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Report

Assessing economic, educational and aspirational trajectories five years after completing Complementary Basic Education in Ghana

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Authors:
Emma Carter, Ricardo Sabates and Pauline Rose (REAL Centre, University of Cambridge, UK.) and submitted to DFID Ghana Office as part of the project "Understanding the Impact of Complementary Basic Education in Ghana".

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Table of Contents

List of Figures iii

List of Tables iv

Acronyms iv

Summary 1

1. Introduction 2

2. Methodological Considerations: Sampling Approach, Research Instruments and Analytical Strategy 3

2.1 Sampling Approach 3

2.2 CBE Participant and Household Survey 3

2.3 Local Language Literacy, English and Numeracy Assessments 3

2.4 Component Scores and Proficiency Levels 4

3. The CBE Cycle 1 Tracer Report Sample 5

3.1 Sample of CBE Graduates 5

3.2 Socio-economic and demographic information 6

3.3 Summary 9

4. Educational Trajectories of CBE Cycle 1 Students 9

4.1 Educational trajectories overall and by age 9

4.2 Comparing grade of transition (2014) with current grade of schooling (2018) 12

4.3 Perceptions on the transition experience following CBE Cycle 1 12

4.4 Current Status and Experiences of Non-Transitioned CBE Children 13

4.5 Summary 15

5. School Opinions, Aspirations and Attitudes to Learning 16

5.1 School Opinions of CBE Cycle 1 Participants 16

5.2 Future Aspirations of CBE Cycle 1 Participants 16

5.3 Parental Views and Attitudes towards Education 17

5.4 Summary 18

6. Results 19

6.1 Overview of Zero Scores 20

6.2 Overall Scores and Proficiency Levels 21

6.3 Differences by Gender and Current School Attendance 23

6.4 Differences by Language 24

6.5 Differences by Region 25

6.6 Summary 26

7. Predicting school attendance and understanding sources of variation in assessment scores 26
7.1 Logit Regression Modelling 26
7.2 Linear Regression Modelling 27
8. Conclusion 29
Appendices 31
A. Educational trajectories for female Cycle 1 CBE participants 31
B. Comparing age and grade level following CBE (2014) with age and grade level at time of data collection (2018) 31
C. Overall proficiency scores for female Cycle 1 CBE participants 32

List of Figures

Figure 1: Age distribution of CBE Cycle 1 students 7
Figure 2: Trajectories of CBE Cycle 1 participants (2014-2018) 11
Figure 3: Challenges of transition into formal school for CBE Cycle 1 participants 13
Figure 4: Main reported reason for not transitioning into formal school by gender 14
Figure 5: Current status on non-transitioned CBE Cycle 1 participants by gender 14
Figure 6: School Opinions by Current School Attendance 16
Figure 7: Main reported barrier to achieving future goals 17
Figure 8: Changing attitudes of parents towards education since CBE implementation 18
Figure 9: Changing attitudes of community towards education since CBE implementation 18
Figure 10: Proficiency levels for overall English and local language literacy scores 22
Figure 11: Proficiency levels for overall numeracy scores 23
Figure 12: Differences in overall scores by current school attendance and gender 23
Figure 13: Differences in overall scores by language of assessment 24
Figure 14: Differences in overall scores by access to mother tongue language 25
Figure 15: Differences in overall scores by region 25
Figure 16: Grade level entry following CBE completion in 2014 by age 31
Figure 17: Current grade level at time of data collection in 2018 by age 31
Figure 18: Female overall proficiency scores 32

List of Tables

Table 1: Measure of Internal Consistency for the Three Learner Assessments 4

Table 2: Cycle 1 CBE disaggregated by region, language and IPs 5

Table 3: Cycle Socio-economic and demographic characteristics for CBE Cycle 1 students 8

Table 4: Housing characteristics for CBE Cycle students 9

Table 5: Matrix of educational trajectories for Cycle 1 CBE participants by age in 2018 11

Table 6: Subtask performance for CBE Cycle 1 participants 20

Table 7: Percentage of non-performers for CBE Cycle 1 participants 21

Table 8: Overall and component scores for CBE Cycle 1 21

Table 9: Logit regression models predicting school attendance 27

Table 10: Linear regression models predicting overall assessment scores 29

Table 11: Female response rates for educational trajectories 31

Acronyms

CBE	Complimentary Basic Education
DFID	Department for International Development
EGMA	Early Grade Mathematics Assessment
EGRA	Early Grade Reading Assessment
GES	Ghana Education Service
IP	Implementing Partner
JEAVCO	JEAVCO Associates Ltd
JHS	Junior High School
MoE	Ministry of Education
NGO	Non-Governmental Organisation
OOSC	Out-Of-School Children
PAB	PAB Consult Limited
QA	Quality Assurance
SHS	Senior High School
USAID	United States Agency for International Development

Summary

This report presents findings from a tracing study which collected data in July 2018 on 948 graduates (52.3% male, 47.7% female) who completed the Complementary Basic Education programme in the academic year 2013-14. This represents the first cycle (Cycle 1) of students who completed the CBE programme within Ghana. The CBE tracer study relied on a purposive sampling approach in order to locate and interview young people who graduated from the programme five years ago. The identification of these graduates depended on community engagement with the implementing partners and the ability to work with the CBE facilitator from the community. The CBE facilitator was a key informant as she/he was incharged of the provision of the CBE programme during 2013-14, was a member of the community and therefore was more likely to identify the CBE graduates from the roster list that was kept for monitoring purposes.

The tracing of students as well as surveys were piloted in February 2018 in the Bogunayili community in the district of Kumbungu in the Northern Region. The final questionnaires were administered to both CBE graduates and their parents and collected information on demographic background, household economic situation, family status, school and work histories, opinions on learning and future goals. Additionnaly, assessments in local language literacy, English literacy and numeracy were further conducted in order to determine learning their current learning levels. Through analysis of this data, this study examines the educational, work and family trajectories of CBE participants, their perceptions on the transition experience to formal school following CBE in 2013/2014, as well as their attitudes towards learning and future aspirations. Critically, this study also considers the current status, experiences and perceptions on Cycle 1 participants who did not transition into formal school and/or discontinued their education. Findings on parental views towards education and the extent to which these have changed since the inception of CBE in 2013 are further analysed and discussed. The main aim of this report is to understand the benefits of participation in the CBE programme five years on and how these differ by gender, language, region and current school status.

Overall, focusing on the sample of CBE graduates who were able to be located for this study, we find that most of these graduates had a successful transition into public school. The fact that most of these graduates remained in school following four years of graduating from CBE, with many reaching senior levels of education, further attests the potential of the CBE programme on children's future outcomes. This study also demonstrates that these graduates had positive attitudes towards the value of education, and this was confirmed by their families and communities. Among the key lessons learnt from this study are the importance of enabling transition into schools where CBE children have access to their mothertongue language and the need for support for those students experiencing levels of poverty which prevent them from transitioning into formal school and engaging in future educational opportunities. An important limitation of this analysis is the fact that students located by the research team are likely to be those who were more engaged in the programme in the first instance. Therefore caution should be taken with the generalizability of the results to all CBE graduates of the programme during 2013-14 academic year. Clearly, CBE graduates from migrants communities, those in remote areas and those where the implementing partners do not have a long term relation are not represented in this study.

1. Introduction

CBE Cycle 1 represents the first cohort of students who took part in the CBE programme in the 2013/2014 academic year. In March 2018, survey data, which included a child and household component, and learner assessments for English literacy local language literacy and numeracy, were collected for 948 participants in order to ascertain the longitudinal benefits of CBE as well as differences in outcomes four years after enrolment in the programme. This represented 4% of the total number (23, 677) of students who took part in CBE Cycle 1.

This sample used for this study was purposively selected and dependent upon a number of factors which are explained in detail in the next sections. A pilot stage preceded this study and was used to test sampling strategies and refine the research instruments. In examining the findings, it is important, therefore, to highlight that they are not be generalisable to the entire population of Cycle 1 CBE students from 2013/2014 as the sample represents those who could be more easily traced by the data collectors and who were more accessible to their original CBE community. Migrant communities, those remotely located and those where the implementing partners did not have a long term relation were not included in the sampling.

The main objective of this report is to understand the educational, work and family trajectories of participants and the factors which influenced outcomes four years following CBE completion. It further aims to establish if there are differences in outcomes and achievement by way of gender, language, region and current school status. This paper considers participants' attitudes towards education, future aspirations and perspectives on the transition experience. Representing parental views towards education and the extent to which these have undergone change since CBE was also seen as important for examining the broader impacts of the CBE programme over time.

The report is structured as follows: Section 2 describes the methodological considerations including the sampling approach, research instruments, including the child and household surveys, and assessment instruments. It further outlines the analytical strategy. Section 3 considers the sample of CBE Cycle 1 participants at the time of data collection in terms of gender, age, region, language and implementing partner. It also examines participants' work status, family status and household characteristics. Section 4 presents the educational trajectories of students overall and then relative to age categories in order to better contextualise outcomes. This section then presents participants' perceptions on the transition experience into formal school following CBE, as well as the current status and experiences of non-transitioned and out of school participants. Section 5 presents the school opinions (teachers and school management), aspiration and attitudes to learning of CBE Cycle 1 participants as well as parental views and attitudes towards education. Section 6 reports the results of learner assessments for English literacy, local language literacy and numeracy for participants. It further investigates if there are differences overall and by gender, current school status, language and region. Section 7 examines the relative influence of previously explored variables on learning scores through the use of linear regression modelling. It further assesses the factors which predict current school status through the use of logistic regression modelling. Section 8 presents conclusions on the findings presented in this study.

2. Methodological Considerations: Sampling Approach, Research Instruments and Analytical Strategy

2.1 Sampling Approach

The CBE tracer study relied on a purposive sampling approach. This was due to the challenges of locating and collecting data from Cycle 1 graduates who had undertaken the CBE programme five years ago. The selection of CBE communities and students depended upon number of factors which included; maintained contact by the implementing partner with the CBE facilitator and committee from Cycle 1; the CBE facilitator and centre still being active within the community; as well as the community being in close proximity of a primary school and secondary school. This process necessitated the support of the implementing partners and CBE facilitators. It also relied heavily upon the assistance of community leaders and members. Fortunately, a list of CBE Cycle 1 students' names was provided to the research team by the CBE Management Unit which helped to trace children back in their communities.

The data collection process was facilitated by a piloting stage which was carried out in February 2018 in the Bogunayili community in the district of Kumbungu in the Northern Region. This fieldwork was essential for identifying the best strategies for locating students for Cycle 1, testing and refining the research instruments involved in the study as well as understanding and preparing for the challenges of tracing back students. Among the challenges that were found during the piloting process, were difficulties tracing CBE graduates who had migrated and/or attended schools at considerable distances from their home communities. Some participants, particularly the parents and head of households who were interviewed, also had difficulty recalling past details regarding CBE graduates, particularly during the transition stage to formal school in 2014.

2.2 CBE Participant and Household Survey

The CBE participant survey was administrated to individuals who took part in CBE Cycle 1 in the 2013/2014 academic year. This survey collected information on participants' educational and work trajectories since their completion of CBE, demographic backgrounds, family status, household economic situation and language diversity. It also examined participants' future aspirations and expectations as well as personal opinions relating to their last school experience. Household surveys were also administered to an adult related to the CBE participant. This survey sought information on household characteristics, household assets, family composition and attitudes towards education. In addition, adults were asked questions relating to the CBE child's educational and work trajectories following completion of the programme as well as their future aspirations for the CBE participant. These surveys were designed to permit the analysis of patterns of differences in outcomes linked to the individual's background. We were particularly interested in differences related to gender, language, region, age and current school status.

2.3 Local Language Literacy, English and Numeracy Assessments

The assessments used for the CBE Cycle 1 participants were based on the Early Grade Reading Assessment (EGRA), for local language and English and Early Grade Mathematics Assessment (EGMA) for numeracy.[i] The subtasks in literacy were letter-sound identification, non-word reading, oral passage reading, reading comprehension and listening comprehension. Participants were also administered a subtask which tested oral vocabulary in English.

EGMA was designed to provide information about basic mathematics competencies – those competencies which should typically be mastered in the very early grades, and without which pupils will struggle, or potentially drop out in later years. The subtasks in numeracy were number identification, single digit addition and subtraction, number discrimination, missing numbers in patterns, two-digit addition and subtraction as well as word problem solving.[ii]

2.4 Component Scores and Proficiency Levels

The English literacy assessment used for this study consisted of six subtasks. The local language literacy assessment was made up of five subtasks while the numeracy assessment was made up of eight subtasks. The approach used for analysis in the current report was designed to match that of other CBE Cycles. It therefore examines student performance at a subtask level and further calculates component scores (basic, advanced and overall) through the use of principle component analysis (PCA).

Four separate score categories were defined for the current study. All Cronbach's alphas (a measure of internal consistency) in Table 1 were well above the acceptable cut-off of 0.7. Additionally, the final column shows that between 0.66-0.88 of the variation in scores was explained by the categories as defined in these models. Therefore, the subtasks were effectively reduced for analysis, while still achieving variation (as opposed to just a single measure).

Table 1: Measure of Internal Consistency for the Three Learner Assessments

Component score category	Subtasks	Cronbach's alpha (internal consistency)	Proportion of variance explained by first component
Basic English literacy	• Letter sound identification • Non-word reading	0.83	0.85
Advanced English literacy	• Oral reading • Reading comprehension	0.78	0.82
Basic local language literacy	• Letter sound identification • Non-word reading	0.86	0.88
Advanced local language literacy	• Oral reading • Reading comprehension	0.81	0.84
Basic numeracy	• Number identification • Number discrimination • Missing number • One-digit addition • One-digit subtraction	0.87	0.66
Advanced numeracy	• Two-digit addition • Two-digit subtraction • Word problems	0.81	0.72

Source: CBE Cycle 1 Tracer Study

After component scores were created, all scores were scaled from 0-100, for ease of interpretation. As a final step, the scaled component scores were then divided into four proficiency categories. These were defined based on the students' performance of the component scores, as follows:

1. Non-performer, comprising those who scored zero on a component score;
2. Beginner, comprising those who scored greater than zero but less than 50;
3. Approaching proficiency, comprising those who scored greater than 50 but less than 80; and

4. Proficient, comprising those who scored greater than 80.

In addition to basic and advanced component scores, overall scores were generated for English literacy, local language literacy and numeracy. They were then divided into the four proficiency categories described above. These scores comprised all subtasks that were administered to students for the assessment. The only exception was the overall score for English literacy, which omitted the subtask of oral vocabulary. As this subtask was not given in the local language literacy assessment, it was excluded from the overall English score to make the results more comparable.

3. The CBE Cycle 1 Tracer Report Sample

3.1 Sample of CBE Graduates

The CBE Cycle 1 Tracer sample consisted of 948 young people (52.32% male, 47.68% female).[iii] Table 2 provides the percentages of the overall sample as well as percentages of the female subsample, by region, main spoken language, language of assessment and implementing partner. As shown, the highest proportion of the sample (55.29%) came from the Northern region of Ghana. Across the sample, 12 mother tongue languages were reported, with the majority of participants speaking Dagbani (28.77%). Learning assessments, however, were conducted in one of 5 local languages which represented the language of instruction at the current or previous school. Of these, Dagbani (40.63%) represented the highest frequency language of assessment. For the overall sample, 31.4% were tested in a non-mother tongue language (Female=32.3%). For implementing partner, the largest percentage (34.76%) of the sample were supported by School for Life during the CBE programme in 2013/2014 academic year.

Table 2: Cycle 1 CBE disaggregated by region, language and IPs

Region	% Overall Sample	% Female
Brong Ahafo	9.52	8.56
Central	6.42	6.18
Northern	55.29	54.73
Upper East	12.51	12.61
Upper West	16.26	18.92
Main Language Spoken		
Dagbani	28.77	25.66
Brifo	1.37	1.77
Gonja	5.16	5.31
Dagaare	18.55	21.24
Sissala	0.11	0.00
Twi	17.49	15.93
Likpakpaln	14.54	15.71
Mampruli	0.11	0.22
Kasem	4.95	4.65
Gurune	8.96	9.51
Language of Assessment		
Asante-Twi	14	14.16
Dagaare	27.58	30.75
Dagbani	40.63	38.27
Fante (UNICEF)	6.32	5.09
Gonja	6.53	7.08
Kasem	4.95	4.65

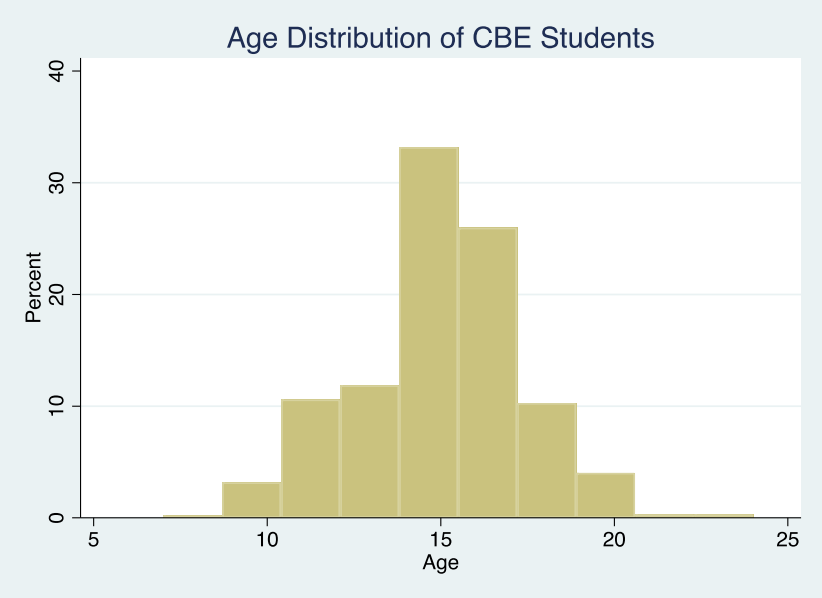
Region	% Overall Sample	% Female
Implementing Partner		
Action Aid	6.84	6.53
AfriKids	9.09	9.68
GILLBT	4.92	4.95
IBIS	12.83	13.96
LCD	3.42	2.93
Plan Ghana	5.56	5.41
ProNet	10.7	13.51
School for Life	34.76	33.11
UNICEF	6.42	5.18
World Education	5.45	4.73

Source: CBE Cycle 1 Tracer Study

3.2 Socio-economic and demographic information

Figure 1 shows that the current age of CBE graduates from the 2013/2014 academic year / ranged from 7-24, with the mean age being 15. As can be seen in Table 3 below, the mean overall household size was 10.95 and the mean immediate family was 7.74. The vast majority (85.86%) of the head of households of CBE graduates reported that farming was their main activity, they were a biological parent of the CBE student (85.23%) and were married (90.82%). In addition, 81.75% of head of households were male and 18.25% were female. The average number of siblings for CBE Cycle 1 participants was 5.21. On average, 55.71% of siblings were reported as having attended school, with 14.14% having attended CBE. 68.86% of the CBE Cycle 1 sample claimed to have access to books and/or reading materials at home, with a similar proportion (65.99%) stating that they engaged in literacy activities at home which involved reading. Very small percentages of CBE Cycle 1 participants were found to be married (1.7%) or with children (1.7%) at the time of data collection. Across all afore mentioned variables, less than a 3% difference was observed for female only CBE Cycle 1 participant responses.[iv]

Figure 1: Age distribution of CBE Cycle 1 students



Source: CBE Cycle 1 Tracer Study

In terms of work status, 14.23% of the CBE Cycle 1 sample reported undertaking work outside of their family with 5.26% receiving cash payment for their work. Of the 134 participants who were working outside of their family, the majority worked on a farm (58.21%), engaged in petty trading (15.67%) or day labour (17.16%). These were also the highest reported responses for female participants. Whilst 89.55% of working participants claimed that their experience in school helped in their work, particularly in mathematics, reading, writing, problem solving and English, 55.3% claimed that their work affected their ability to learn. Of the 134 participants working, the majority (76.87%) reported being "very satisfied", "satisfied" or "normal" about their work, 23.13% reported being "very unsatisfied" or "unsatisfied" with only very minor gender differences observed for this question. As above, only minor female differences were found for these variables.

Table 3: Cycle Socio-economic and demographic characteristics for CBE Cycle 1 students

Family Status	Overall Sample	Female
Household size (#)	10.95	11.63
Immediate family size (#)	7.74	7.90
% head of household male	81.75	79.78
% head of household married	90.82	91.11
Average number of siblings (#)	5.21	5.31
% siblings who have attended school	55.71	57.19
% siblings who have attended CBE	14.14	14.25
% participants with reading materials at home	68.86	71.21
% participants undertaking literacy activities at home	65.99	68.75
% married participants	1.7	1.56
% participants with children	1.7	1.79
Work Status		
% undertaking work outside family	14.23	12.50
% receiving cash payment for work	5.26	3.76
Average hours of work each day (#)	3.77	3.41

Source: CBE Cycle 1 Tracer Study

With respect to housing characteristics (See Table 4 below), the majority of participants reported having access to a mobile phone, bicycle and table. Whilst half of the sample had access to electricity, radio and bed, far smaller frequencies (less than 11%) owned a wall clock, refrigerator, sewing machine and cupboard. Even fewer participants (less than 5%) reported having a car or animal drawn cart. In terms of housing materials, less than half of the sample had a house with finished floors, with approximately a quarter having them. 59.5% of participants had houses with finished roofs and the majority of participants (97.05%) reported owning their own home. For subjective measures of poverty, almost all participants (96.31%) claimed they had the same or less money that other families in their community whereas 63.99% reported having access to enough food every day. Overall, for housing characteristics, marginal discrepancies were found for female only participants.

Table 4: Housing characteristics for CBE Cycle students

Household Assets	Overall Sample	Female
% with access to electricity	54.59	54.79
% owning a wall clock	10.07	8.91
% owning a radio	61.63	59.38
% owning a television	24.60	26.85
% owning a mobile telephone	82.08	80.72
% owning a refrigerator	5.40	5.36
% owning a sewing machine	10.68	11.38
% owning a bed	59.58	56.38
% owning a table	71.64	71.43
% owning a cabinet/cupboard	10.04	8.78
% owning a bicycle	74.87	74.83
% owning a motorbike/scooter	30.65	30.93
% owning a car/truck	1.59	1.34
% owning a boat with/without motor	0.85	0.90
% owning an animal drawn cart	4.08	4.07
Household Materials and Ownership		
% with finished floors	43.67	41.56
% with finished roofs	59.60	60.67
% with finished walls	25.11	26.00
% owning their home	97.05	97.11
Subjective Measures of Wealth		
% children with same/less money than others	96.31	96.89
% children with enough food every day	63.99	62.67

Source: CBE Cycle 1 Tracer Study

3.3 Summary

Overall, the sample of CBE Cycle 1 participants demonstrated a considerable age range with the majority coming the Northern region, supported by School for Life and speaking the language of Dagbani. Whilst Dagbani also represented the main language of assessment, it was found that 31.4% of participants transitioned into schools where the language of instruction, and accordingly assessment, differed from that of their home language. In terms of household characteristics, most participants' head of households were married males and over half of their reported siblings were found to be attending school, with 14.14% having attended CBE. Close to 70% of the sample also reported having access to home literacy materials and activity within their households, with 14.23% reporting working outside of home. Overall, very small numbers of the sample were found to be married and with children. Across socioeconomic, demographic and wealth variables, insignificant gender differences were identified.

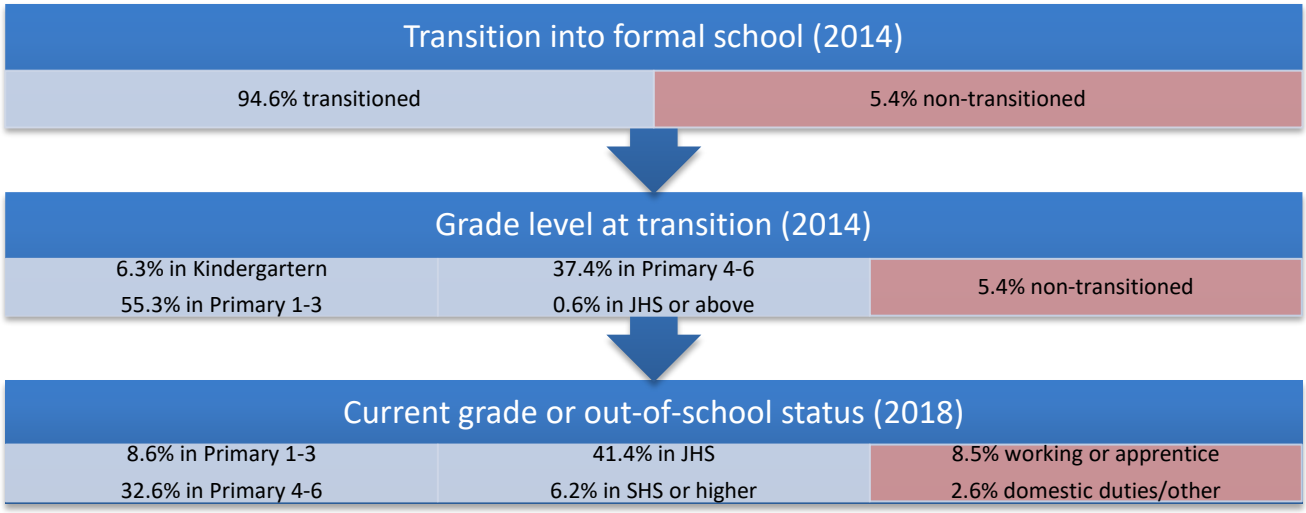
4. Educational Trajectories of CBE Cycle 1 Students

4.1 Educational trajectories overall and by age

This section reports the current educational status and trajectories of students following CBE completion in 2014. Figure 2 demonstrates the overall progress made by CBE Cycle 1 students between 2014-2018. Based upon the current sample, 94.6% of participants transitioned into formal school following CBE in 2014. Of this group, most (55.3%) continued into grades Primary 1-3 with the second largest proportion (37.4%)

transitioning into Primary 4-6. Very few students were found to transition into Kindergarten or JHS and higher. At the time of data collection, the majority of CBE Cycle 1 participants (88.9%) had remained in school and progressed to Junior High School (JHS) (41.4%), with the second highest percentage of participants continuing to Primary 4-6 (37.6%). Less than 10% of the overall sample had remained in Primary 1-3 or make further progress to Senior High School (SHS) or higher education. Participants not attending school represented only 11.1% of the overall sample. Of this number, most were found to be working (mainly in farming) or undertaking apprenticeships. A very small percentage (2.6%) were found to be undertaking domestic duties or were out of work. For all findings shown in Table 5, no significant gender differences were observed; in all cases, discrepencies between the proportions of male and female students did not exceed 3%.

Figure 2: Trajectories of CBE Cycle 1 participants (2014-2018)



Source: CBE Cycle 1 Tracer Study

Due to the wide age range of participants (7-24) and the importance of contextualising educational progress relative to age, this section also considers findings in relation to the following groups based on the age of the CBE graduates in 2018: 7-11; 12-15; 16-18; 19-24. As can be seen in Table 5, 82% of students aged 7 to 11 in 2018 completed the CBE programme in 2014. Of these, the vast majority made the transition into schools (91%) and after 4 years 89% remain in school. According to the child reported data, a small proportion (8.9%) of students aged 7 to 11 had already completed primary and moved onto JHS.[v] For students aged 12-15 in 2018, the vast majority completed the CBE programme (96%) and transitioned into school (97%). For these students, 44.73% had finished primary school, with 40.04% continuing to JHS and a very small proportion reporting continuation to SHS.

For students aged 16-18 in 2018, again the vast majority completed the CBE programme and made the transition into formal school. We found that 84% of students aged 16 to 18 in 2018 were still in school, with 69.59% of students completed primary with most of these students continuing onto JHS and 9.94 % achieving an SHS level. For students aged 19 and over in 2018, though sample proportions are small, we still find that 80% completed the CBE programme and 68% made the transition into formal school. We only have 36% still enrolled in school and about half of them have completed primary school and continued to JHS and SHS.

Table 5: Matrix of educational trajectories for Cycle 1 CBE participants by age in 2018

Age of participant	Frequency of sample	% completed CBE	% transitioned to school	% currently in school	% completed primary	% continued to JHS	% continued to SHS
Ages 7-11	45	82.22	91.11	88.89	8.89	8.89	0.00
Ages 12-15	512	96.48	97.46	92.38	44.73	40.04	0.20
Ages 16-18	342	96.49	93.57	84.21	69.59	66.67	9.94
Ages 19-24	44	79.55	68.18	36.36	50.00	47.73	11.36

Source: CBE Cycle 1 Tracer Study

In examining female CBE students' trajectories (See Appendix A), similar patterns were observed for the majority of female students in the different age groups. In fact, we only found less that 10% difference between females and the overall sample found in percentages across most educational stages. Though figures exceeding this were found for females aged between 7-11, where 70% had completed CBE, as opposed to 82.22% of the entire sample, the sample size was very small for this category and this difference was not found to be

significant. Moreover, whilst higher frequencies of females in the 19-24 age range reported transitioning to school and completing primary school compared to the overall sample, differences again were found to be statistically insignificant. Due to the issue of sample size, however, these findings are nonetheless noteworthy and may be indicative of interactions between gender and age which can result in differing outcomes for participants.

4.2 Comparing grade of transition (2014) with current grade of schooling (2018)

For children aged 3-7 at the end of CBE, the highest proportion (63.41%) entered formal school in Primary 1-3 in 2014, with most (48.78%) progressing to Primary 4-6 at the time of data collection in 2018 (when they had reached ages 7-11) (See Appendix B). For female students, similar proportions were observed; 68.42% entering formal school in Primary 1-3 and 45% moved up to Primary 4 at the time of data collection. The highest frequency of students aged 8-11 also transitioned from CBE to Primary 1-3 in 2014 and at the time of data collection, when they were aged 12-15, comparably large proportions had moved onto Grades 4-6 (45.53%) or JHS (41.16%). For female students, this same pattern was also found; 61.85% started formal school in Primary 1-3 and at the time of data collection 47.13% progressed to Grades 4-6 and 40.57% to JHS.

For students aged 12-14 in 2014, a comparable rate of progress was seen. The largest majority, representing 51.41% of students (female=53.52%), entered formal school in Primary 4-6. In 2018, however, the highest frequency of students from this age bracket moved into JHS (59.44%; female=63.2%). As shown, female results showed only marginal proportional differences.

The majority of older students (aged 15-20 in 2014) entered formal school at Primary 4-6 with most of these students progressing to JHS (64.71%) and many to SHS (29.41%) when they were aged 19-24 at the time of data collection. Female proportions for this trajectory showed some difference. Whereas most female students similarly started formal school in Primary 4-6, 50% had moved into JHS and 37.5% has moved into SHS by 2018. Due to the very small sample represented by this age category, however, these differences were not found to be stastically significant. Overall, this analysis demonstrates that the average trends in progression for CBE Cycle 1 students, relative to age, aligned with the educational expectations of formal school.

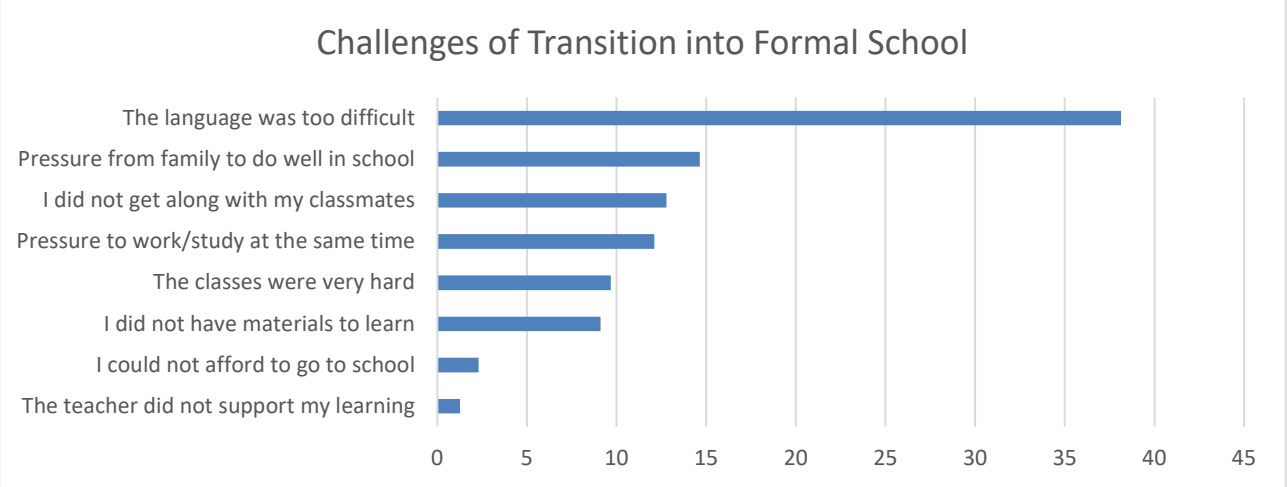
4.3 Perceptions on the transition experience following CBE Cycle 1

The highest reported factors which helped CBE students from Cycle 1 remain in school following the programme were support of family (70.25%), the support of teachers in CBE (11.2%), and confidence in learning ability following CBE (6.11%). Most participants also felt that the quality of CBE was either the same (39.66%) or better (57.63%) than formal school, with only 2.71% claiming it was worse. When asked how difficult/easy students found the transition experience similar proportions stated they found it “somewhat difficult” or “very difficult” (51.98%) and “somewhat easy” or “very easy” (48.02%). No significant gender differences were observed for these questions.

Students were also asked about the most challenging aspect of transitioning into formal school (See Figure 3). As demonstrated, most students (38.13%) reported finding the language too difficult. Smaller frequencies of students (less than 15%) stated that pressure from their family to do well in school, social issues in class and pressure to work and study at the same time were also factors that presented difficulties during transition. The lowest reported responses (less than 10%) included the classes being very hard, not having materials to

learn, not being able to afford school and the teacher being unsupportive of learning. For females, insignificant differences were observed for these ranked responses and frequencies.

Figure 1: Challenges of transition into formal school for CBE Cycle 1 participants

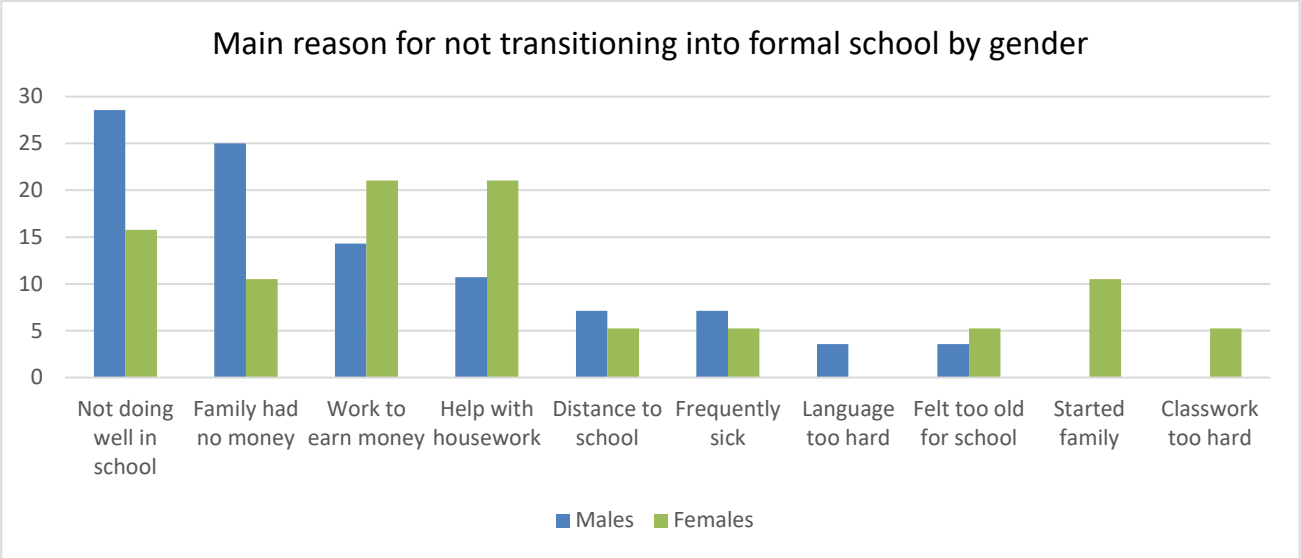


Source: CBE Cycle 1 Tracer Study

4.4 Current Status and Experiences of Non-Transitioned CBE Children

Of the entire sample, only 5.42% (54 students) did not transition into formal school following CBE. Of this number, 20 were females and 31 were males. When non-transitioned participants were asked whether they wanted to continue their education after CBE, 43.14% reported "yes ", regardless of their gender. Figure 4 shows the main reported reasons for CBE Cycle 1 participants stopping school. Whilst the sample was small, reasons for discontinuation showed a different pattern of results for male and female participants. For example, whilst the two most common reasons for stopping school for males were not doing well in school and the family not having enough money, for females, having to work to earn money and needing to help with housework were the most cited responses. Very small proportions of male and female students discontinued their education due to distance to school, illness and feeling too old for school. In addition, several female students reported leaving school to start a family or finding the classwork too hard and only one male student reported leaving school due to the language being too difficult.

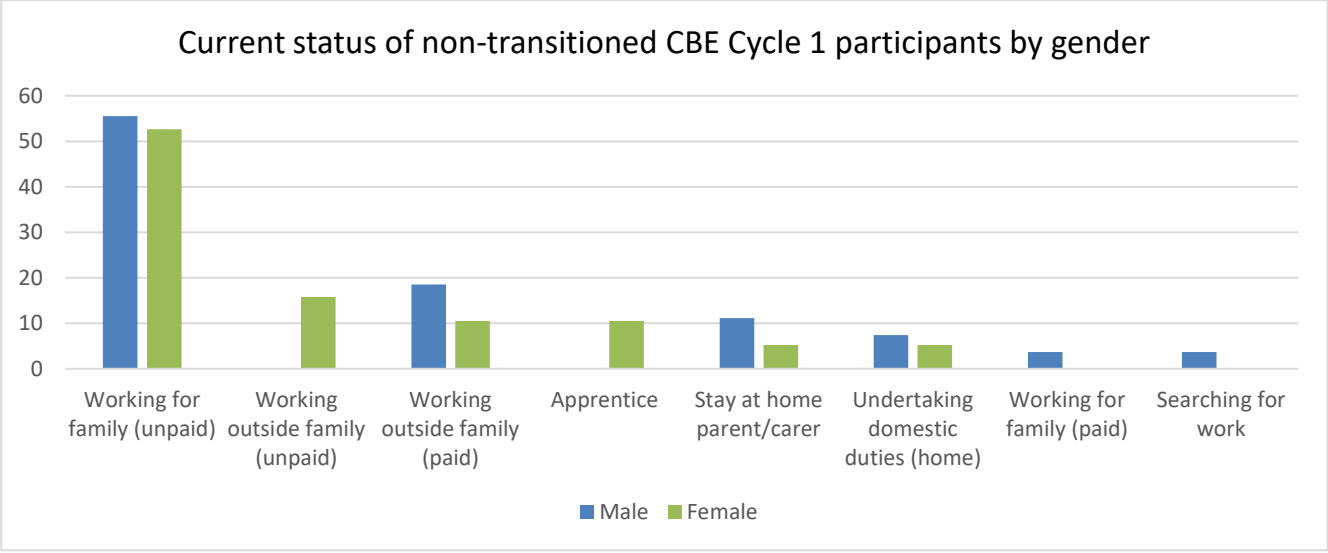
Figure 2: Main reported reason for not transitioning into formal school by gender



Source: CBE Cycle 1 Tracer Study

When CBE participants who were asked who was most influential in deciding they should stop school, the highest response was "Myself" (43.14%), followed by "Father" (29.41%) then "Mother" (9.8%). Interestingly, "Spouse" was noted by 3 male participants but no female participants. Overall, however, gender differences were marginal for this question. In terms of current status, the majority of male and female CBE Cycle participants who were not in school reported working for their family without payment. For males, the second most common response was undertaking paid work for the family, whereas for females it was undertaking unpaid work for the family. Several participants (male and female) also reported being a stay at home carer and undertaking domestic duties as their main current status. In addition, small numbers of females reported working as an apprentice.

Figure 3: Current status on non-transitioned CBE Cycle 1 participants by gender



Source: CBE Cycle 1 Tracer Study

4.5 Summary

Overall, the vast majority of CBE Cycle 1 students were found to have completed the CBE programme, transitioned into formal school and were currently attending school at the time of data collection. Though most students were found to have transitioned in Primary 1-3 following CBE completion in 2014 and were now in JHS at the time of data collection in 2018, there was considerable variation in educational trajectories that were dependent upon age as well as grade of placement following CBE. Expectedly, there was a lower proportion of the participants in the 19-24 age bracket who were found to be currently attending school. Whilst no gender differences were observed for participants aged 12-18 in terms of educational trajectories, fewer girls in 7-11 age bracket were found to have transitioned to formal school and with more from the 19-24 age range transitioning to formal school and completing primary level education. Though sample sizes were relatively smaller for these age brackets, these findings may point to interactions between gender and age which can result in differing outcomes for participants.

The vast majority of participants held a very high opinion of the quality of CBE instruction. In respect to their perceptions of the transition experience, most reported that the support of their families was the main factor keeping them in school. Approximately half of the overall sample also found the transition experience challenging and reported that the language in formal school was the most difficult aspect of their transition experience. Across these questions, insignificant differences were found between male and female responses.

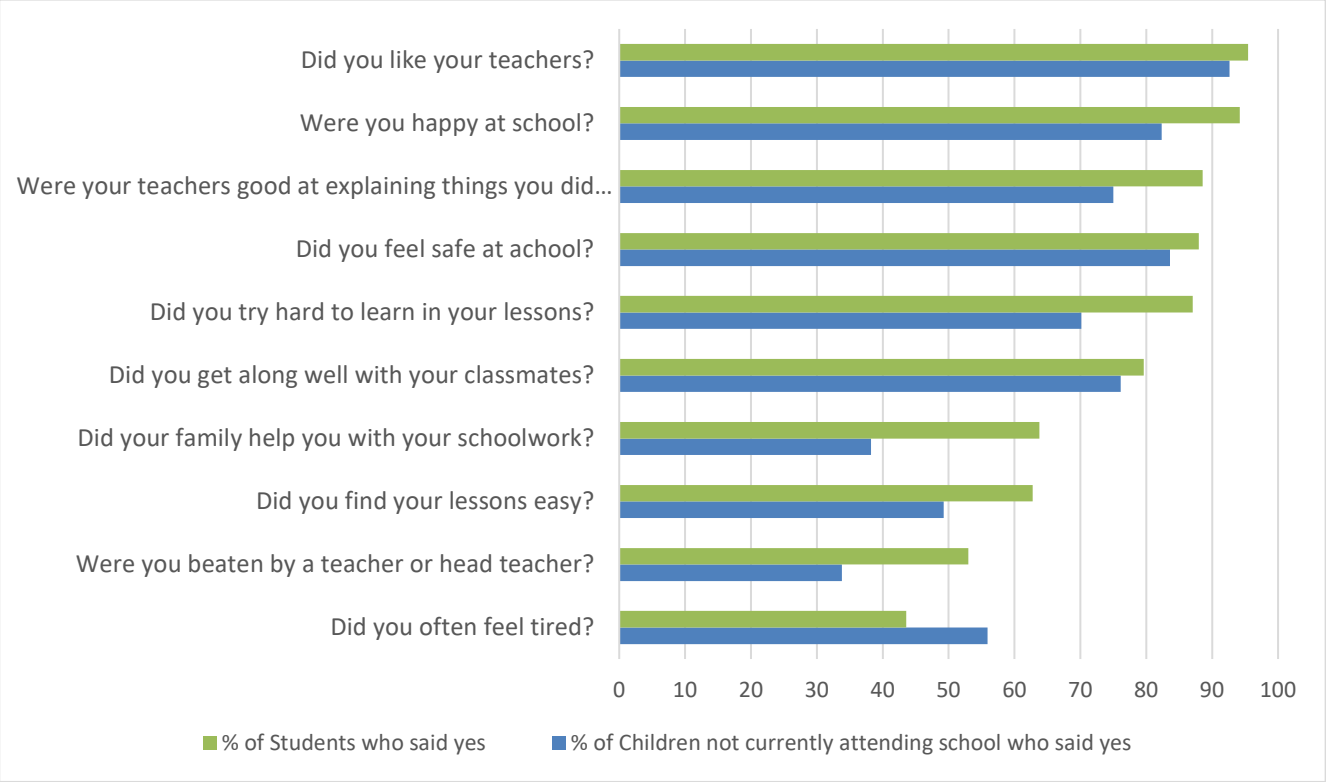
Of the entire sample, only 5% were found to not transition into formal school following CBE in 2014. For males, the main reported reason for discontinuing their education was not doing well in school, for females it was needing to work to earn money. In respect to the small proportion of participants currently out of school at the time of data collection, the majority reported that working without payment was their main status, irrespective of gender. Very few out of school participants reported domestic duties or stay at home parent/carer as their main current activity.

5. School Opinions, Aspirations and Attitudes to Learning

5.1 School Opinions of CBE Cycle 1 Participants

CBE Cycle 1 participants were asked questions regarding their opinions about their last experience at school. Results for these questions were compared for participants currently in school and for those that had discontinued their education. Questions related to teacher and peer relationships, attitudes to learning, access to home learning support, experiences with language and general well-being at school. More than 90% of children were happy during their last school experience, more than 80% felt safe at school and more than 75% had good peer relationships. Furthermore, more than 85% of students felt that their teachers were amicable and supportive; however half of students currently enrolled and over 30% of students not enrolled said they had been beaten by their teacher. Overall, and not unexpectedly, those who were currently not in school reported more negative responses about their last school experience, considering themselves to be more tired, finding the work harder and not feeling they had as much support from teachers or at home. We did not find gender differences to the responses to these questions.

Figure 4: School Opinions by Current School Attendance

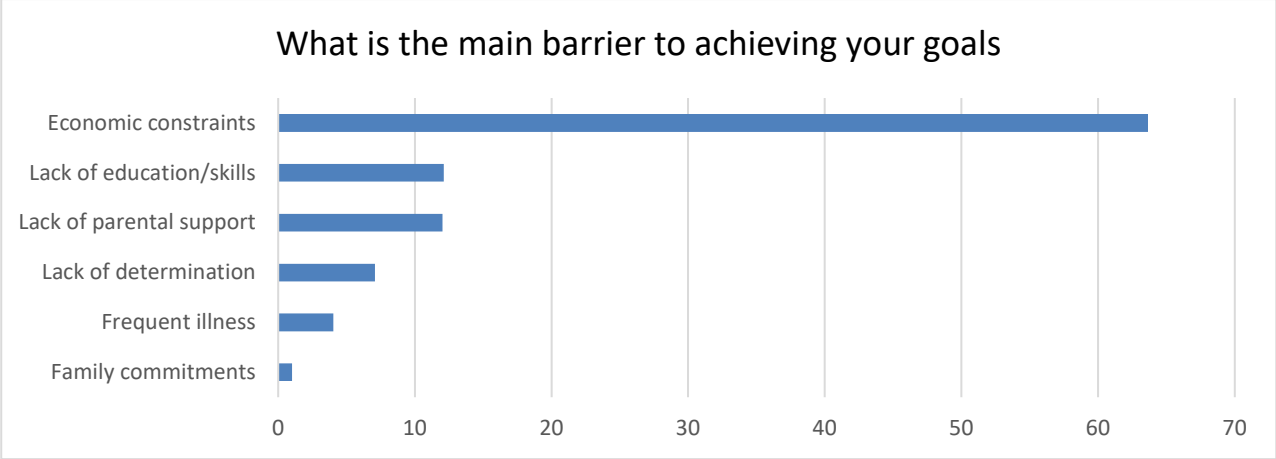


5.2 Future Aspirations of CBE Cycle 1 Participants

CBE Cycle 1 participants were asked a series of questions regarding their educational aspirations. In terms of the highest educational level they would like to achieve, most (79.06%) reported “Higher education” with few participants noting “Vocational” (7.86%) and SHS (5.63%). All other levels of education (including Primary, Middle and JHS) were reported by less than 4% of the sample. Participants were also asked what they wanted to do in the future with the vast majority (81.17%) stating they would like “To have a job in the formal sector”. Less frequent responses included “Undertaking other employment” (10.74%) and “Attending higher education” (5.74%). No significant gender differences were observed for these questions.

The majority of participants further believed they would be able to achieve their goals in the future (89.16%). For those that did not (10.84%), the main reported barrier was economic constraints, followed by lack of education or skills and lack of parental support. Very few participants reported lack of determination, illness or family commitments as reasons preventing them from achieving their future goals. Reported barriers were similar for male and female participants.

Figure 5: Main reported barrier to achieving future goals



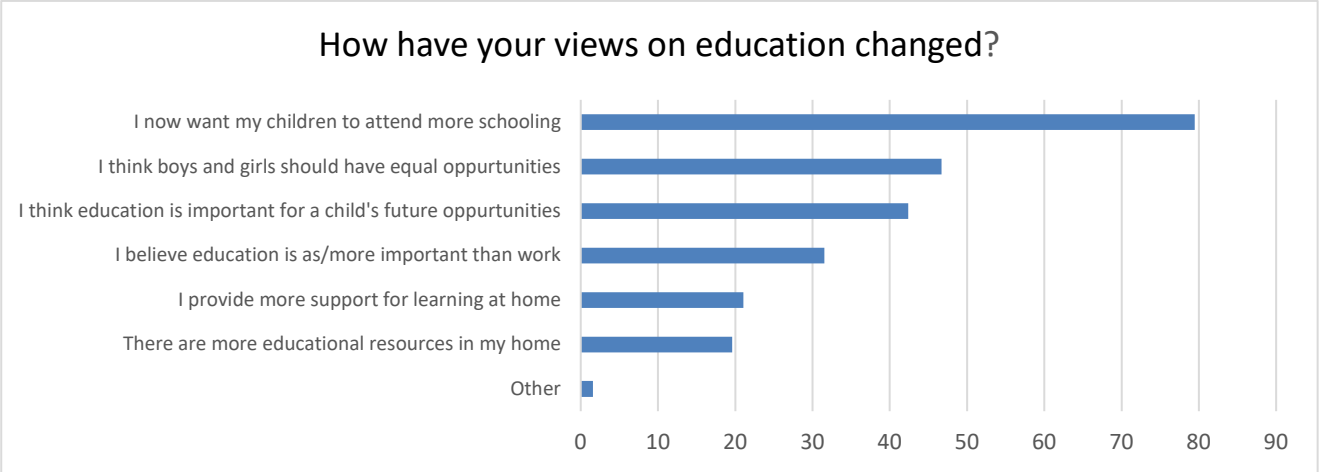
Source: CBE Cycle 1 Tracer Study

Participants who did not feel capable of achieving their goals were additionally asked about the activity they expected to be doing in the future, given the perceived barrier to accomplishing their desired future outcome. The majority of participants believed they would "Undertake other employment" (52.94%) or "Have a job in the formal sector" (37.25%). Less frequent responses (less than 4%) included "Getting married and starting a family" and "Attending higher education". No significant gender differences were found for this question.

5.3 Parental Views and Attitudes towards Education

In the Household Survey, parents of CBE Cycle 1 students were asked, where possible, about both their personal changing attitudes to schooling and the attitudes of the entire community. Of the 946 parents interviewed, 98% believed that the education their children received through CBE was better than or similar to the standard of education received through a formal school. Furthermore 80% of these parents believed they had a different attitude to education after their children went through CBE. Figure 8 describes how the views on education changed as result of their children attending the CBE programme. The most important change is parental desire for further education for their children (reported by nearly 80% of parents), followed by equal opportunities in education for girls and boys (reported by nearly 50% of parents). The third and fourth key reasons depict the benefits of education in terms of future opportunities (work) for children. When responses were compared between parents of male and female students, no significant differences were found for results displayed in Figure 8.

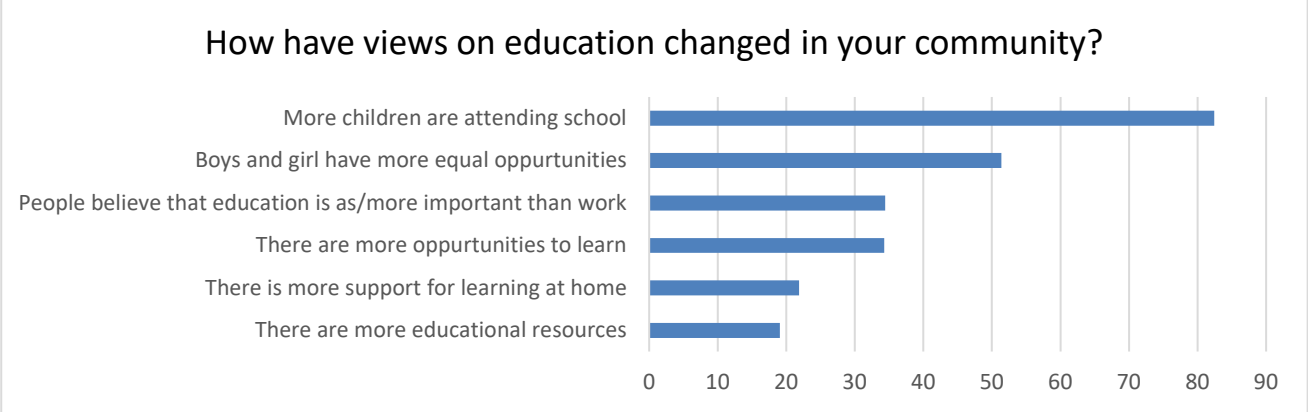
Figure 6: Changing attitudes of parents towards education since CBE implementation



Source: CBE Cycle 1 Tracer Study

The same questions were then asked in the context of the wider community, regarding attendance, equality and the importance of education. More than 85% of parents believed that their communities ideas surrounding education have changed. Figure 9 indicates that the most important community change is around school attendance, followed by equal opportunities in education for boys and girls. Parents also reported that people in the community now value education as or more highly than work, provide more support for learning and have greater access to educational resources. As with findings related to parental views, student gender did not signficantly differentiate any result concerning changed community attitudes towards education since CBE.

Figure 7: Changing attitudes of community towards education since CBE implementation



Source: CBE Cycle 1 Tracer Study

5.4 Summary

In respect to opinions on participants' most recent school experiences, the majority reported being happy at school, feeling safe and having positive peer relationships. Participants who were currently not in school, however, reported more negative responses across questions, particularly in regard to being more tired, finding the work more challenging and feeling they were less supported by their teachers and families. Gender differences were not identified for responses to these questions. Most CBE Cycle 1 graduates aspired to higher education and reported that their future goal was to obtain a job in the formal sector. Overall, the majority of participants felt that they would be able to achieve this goal. For those that did not, the main reported barrier was economic constraints. In terms of parents' perceptions of education, over 80% of participants reported that both their own and community's attitudes towards education had changed since CBE. Among the highest

reported changes were more children attending school and more equitable educational opportunity for boys and girls.

6. Results

This section presents the English literacy, Local Language Literacy and numeracy results for CBE participants who undertook the programme in the 2013/2014 academic year. This section considers the learning performance of participants in relation to their subtask scores, zero scores, proficiency levels and overall scores. It also examines differences in terms of gender, current attendance at school, language and region. Overall the aim of this section is to assess whether there are differences between CBE Cycle 1 students in terms of basic academic abilities relative to the afore mentioned factors.

Table 6 demonstrates the mean percent scores of each subtask from the English literacy, local language literacy and numeracy assessments. This table further compares the performance of male and female participants. For basic English tasks, participants achieved high results for oral vocabulary (87.5%) but considerably lower scores for both letter identification (50.6%) and non-word reading (44.3%) with the latter representing the weakest English literacy skill overall. Participants' performance for advanced skills including oral reading, reading comprehension and listening comprehension was, in general, stronger than for basic tasks with results exceeding 70% across subtasks. We found no statistically significant gender differences across subtasks.

For local language, CBE Cycle 1 participant's performance in basic tasks including letter sound identification (45.9%) and non-word reading (39.4%) was lower than that of advanced tasks. Across subtask assessments, non-word reading presented the greatest challenge for participants. For advanced tasks in local language, students showed the strongest results with listening comprehension (74.6%). In respect to gender differences, no consistent pattern was observed for local language skills with marginal and insignificant differences found across subtasks.

For numeracy, participants achieved high mean results across basic and advanced subtasks. For all basic tasks including number identification, number discrimination, missing number, and one-digit addition/subtraction, participants' overall results exceeded 70% with number discrimination representing the strongest skill across all numeracy assessments. Participants' performance in advanced skills was also strong with mean scores for word problem solving and two-digit addition also exceeding 70%. Participants achieved slightly lower results for two-digit subtraction with this assessment representing the lowest achievement score, on average, overall. There are no gender differences in performance.

Table 6: Subtask performance for CBE Cycle 1 participants

Subtasks	Overall sample mean percent score (%)	Female mean percent score (%)
Oral vocabulary	87.5	88.3
Letter sound identification	50.6	52.4
Non-word reading	44.3	45.2
Oral reading	72.1	73.2
Reading comprehension	71.4	72.3
Listening comprehension	76.1	77.1
Letter sound identification	45.9	46.6
Non-word reading	39.4	39.4
Oral reading	59.8	59.7
Reading comprehension	63.6	64.3
Listening comprehension	74.6	73.6
Number identification	73.1	73.8
Number discrimination	81.6	81.2
Missing number	75.3	75.9
One-digit addition	75.2	76.3
Two-digit addition	70.3	71.5
One-digit subtraction	73.2	74.7
Two-digit subtraction	66.2	66.6
Numeracy word problems	79.2	78.9

Source: CBE Cycle 1 Tracer Study

6.1 Overview of Zero Scores

In addition to presenting the mean percent scores, Table 7 provides an overview of the subtask zero scores for learning assessments. These scores demonstrate the percentage of participants who could not correctly answer a single item on the given subtask. This figure reflects those students performing at critically low levels.

In examining zero scores for English literacy, whilst comparably low proportions if non-performers (between 11.58-15.68%) were observed for letter sound identification, oral reading, reading comprehension and listening comprehension, close to a quarter of participants could not answer a single item on non-word reading. This finding corroborated the afore mentioned subtask results which revealed non-word reading to be the most challenging skill for participants overall. Similarly, across English subtasks, students demonstrated the least difficulty with oral vocabulary with only 2.53% unable to answer a single question on this assessment.

For local language literacy, the basic skill of non-word reading was found to be most difficult assessment with over a quarter of participants identified as non-performers where letter identification posed the least challenge with 12.95% unable to respond to any item.
For advanced tasks, close to a quarter of participants could also not answer a single reading comprehension item. Lower proportions of non-performers were found for oral reading, listening comprehension and letter sound identification.

For most numeracy subtasks, less than 10% of the sample attained zero scores. Slightly higher proportions were observed for the advanced tasks of two-digit addition and two-digit subtraction with the latter showing the highest proportion of non-performers for all numeracy assessments. This finding also supported previously presented subtask results which similarly found that students experienced the greatest challenge with two-digit subtraction relative to other subtasks.

Table 7: Percentage of non-performers for CBE Cycle 1 participants

Subtasks	CBE Cycle 1 zero score (%)	Female zero score percent (%)
English Literacy Subtasks		
Oral vocabulary	2.53	2.65
Letter sound identification	12.32	11.73
Non-word reading	23.68	22.79
Oral reading	11.58	10.62
Reading comprehension	15.68	13.50
Listening comprehension	11.58	9.96
Local Language Literacy Subtasks ddddssssdddSusSubtSubt		
Letter sound identification	12.95	12.17
Non-word reading	25.89	24.56
Oral reading	19.37	17.70
Reading comprehension	22.74	20.58
Listening comprehension	15.16	15.04
Numeracy Subtasks		
Number identification	9.37	8.19
Number discrimination	3.37	2.88
Missing number	3.47	3.10
One-digit addition	9.26	8.41
Two-digit addition	12.53	10.62
One-digit subtraction	9.16	7.96
Two-digit subtraction	14.63	13.94
Numeracy word problems	5.37	4.42

Source: CBE Cycle 1 Tracer Study

6.2 Overall Scores and Proficiency Levels

Table 8 presents the mean percent of beginner, advanced and overall scores for English literacy, local language literacy and numeracy assessments. As can be seen, participants'' performance in advanced English literacy and local language literacy exceeded their basic scores. Participants' performance in English was also higher for basic, advanced and overall scores compared with local language literacy. For numeracy, participants showed stronger results for all component scores with less discrepancy observed between basic and advanced levels. Overall, whilst females' results were marginally higher for the most part, none of these differences were found to be statistically significant throughout.

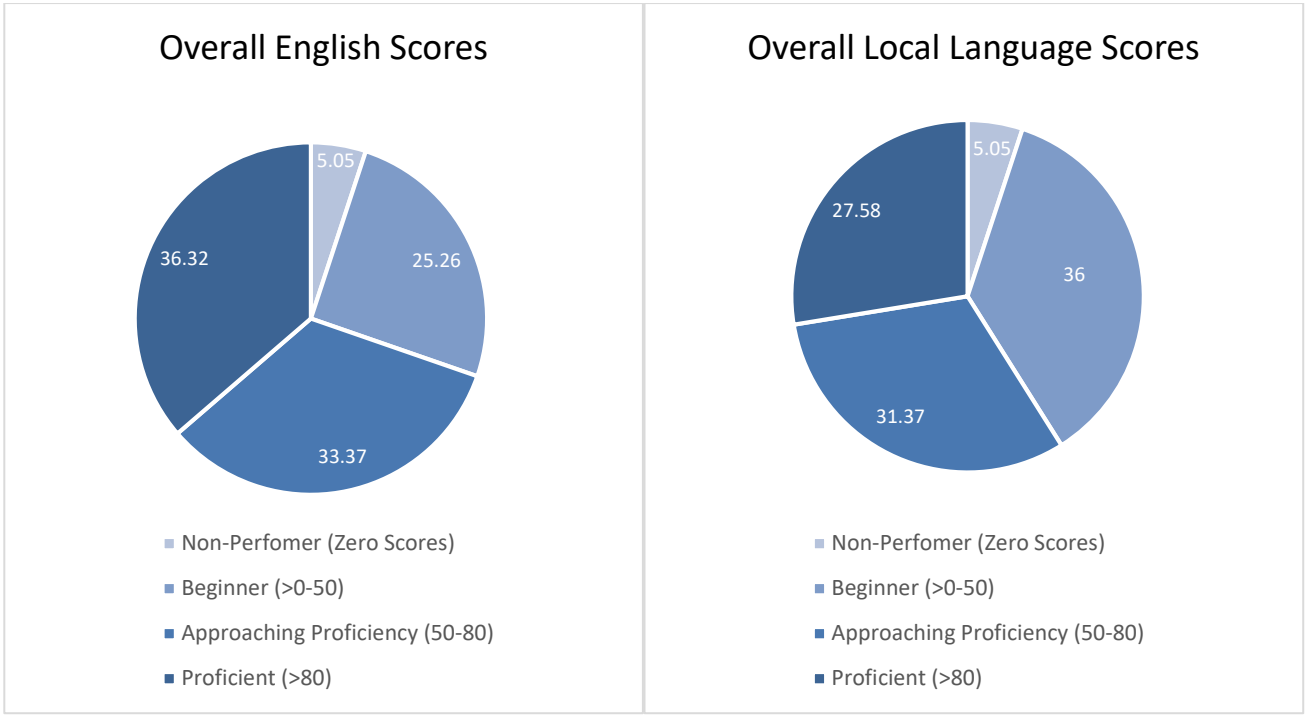
Table 8: Overall and component scores for CBE Cycle 1

Scores	CBE(%)	Female(%)
English Literacy		
Basic score	47.49	48.84
Advanced score	71.75	72.73
Overall score	62.61	63.73
Local language Literacy		
Basic score	42.69	43.07
Advanced score	61.69	62.03
Overall score	55.56	55.64
Numeracy		
Basic score	75.64	76.35
Advanced score	71.76	72.26
Overall score	74.39	74.93

Source: CBE Cycle 1 Tracer Study

The proportion of participants for each proficiency level for overall English literacy as well as local language literacy results are shown in Figure 10. As shown for English, very few students fell into the non-performer category whilst approximately a quarter of the sample were identified as beginners. 36% were classified as proficient and 33% of the participants classified as "approaching proficiency". For local language literacy, only 5% were classified as non-performers and 36% as beginners in their assessments. 31% of the sample were identified as approaching proficiency and 28 represented as proficient.

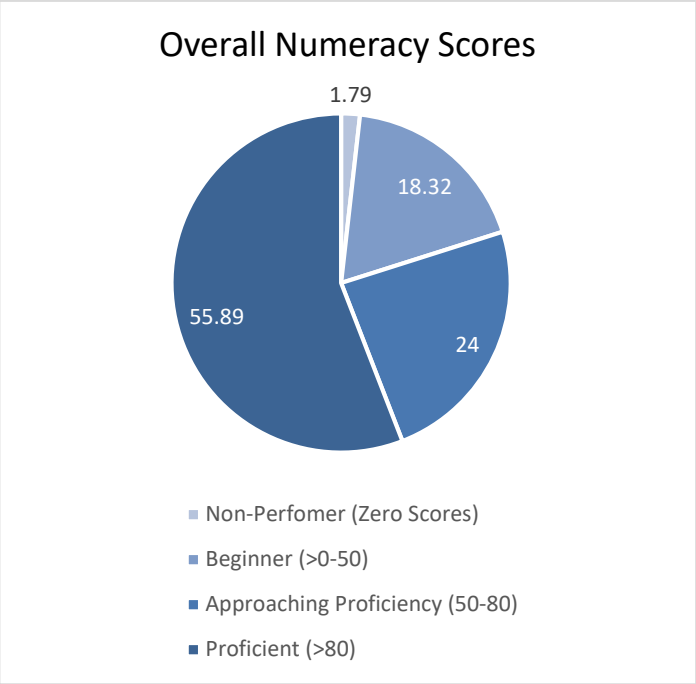
Figure 8: Proficiency levels for overall English and local language literacy scores



Source: CBE Cycle 1 Tracer Study

For numeracy, less than 2% of the sample were found to be non-performers and 56% classified as proficient. Almost a quarter of the sample were identified as approaching proficiency in numeracy and only 18% found to be beginners. As shown in Appendix C, we found no statistical significant gender differences for frequencies of proficiency levels for English, local language literacy and numeracy.

Figure 9: Proficiency levels for overall numeracy scores



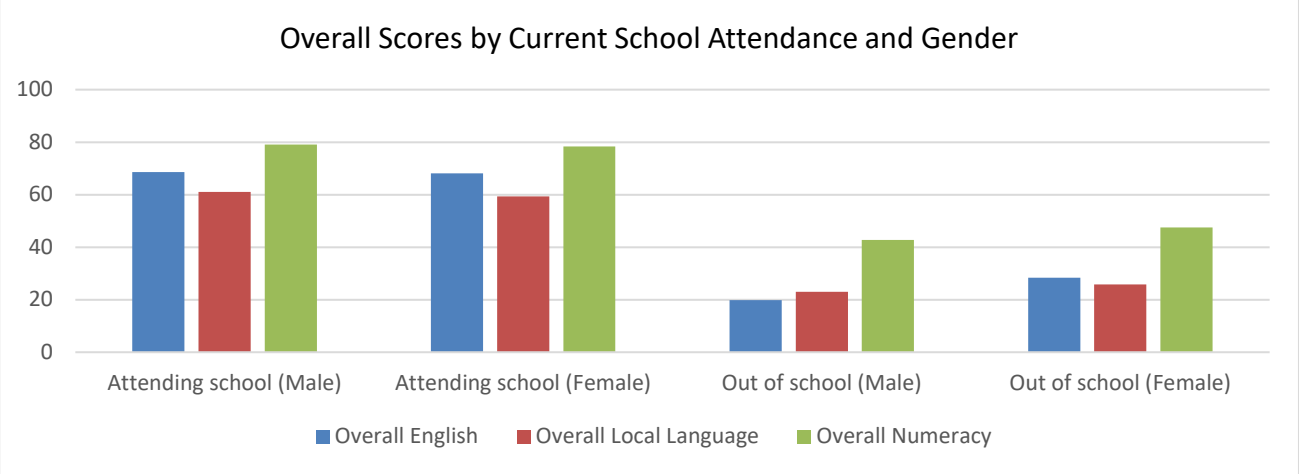
Source: CBE Cycle 1 Tracer Study

6.3 Differences by Gender and Current School Attendance

Figure 12 compares the overall results of participants currently attending school at the time of data collection and those who had discontinued their education by gender (of the entire sample, 106 participants were not attending school; 60 males and 46 females).

As can be seen from Figure 12 there are significant differences in attainment between those who remained in school and those out of school for all three tests. For English literacy, participants out of school scored on average, 45.38 percentage points lower than their in school counterparts, a finding which represented the largest gap between scores for this variable overall regardless of the gender of the participant. For local language literacy, out of school participants scored on average 36.53 percentage points lower than their in school counterparts and for numeracy the gap in performance was 34.57 percentage points, again regardless of gender.

Figure 10: Differences in overall scores by current school attendance and gender

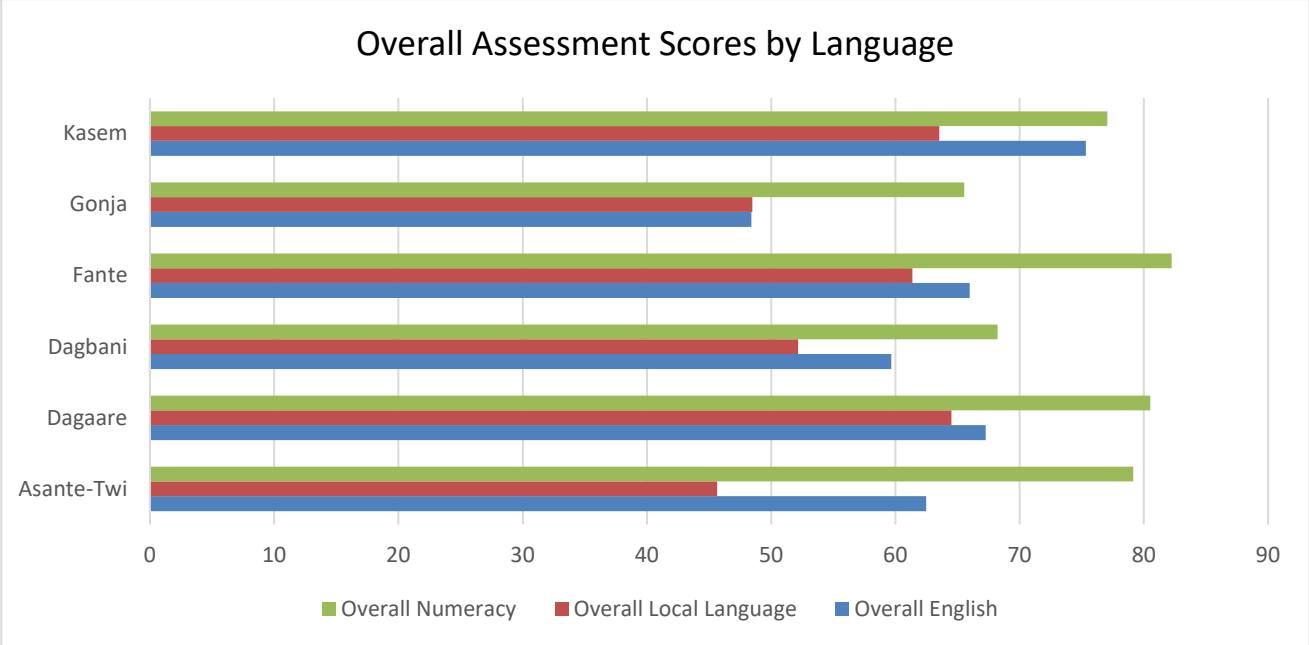


Source: CBE Cycle 1 Tracer Study

6.4 Differences by Language

This section examines differences in performance between the Ghanaian languages that students were tested in and learning at school. Figure 13 presents differences for overall scores in English literacy, local language literacy and numeracy. From this, it can be seen that for English and numeracy, participants from the Kasem group attained the strongest results across languages. For local language literacy however, Fante speaking participants, who also represented the UNICEF sample, attained the highest results. For English and numeracy, Gonja, represented the lowest achieving language whereas for local language, students from the Asante-Twi group achieved the weakest scores. In the majority of cases, students attained stronger results in English and numeracy relative to their performance in the local language of instruction. For Gonja, however, English and local language performance was comparable. The largest discepency beween English and local language performance as well as numeracy and local language results was observed with Asante-Twi. For English and numeracy, however, the largest difference between results was found within the Gonja group of participants.

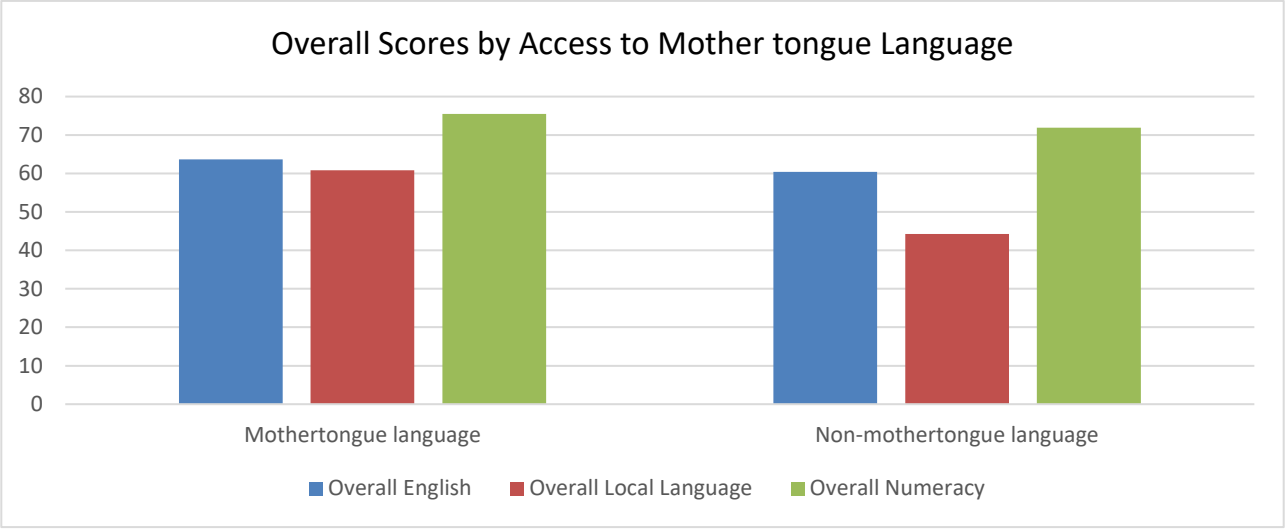
Figure 11: Differences in overall scores by language of assessment



Source: CBE Cycle 1 Tracer Study

Figure 14 further considers participants' academic performance relative to whether their mother tongue language matched their language of assessment, or not. As noted, participants were tested in a language which represented their school's local language of instruction. In 31.4% of cases, however, this local language differed from that which was spoken in the participant's home. Figure 14 shows that for overall English, local language and numeracy assessments, students who were not tested in their mother tongue achieved lower results. For English, this difference was modest and not found to be statistically significant at the descriptive level; i.e. without controlling for the influence of confouding variables[vi]. For numeracy, however, the 3.57 percentage point discrepency was found to be significant at the 0.05 level and for local language literacy the difference was found to be highly significant at the 0.001 percent level.

Figure 12: Differences in overall scores by access to mother tongue language

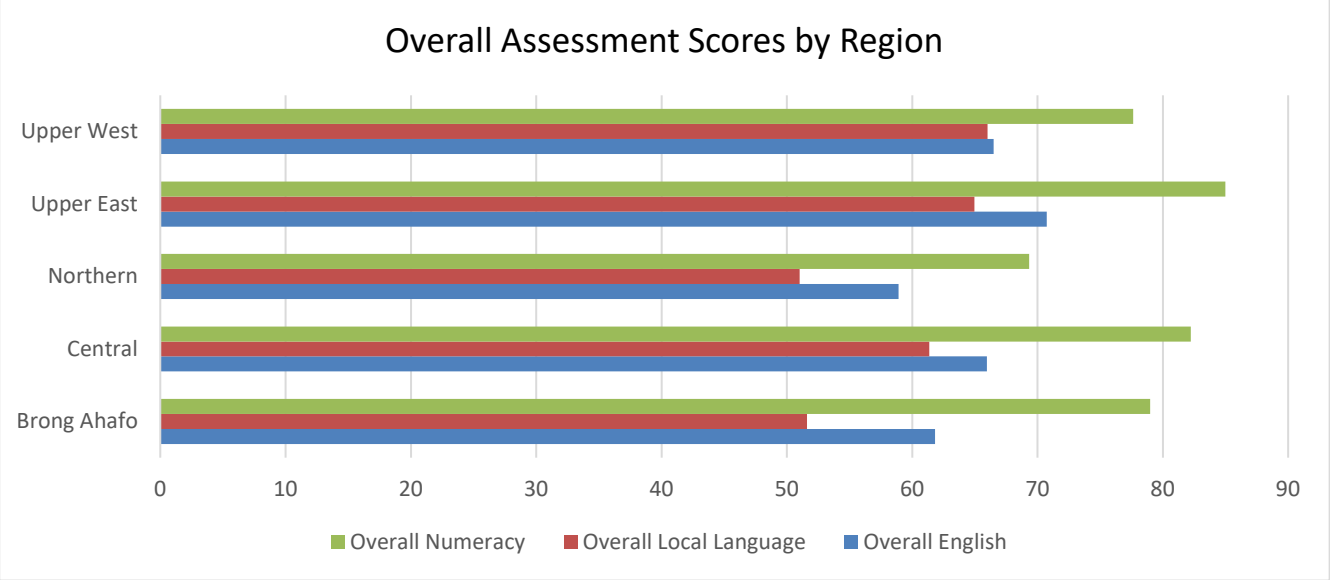


Source: CBE Cycle 1 Tracer Study

6.5 Differences by Region

In examining CBE Cycle 1 participants' scores by region, the Upper East stood out as the strongest performing area for numeracy and English, with scores far exceeding overall sample averages. For local language literacy, however the Upper West region revealed the strongest achievement. The lowest attainment levels were observed within the Northern region with scores falling well below the overall average for all three assessments. The largest gap between local language literacy and English literacy results were observed within Brong Ahafo region. This region similarly revealed the biggest gaps in performance between numeracy and English, as well as numeracy and local language scores.

Figure 13: Differences in overall scores by region



Source: CBE Cycle 1 Tracer Study

6.6 Summary

Overall, results from this section show that CBE Cycle 1 participants' results in literacy (English and local language) exceeded 50% overall. In numeracy, overall results were found to be even stronger, exceeding 70%. In examining subtasks for both English and local language literacy, participants were found to achieve higher results for advanced compared with basic tasks, on average. For numeracy, there was comparable performance for basic and advanced tasks. In respect to proficiency levels, for English, the largest proportion of the overall sample was identified as proficient and for local language literacy, most participants fell into the beginner's category. Across the beginners, approaching proficient and proficient categories, however, there was less than a 10% discrepancy between proportions for English and local language literacy. Very small numbers (5.05%) were identified as non-performers for English and local language literacy. For numeracy, the majority of participants were identified as proficient with only 1.79% found to be non-performers. No significant gender differences were observed for subtask scores, component scores or proficiency levels.

When results were disaggregated by current school status, participants not in school were found to significantly underperform across assessments compared with students in school. Considerable variation in performance was observed between languages with the strongest results for English shown by the Kasem group and for local language literacy, as well as numeracy, by the Fante group, which also represented the UNICEF sample. The weakest performing languages were Gonja for English literacy and numeracy and Asante-Twi for local language literacy. When results were further disaggregated by participants who had access to their home language in school and those that did not, participants in the latter category underperformed across assessments with the biggest difference in results found for local language literacy. In terms of regional differences, the Northern region achieved the weakest scores for all overall assessment scores. For English and numeracy, the Upper East was found to be the strongest performing region with the Upper West attaining the highest scores in local language literacy.

7. Predicting school attendance and understanding sources of variation in assessment scores

7.1 Logit Regression Modelling

This section considers the relative influence of variables of interest on CBE Cycle 1 participants' likelihood of being in school through logit regression modelling, as well as on their overall assessment scores through linear regression modelling.

This section firstly presents results of a binary logit model which specifies the probability that a Cycle 1 CBE graduate is currently in school as a function of observable factors including age, gender, language, work status, household size as well as access to home literacy activity and materials (See Table 9). For this model, overall assessment scores were not included as predictors due the unavailability of results at baseline in 2013 which meant that only endline scores in 2018, and not gain scores showing progress over time, could be used. The coefficients in this model are displayed as odds ratios. These represent the odds (or likelihood) of being in school, given a one unit increase in the explanatory variable. Numbers greater than 1 demonstrate increased odds of being in school, whereas numbers less than 1 show decreased odds. A coefficient of exactly 1 means there was no difference in the odds for that variable.

As shown in Table 9, age was a highly significant predictor of school attendance. For example, the odds of being in school decreased by 23% for each additional year of age. In other words, the older a participant is, the less likely they are to be in school. For language, participants who spoke Gonja, were found to be 69% less likely than the reference category of Asante-Twi to be in school. In addition, participants who were able to transition into a school environment where the local language of instruction matched their mother tongue language were 2.45 times more likely to be in school compared to those whose languages differed. Having access to home literacy materials and engaging in home literacy activity were both highly significant predictors of current school attendance with participants, in each case, being more than five times more likely to be in school. Participants working outside of home were estimated to be 75% less likely to be in school, a result which was also highly significant. Gender, household size and wealth variables did not differentiate in and out of school participants.

Table 9: Logit regression models predicting school attendance

Explanatory Variables	Odds Ratio
Age	0.77***
Female	1.14
Language	
Asante-Twi (Reference group)	
Dagaare	1.81
Dagbani	0.67
Fante (UNICEF)	1.26
Gonja	0.31*
Kasem	0.59
Household size	1.05
Access to home literacy materials	5.48***
Access to home literacy activity	5.64***
Working outside of home	0.25***
Access to mothertongue instruction	2.45**
Wealth Index by District	
Low (reference group)	
Mid-low	1.17
Mid-High	1.41
High	1.17
_cons	13.36

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.
Source: CBE Cycle 1 Tracer Study

7.2 Linear Regression Modelling

This section reports the results of models predicting overall English literacy, local language literacy and numeracy scores as a function of key confounding factors including age, grade, gender, current school attendance and language.[vii]

Table 10 shows the results of three models which each represent a regression with the same predictor (independent) variables, but different outcome (dependent) variables.[viii] As seen across models, being female was not found to significantly impact assessment scores. Age, similarly, was an insignificant factor for overall English and numeracy test scores but was found to significantly positively predict overall local language scores by 0.88 percentage points.

For grade level, Grades 4-6, JHS and SHS and above revealed significantly higher scores than the Grades 1-3 reference group across models. Children not in school were found to significantly underperform compared with students in Grades 1-3 in all models by between 15.96 and 23.52 percentage points, a finding that was highly significant across examples.

In respect to specific language differences, Fante predicted the strongest scores relative to Asante-Twi across models, with significant increases ranging from 14.71 percentage points for numeracy to 43.29 percentage points for local language literacy. Kasem was further found to be among the strongest performing languages relative to the reference group of Asante-Twi with significantly higher scores observed for English (12.86 points) and local language literacy (25.88 points). As noted, in Section 5, Asante Twi was the lowest performing language in terms of local language literacy results and accordingly, all coefficients in Model 2 predicted increases from this reference category. For English and numeracy, both Gonja and Dagbani were found to significantly underperform relative to Asante-Twi.

Access to mother tongue language instruction was associated with significant increases in scores across all models. Even after accounting for the language themselves, it was found that having a language match for a student was associated with a 4.57-point increase for English and 5.2-point increase for numeracy. The highest positive association was observed with local language scores, where access to mother-tongue language predicted a 21.11-point increase, a finding which was highly statistically significant. In all cases, household size was also found to positively predict scores by between 0.19-0.22 percentage points across models. Interestingly, access to home literacy materials, engaging with literacy activities in the home and working outside of home were found to be insignificant variables across models.

Table 10: Linear regression models predicting overall assessment scores

Explanatory Variables	Model 1 Overall English	Model 2 Overall Local Language	Model 3 Overall Numeracy
Female	0.12	-0.8	0.43
Age	-0.07	0.88*	0.69
Grade			
Grade 1-3 (Reference group)	0	0	0
Grade 4-6	19.82***	18.77***	15.55***
JHS	34.74***	31.92***	21.65***
SHS and higher	34.93***	32.40***	20.07***
Out of school	-20.42***	-15.96***	-23.52***
Language			
Asante-Twi (Reference group)			
Dagaare	0.26	16.35***	-2.18
Dabani	-5.92*	1.63	-12.70***
Fante	17.27***	43.29***	14.71***
Gonja	-9.40*	5.02	-10.56**
Kasem (UNICEF)	12.86*	25.88***	0.5
Household size	0.19*	0.22*	0.21**
Access to home literacy materials	3.65	3.67	-3.04
Access to home literacy activity	-0.58	-4.22	-3.64
Working outside of home	-1.61	-3.68	0.84
Access to mother tongue language	4.57*	21.11***	5.20**
Wealth index by District			
Low (Reference group)	0	0	0
Mid-Low	-0.83	-4.17	-3.18
Mid-High	-4.17	-7.14**	-3.69
High	-4.11	-9.28***	-4.20*
_cons	39.22***	2.94	57.94***

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.
Source: CBE Cycle 1 Tracer Study

8. Conclusion

The aim of this study was to ascertain the longitudinal benefits of the CBE programme for Cycle 1 participants who were involved in the initiative in the 2013/2014 academic year. In order to achieve this, survey and assessment data was collected from 948 CBE Cycle 1 participants and their parents in March 2018, 4 years after completion of the CBE programme. In particular, this report was interested in ascertaining differences between participants' outcomes and educational progress by way of gender, language, region and current school status. This study also aimed to capture CBE participants' perceptions on the transition experience, their attitudes to schooling and the factors which helped them remain in school after finishing the CBE programme. Parental attitudes were also included in this report to determine the extent to which views towards education have changed since the CBE programme in 2014.

This study revealed that the majority of the surveyed CBE Cycle 1 graduates completed the CBE programme, transitioned into formal school and were currently in school at the time of data collection. Though most of the sample had remained in school, over half found the transition experience challenging, citing language as the most difficult factor. Overall, only 5.4% of the sample reported not transitioning into formal school following CBE in 2014. 11.1% of the sample were found to be out of school at the time of data collection with their main reported status being working for their families in farming or domestic duties without payment as their main

status, or taking appreticehsips. Though these results are encouraging and suggest the potential success of the CBE programme in facilitating successful transition and continuation into formal school, it must be remembered that the sample in question represented those students who could be readily accessed from their original CBE community. This sample, therefore, is not be generalisable to the entire CBE Cycle 1 population and results must be interpreted with this in mind.

In respect to Cycle 1 CBE participants' opinions on their most recent school experience, the majority felt happy at school, safe and had positive peer relationships. Out of school participants, however, reported more negative responses across questions. Most CBE Cycle 1 graduates aspired to higher education, wanted to work in the formal sector and felt they could achieve their goal. For those that did not, the main reported factor was economic constraints. In terms of parents' perceptions of education, over 80% of participants reported that both their own and community's attitudes towards education had changed since CBE particularly through more children attending school and more equitable educational opportunities for boys and girls. These findings suggest that the CBE programme could help to establish a strong foundation for positive school experiences, motivation for learning and future aspiration for those children who remain in school following the programme. It also indicates that the potential of the programme in facilitating more positive perceptions concerning the importance of schooling for both boys and girls amongst the families and communities of participants.

Age, access to mother tongue language, access to home literacy materials and engagement in home literacy activity were the main variables predicting participants' likelihood to be in school at the time of data collection. Participants who reported working outside of the home were also less likely to be in school. These findings point to the challenges faced by CBE children's to continue in education following CBE completion. Reading materials, local language of instruction, and educational activities in the home are strong predictors of continued educational participation. Poverty, on the other hand, remained a strong constaint for transitioning and progressing in education.

In conducting multivariate linear regression analyses, achievement in test scores was predicted by access to mother tongue language and household size. In particular, CBE graduates who had access to mother tongue language in school had higher test scores than those who did not have access. Similarly, CBE graduates who lived in larger households also showed higher achievement in test scores. We also found considerable variation across test scores depending on the local language of the test. For all assessments, Fante, which also represented the UNICEF sample, was found to achieve the highest scores, after controlling for a number of predictor variables. We did not find substantial gender differences indicating that our results on learning for English and mathematics are gendered neutral. The fact that most of the graduates from the CBE programme which we interviewed successfully transitioned to public basic schools and with a sizeable proportion progressing to upper primary and to the end of JHS demonstrates the potential of the CBE programme. In addition, the importance of ensuring that students transition into schools where the mother tongue was still spoken was also highlighted by these graduates as an important enabler of successful transition after the CBE programme. For the majority of these graduates, the CBE is able to provide opportunities to learn that enhance later success in public schools. However, poverty or economic constraints remains a threat to successful transition and completion of basic education for CBE students. The CBE experience also promotes a positive attitude towards schooling, and evidence appears to be coming from communities/households that CBE offers a real chance of progressing in education.

Appendices

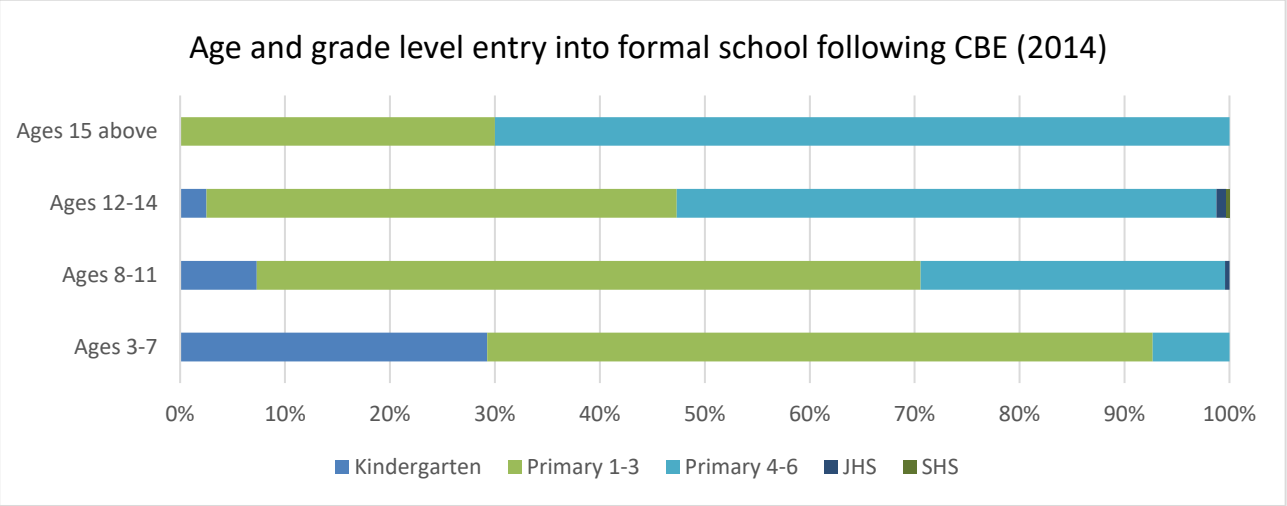
A. Educational trajectories for female Cycle 1 CBE participants

Table 11: Female response rates for educational trajectories

Age of participants	Frequency of sample	% completed CBE	% transitioned to school	% currently in school	% completed primary	% continued to JHS	% continued to SHS
Ages 7-11	20	70.00	95.00	95.00	5.00	5.00	0.00
Ages 12-15	257	96.89	98.44	93.77	44.75	40.47	0.00
Ages 16-18	155	96.13	92.26	83.87	72.26	69.68	8.39
Ages 19-24	16	81.25	81.25	37.50	62.50	56.25	18.75

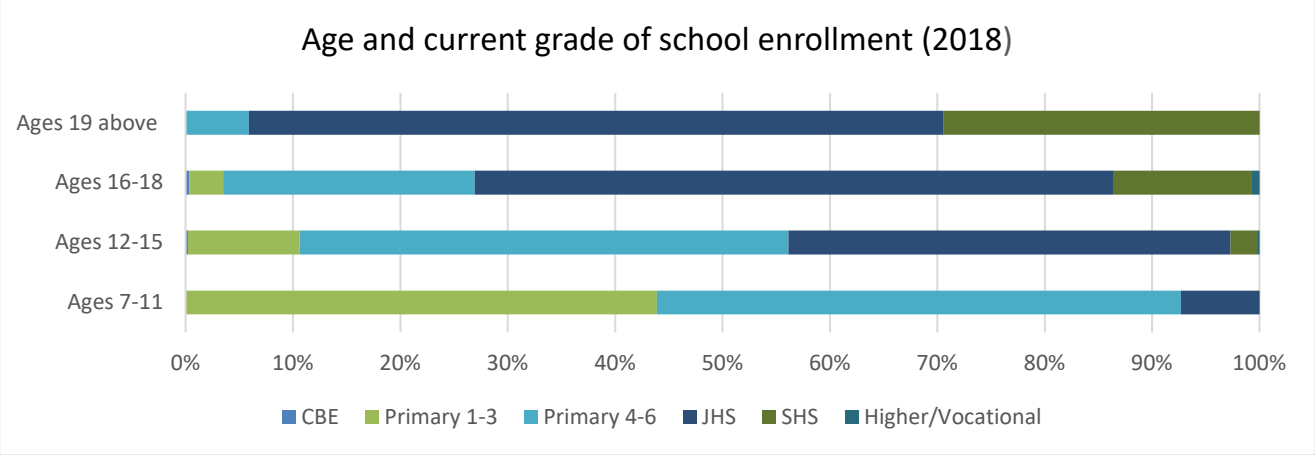
B. Comparing age and grade level following CBE (2014) with age and grade level at time of data collection (2018)

Figure 16: Grade level entry following CBE completion in 2014 by age



Source: CBE Cycle 1 Tracer Study

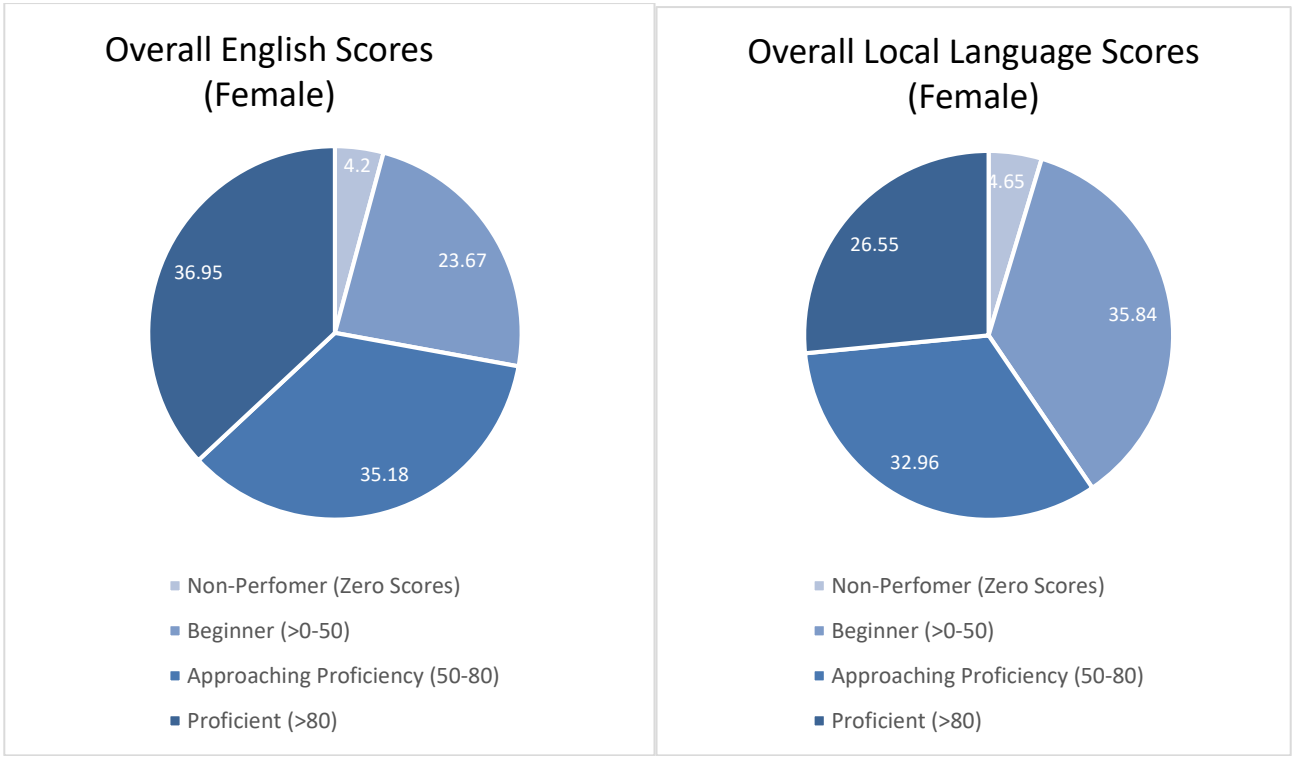
Figure 17: Current grade level at time of data collection in 2018 by age



Source: CBE Cycle 1 Tracer Study

C. Overall proficiency scores for female Cycle 1 CBE participants

Figure 14: Female overall proficiency scores



Source: CBE Cycle 1 Tracer Study

[i] It is important to note that these assessments were applied in the current study with the purpose of testing general skills in literacy and numeracy; they were not used to determined levels of learning which specific to students' grades which have certain expectations in regards to literacy and numeracy skills and knowledge.

[ii] For a more thorough review of learner assessments see https://www.epdc.org/data-about-epdc-data-epdc-learning-%20outcomes-data/egra-and-egma and https://shared.rti.org/

[iii] The CBE evaluation team agreed to reduce the sample number for the Cycle 1 Tracer study to enable an increased sample for the control group of the Cycle 4 Tracker study.

[iv] The ages of married participants ranged from 16-21 for males and 14-18 for females. The age range of participants when they had their first child was 16-23 for males and 15-17 for females. Of the 16 participants (8 male and 8 female) with children, 9 (6 male and 3 female) reported having help with childcare. The majority of males reported their spouse helped most with childcare where females stated a family member.

[v] There was one instance where a child aged 10 reported having finished primary, but the adult stated that the child was currently in Grade 5. This figure has been based on child reported data.

[vi] As noted, differences are presented here without controlling for the influence of confouding factors such as age, grade and language. As further regression analysis will show in Section 7, when confounding variables are controlled for, statisically significant differences are found between students who had access to their mother tongue language and those who did not, for overall English scores.

[vii] As noted, overall scores comprised all subtasks that were administered to students for the learner assessments. The only exception was the overall score for English literacy, which omitted the subtask of oral vocabulary. This was done to ensure consistency between component and overall scores generated for local language literacy, which did not include the subtask of oral vocabulary.

[viii] The figures displayed in**Error! Reference source not found. 10** can be understood as follows. For continuous variables such as age and household size, a one unit increase in the explanatory variable is associated as an assessment score increase or decrease as indicated by the coefficient shown for each model (positive = increase; negative = decrease), holding all other variables constant. For binary (e.g. female) and categorical variables (eg. grade, language and wealth index) each coefficient can be understood as the assessment score impact in relation to the reference group. For example, in Model 1, female students were found to score on average 0.12 points higher than males, a finding which was insignificant.

UNIVERSITY OF CAMBRIDGE
Faculty of Education

REAL
Research for Equitable Access and Learning

REAL Centre
Faculty of Education
University of Cambridge
184 Hills Road, Cambridge
CB2 8PQ, UK

@REAL_Centre

REAL Centre Director: Professor Pauline Rose
Email: pmr43@cam.ac.uk
Telephone: +44 (0) 1223 767511

REAL Centre Administrator
Email: REALCentre@educ.cam.ac.uk
Telephone: +44 (0) 1223 767693

www.educ.cam.ac.uk/centres/real

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