*	GES 2019/20*
Measure				
Cost per student	135.61	170.43	105.28	133.94
Cost per graduate	147.47	164.90	114.44	129..72
Cost per transitioner	167.4	164.90	129.93	129..72
Cost per grade progressed	70.71	164.90	54.93	129..72
Cost per proficient graduate	263.13	NA	204.23	NA

Notes: Table 6 provides the US Dollar equivalent of value for money indicators based on average cedi-to-

dollar exchange rate for the academic year (spanning September to August)

Source: Exchange Rate Data were gleaned from BoG's Summary Data on Economic and Financial Time Series

Regarding progression rates, the CBE graduation and transition rates reached almost 90 per cent. While this exceeds the end of the CBE programme target, it is slightly below the progression rate for the formal system (100 per cent). Merely considering the explicit cost per student per year, one may hurriedly conclude that the CBE programme is less efficient. But this may not be accurate as the per student cost of the formal system excludes teacher training costs, and therefore, an underestimate of actual costs. Besides, 1 year of CBE is equivalent to 2.4 grades of formal schooling, suggesting that CBE could be twice as cost-efficient as the formal system. This corroborates UNICEF's report on CBE learners (2015) which suggests that two-thirds of CBE graduates are competent. Thus, CBE is more efficient in terms of achieving results, though this could be attributed to the fact that transition grade for some CBE graduates reflects formal school experience.

Findings

Key findings:

Unit costs in CBE are slightly lower than those in the formal sector. In fact, current unit cost in the CBE programme is estimated at GHS 598 (US\$ 105.28) for 2019/2020, which is 21.4 per cent lower than projected unit cost of 760.8 (US\$ 133.94) for the formal system. Yet, these figures exclude the cost of teacher training in formal education.

In addition, CBE graduates that transition into the formal schools achieve comparable learning outcomes to that of children in formal schools, though CBE graduates are found to be more competent and confident in some cases. Given that current unit costs in the CBE programme

are broadly in line with those in the formal system, the slight differences in learning outcomes could be explained in terms of the way funds are being applied in the two models. In the formal sector, for example, education expenditure is mostly concentrated on recurrent items as salaries, goods and services, and other non-staff inputs (supervision, monitoring and community engagement). Other important line items as textbooks, infrastructure, among others, are given limited attention, which leads to high student-resource deficit ratios with deteriorating impact on learning outcomes. This implies the need to adopt models that can promote efficient use of educational resources.

Moreover, a year of CBE is equivalent to 2.4 grades of formal schooling, suggesting that for every CBE transitioner the government saves more than twice the current unit cost per student promoted to grade 3 in the formal system. Thus, CBE could be twice as cost-efficient as the formal system. In fact, there is a cost saving potential in upscaling and transitioning CBE to government of Ghana (GOG) budget, as the cost of engaging CBE facilitators is only 7% of total CBE costs compared with teacher deployment costs in the formal sector which is estimated at 91% of total primary education expenditure.

Other findings:

The brief infers that the use of mother tongue (L1), as a means of instruction, may have encouraged the high student participation rates in the CBE programme, with completion and graduation rates exceeding expectations. The implication is that the use of L1 in the formal sector (at least from kindergarten to Primary 3) could be beneficial, as it would help instil the spirit of participatory learning as well as build the comprehension capacity and confidence of learners.

Besides, the results suggest that the success rate of the CBE programme is high, implying

that OOSC numbers in high density areas may have significantly dropped. Thus, the next likely destination for CBEs will be low density areas, which have dissimilar characteristics to the previous localities. There are also concerns about the influx of OOSC to urban areas in search of economic opportunities. Therefore, the present challenge will centre on how to redesign CBE to meet the needs of OOSC in low-density and urban areas.

Recommendations

Based on the findings, the following recommendation are proffered:

- The Ministry of Education (MoE) should consider dedicating a percentage of the national education budget towards regularising the CBE program
- The MoE should collaborate with implementing partners (IPs) to build a comprehensive national database on OOSC
- Standardised test should be introduced for measuring proficiency of CBE graduates
- Further evidence should be built on CBE in relation to its applicability and responsiveness to OOSC in low density areas
- Generate cost-effectiveness measures in the annual CBE report

References

UNICEF (2015). Progress Report No. 05. Complementary Basic Education SC0120706. UNICEF Ghana Country Office. March 2015

Crown Agents (2015). Ghana Complementary Basic Education: Cost effectiveness Analysis. Report of the technical assistance assignment. November 2015

Shah R. & Choo W. (2020). Accelerated Education Evidence Review: Strengthening the

Evidence Base for Accelerated Education. Accelerated Education Working Group (AEWG). United Nations High Commissioner for Refugees (UNHCR)

Written by:

Mohammed Abango and Dr. Leslie Casely-Hayford