Annex A.1 – Terms of Reference

Endline Report – Strategic Partnerships Window

Final Version (September 2017)

Annex A.1 - GEC Evaluation Manager Terms of Reference

September 2011

Introduction

1. The Department for International Development (DFID) manages the UK's aid to poor countries and works to get rid of extreme poverty. DFID is working to reach the Millennium Development Goals (MDGs), the international targets agreed by the United Nations (UN) to halve world poverty by 2015. Progress on girls' education is critical to the achievement of these targets. Millennium Development Goals (MDGs) 2 and 3 specifically relate to education and achieving gender parity.

2. Globally 39 million primary age girls, have never been to school. And 70% of these girls come from the poorest and most marginalized communities in the most disadvantaged locations, ethnic groups etc. Over the last 20 years primary enrolments for girls have improved along with boys but completion rates are equally low for both sexes. At the secondary level the differences between boys and girls participation rates really start to show. Large disparities exist within countries with poor rural girls come off the worst in terms of educational disadvantage even at the primary level.

3. Levels of traditional ODA to education have stagnated and, given the global financial situation and shifting development priorities, may even go into decline. DFID is refocusing its efforts on girls' education through the Girls Education Challenge fund with the ambition that this will have a catalytic effect on other international partners.

4. The GEC is open to competitive bids from non-state organisations to fund programmes that focus on getting girls into primary and lower secondary education, keeping them there, and making sure they learn. It is expected that £355 million is available in total to support the GEC up to March 2015.

5. This support should enable at least 660,000 marginalised girls to complete a full six-year cycle of primary school or 1 million marginalised girls to complete three years of junior secondary school.

6. A dedicated Fund Manager will be responsible for the day-to-day operation of the GEC, including establishing the bidding process, supporting bidders, sifting and scoring proposals, evaluate Value for Money and making project funding recommendations for Board and Ministerial approval, and managing the relationship with projects to be funded.

7. The independent Evaluation Manager which these Terms of Reference relate will be contracted to establish and run a rigorous monitoring and evaluation framework to assess the effectiveness and impact of individual projects and the GEC as a whole, and disseminate lessons to inform GEC design and wider DFID programming.

Objective

8. DFID is seeking to procure the services of an independent Evaluation Manager for the Girls Education Challenge (GEC) Fund over the next four years. DFID is committed to ensuring that every girl and every boy has access to a good quality education but there is a specific need for an additional focus on girls. The Evaluation Manager will provide an independent and rigorous monitoring and evaluation function, designing and implementing a framework which will assess the effectiveness of individual projects and the GEC as a whole and disseminate good practice.
9. Full details of the GEC can be found in the Business Case on DFID's website www.dfid.org.uk

Recipient

10. The recipient of this service will be DFID.

Scope of Work and Requirements

11. The independent Evaluation Manager's primary responsibility is to track results effectively, feedback accurate assessments to the GEC Board and DFID and ensure lessons are available to inform GEC evolution and wider DFID programming.

12. The Evaluation Manager will be expected to provide a draft Monitoring and Evaluation Framework for approval by the GEC Board and DFID within the first 6 months. This inception report should contain:
    - risk management plan;
    - quality assurance plan;
    - proposed basis of work with Fund Management agent;
    - evaluation strategy;
    - outline of proposed methods for assessing core indicators;
    - outline of proposed approach to assessing grant-specific additional indicators;
    - outline of proposed approach to measuring and evaluating value for money of individual projects and cost benefit of the programme as a whole;
    - draft strategy for disseminating information to key stakeholder and partners;
    - proposed outline method for measuring educational outcomes; and
    - first draft of design of longitudinal study.

13. Once the inception report it is approved it is expected that the Evaluation Manager will be responsible for delivering the following outputs in consultation and agreement with DFID:

14. Tracking progress: ensuring robust measurements of performance at the project and programme level:
    - quality assure project progress reports, with a focus on ensuring robust tracking of performance based on agreed milestones and targets and challenging data and conclusions if necessary;
    - notifying DFID and the GEC board of progress with projects, including where problems have arisen that may require action at least twice annually; and

15. Evaluating new approaches to implementation: disseminating and presenting lessons, including cost comparisons, to inform GEC evolution and wider DFID and global programming;:
    - with the Fund Manager disseminate lessons learned and report those to the GEC board to agree evolution of GEC accordingly;
    - generic lessons are drawn out on what works in girls' education, triangulated with other evidence, and reported to DFID. These lessons may be both immediate and used to inform future GEC evolution or longer term and inform future DFID or others' interventions;
    - systemic lessons are drawn out on the costs and benefits of the Challenge approach compared to other approaches including DFID bilateral aid and other DFID Challenge Fund type operations.

16. In-depth evaluations: to include working with DFID and the GEC Board to select, design and administer in depth evaluations on a select number of project interventions and thematic areas
    - the GEC Board and DFID will, following recommendations from the Evaluation Manager, select a number of projects and thematic areas for in depth evaluation. These decisions will be based on relevance to the overall objectives of the GEC, potential for wider DFID and global lesson learning and the potential to fill key knowledge gaps and feasibility and cost of collecting data. Whilst designing these evaluations the Evaluation Manager's considerations should include how to: measure the adequacy of methodologies; assess cost comparisons with relevant tried and tested interventions; combine quantitative and qualitative assessments and include a variety of methodologies including community surveys;
    - tracking whether result chains set out in the Theory of Change and logframe hold good and evidence base is sound; and
    - producing and dissemination evaluation syntheses across DFID and wider audience.

17. Design the Longitudinal study: to include draft methodology, outline core indicators, milestones and example budget:
    - Design at least one separate longitudinal study (probably to be delivered through a research institute) to follow through a cohort of girls for at least ten years to assess the longer term health and economic impact of education set out in the Theory of Change likely to require study well beyond the 4 year life of

the programme. The focus of the longitudinal study will also be selected by the GEC Board after the first round of bids.

18. Supporting grantees to develop and deliver effective project M&E: working with the Fund Manager to help grantees design and manage effective M&E components which are consistent with the GEC logframe;
    - support the Fund Manager to ensure all successful proposals have written and financed within the project concrete M&E plans designed to collect systematic baseline data; consistently monitor progress against milestones and targets in the GEC log frame and a plan for conducting an end of project survey to facilitate the project completion report.

19. Disseminate and communicate information: design and administer a structure for disseminating key findings and lesson learning to key partners and stakeholders
    - Through a variety of mediums design an innovative strategy to disseminate data and engage key partners and stakeholder in lesson learning on implementation and good practice from the GEC reaches a wide audience.
    - This should include outreach and engagement with: project implementing partners; national governments; DFID country offices; bilateral and multilateral the private sector and civil society.

20. In addition the Evaluation Manager will be expected to:
    - establish a good working relationship with the Fund Manager;
    - support the Fund Manager to establish appropriate monthly reporting mechanisms;
    - support the Fund Manager to update the project logframe annually to be approved by DFID; and
    - respond to the needs of the GEC Board.

21. The Evaluation Manager should have a proven track record of:
    - monitoring and evaluation of development programmes using both quantitative and qualitative methods;
    - work with educational programmes including testing of educational outcomes;
    - social research management;
    - management of impact evaluations; and
    - undertaking evaluations in the context of major donor interventions, ideally focused outside of government

Constraints and Dependencies

22. The GEC will support projects to be implemented in 10 of the 27 countries in which DFID operates. The Evaluation Manager will be expected to provide their own overseas duty of care and logistical arrangements. If deemed necessary DFID may need to be convinced that systems and procedures that they have in place are adequate if traveling to conflict affected countries.

Reporting and Monitoring and Evaluation

23. Key Performance Indicators (KPIs) will be agreed between DFID and the successful bidder during the post-tender clarification stage and before formal contracting. These will ensure that the management of the contract is undertaken as transparently as possible and to ensure that there is clarity of roles and responsibilities between the DFID Internal Team and the Evaluation Manager.

24. The GEC Board will evaluate the performance of the Evaluation Manager throughout the life of the programme and at least twice yearly one of which will be as part of DFID standard Annual Review of the programme. The Evaluation Manager will be expected to submit progress reports and lessons presented written and orally to the GEC Board to DFID twice annually in line with DFID's programme cycle as outlined in the requirements section of this ToR. It is expected that the Evaluation Manager take a proactive approach to notifying DFID of any matters which may require immediate attention.

25. The inception report should be finalized within the first 6 months as detailed in the scope of work and requirements section. The inception report should outline details of timelines for in-depth evaluations and the longitudinal study milestones. Comprehensive progress and evaluation report in spring 2014 to inform possible future support for the GEC. The final evaluation report by February 2015.

Timeframe

26. The contract for the Evaluation Manager will be awarded from February 2012 – March 2016. The contract is designed to end one year after financing is dispersed to allow a final evaluation of projects to be completed if necessary.

27. The final selection of the Evaluation Manager following the short listing will be undertaken through a presentation for each bid. Therefore it will be critical that that the relevant personnel will be available for this. These will be scheduled week commencing 12th December 2011.

28. The Girls Education Challenge fund will run for 4 years initially (2011 – 2015) with the possibility of a further extension. Although no project financing is committed beyond 2015 the Evaluation Manager should consider establishing monitoring and evaluation systems in terms of measuring the long-term sustainable benefits of the GEC benefits beyond the life of the programme.

29. The first Step Change Projects will be awarded in spring 2012 and Strategic Partnerships will be asked to express further interest around the same time. Initial Innovative projects are likely to be awarded in January 2013. All projects proposals will be approved at board level, following recommendations by the Fund Manager, with final sign off required by the Secretary of State for International Development.

30. The Evaluation Manager will be expected to play a significant role supporting the Fund Manager to arrange an event to be held in early 2015 at which the GEC projects will be able to demonstrate the results of their investments to the GEC Board and a panel of potential funders (including private sector foundations).

DFID coordination and management

31. A GEC board will be established – chaired by a prominent development specialist - to provide leadership to the GEC. The board will consist of individuals representing the private sector and the non-governmental sector and include specific expertise in education, evaluation and finance. The DFID GEC team will act as a secretariat to the board.

32. The Evaluation Manager will report directly to the Board. Operating independently from the Fund Manager the Evaluation Manager will provide reports to an agreed timetable to the Board, liaising with the DFID EvD Team as appropriate.

33. The DFID GEC team (consisting of the Senior Education Advisor and Policy and Programme Manager) will have the day-to-day oversight and management of the Evaluation Manager. The DFID EvD Team will also has an oversight role of the GEC Evaluation Manager, providing strategic advice as required and ensuring that evaluation and monitoring activity aligns with wider DFID activity.

34. The DFID GEC team will monitor operational and financial progress on an ongoing basis and raise any issue that require attention to the chair of the GEC Board and DFID senior management and Ministers as necessary.

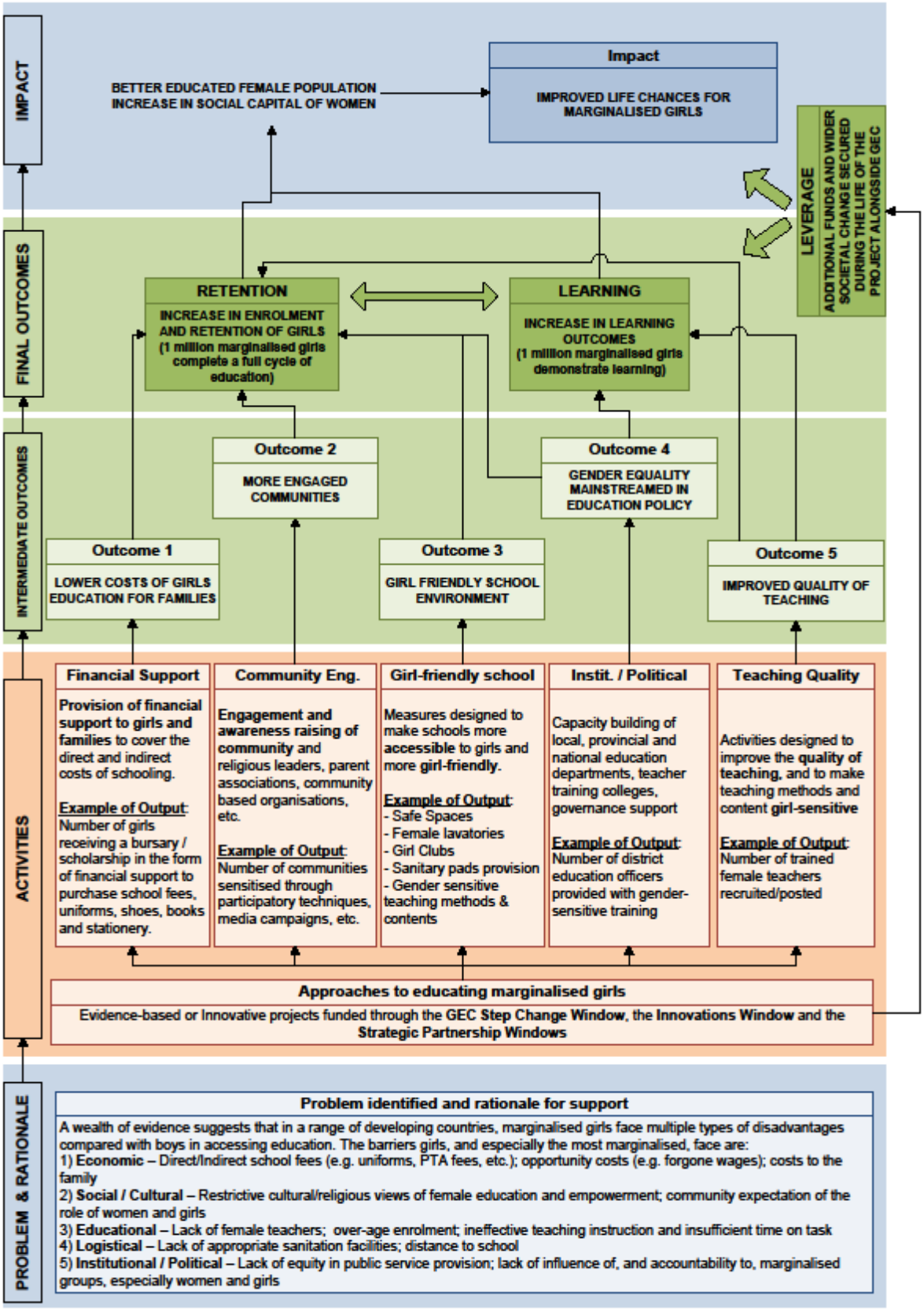
The Evaluation Manager will be expected to report to the board twice annually alongside the Fund Manager who will be expected to present funding recommendations along with progress and decision points to the board. The board will then submit their view on this information to the Secretary of State for International Development for his final approval before any financing is awarded or any significant changes are made to the fund.

Annex A.2 – GEC Theory of Change

Endline Report – Strategic Partnerships Window

Final Version (September 2017)

Annex A.2 – Theory of Change



Annex B – Terms of Reference

Endline Report – Strategic Partnerships Window

Final Version (September 2017)

Annex B - Roles and Responsibilities

Table below provides an overview of the roles and responsibilities of the different EM consortium partners.

Table B.1: Role and responsibilities of the EM consortium partners

Consortium Partner	Role and key responsibilities
Coffey (Consortium Lead)	Coffey is the overall lead of the EM consortium and responsible for the following activities: ✓ Designing and delivering the overarching GEC evaluation strategy ✓ Designing the GEC household survey template and guidance for projects ✓ Drawing of a quantitative sample for projects and the EM research ✓ QA of project's M&E frameworks, research instruments, and evaluation reports ✓ Analysis of EM primary data and meta-analysis of project data and reporting ✓ Preparation of evaluation reports for the programme as a whole ✓ Sharing key findings and lessons learned
ORB International	ORB International manages the EM fieldwork and is responsible for the following activities: ✓ Translating and scripting the EM research instruments ✓ Training interviewers and piloting research tools ✓ Managing relationships with national authorities and the request of research permissions ✓ Overseeing and managing the local research partners' fieldwork in country ✓ Quality assurance and data verification ✓ Data processing and cleaning
RTI	RTI are leading on the design of the learning assessment tools (EGRA and EGMA). Their responsibilities include: ✓ Training interviewers in the use of EGRA/EGMA tests; ✓ Processing and cleaning of learning assessment data; and ✓ Peer reviewing and quality assuring the EM analysis of educational outcomes (led by Coffey).

Table shows the activities carried out by the Fund Manager with regards to M&E in the GEC.

Table B.2: Role of the FM with regards to M&E

FM Consortium Lead	Role and key responsibilities with regards to M&E
PwC	The FM is responsible for the day-to-day operation of the GEC, including managing relationships with projects and partners. With regards to M&E, the FM has played a key role in the following activities: ✓ Developing M&E processes and requirements at the project level (e.g. required sample sizes, target setting, methodological guidance on measuring key outcomes) ✓ Providing support and capacity building to strengthen projects' M&E designs ✓ Formal sign-off of project M&E frameworks and log frames ✓ Developing reporting tools (including the outcome spread sheet) ✓ QA of project's M&E frameworks, research instruments, and evaluation reports ✓ QA of project datasets and validation of learning test results reported by projects ✓ On-going work with projects to rectify data inconsistencies and methodological issues

Annex C – Intervention Mapping

Endline Report – Strategic Partnerships Window

Final Version (September 2017)

Annex C - SPW projects' ToCs and Intervention Mapping

Discovery

Learning Centers: 1,470 schools

1 large-screen TV / 1 smaller teacher viewing unit / a DVD players / a library of over 300 educational video segments (2 copies)

→ Improve student motivation, teachers' confidence → Being in school and learning

Teacher training: 15,383

Student-centered learning, activity-based learning, gender sensitive/responsive teaching practices, and integration of materials from the LCs into teachers' daily curricula;

→ Student motivation, confidence and engagement, teachers' confidence and skills → Being in school and learning

Community mobilisation:

Engagement of parents and community leaders to develop locally led Community Action Plans (CAPs)

→ Parents' engagement, improve KAP → Being in school and learning

Girls Clubs

927 girls' clubs have been formed

→ Student motivation, confidence and engagement→ Being in school and learning

National Chat shows:

26 episodes broadcasted in English nationally. Then in Northern Nigeria, the show was broadcasted in Hausa.

→ Community attitudes → Being in school and learning

Coca-Cola

Teacher training: 1,472

- OSG LSC: 5 days training for OSG LSCs
- ISG LSC: 4 days training for ISG LSCs
- Training of mentors (1 per 5 learning centers)

ISG training in the safe spaces (38% of total girls)- 113 schools

- Training: 9 month education cycle, 2 hours per week:
- Academic tutoring 50%, Financial education 25%, Leadership and life skills 25%- Including vocational skills
- Formation of 211 saving groups: 1,747 ISGs were involved in saving groups activities

OSG training in the safe spaces (62% of girls)

- Training: 9 month, 2 hours per week: Business skills, Financial education, Entrepreneurship and Leadership and life skills
- Formation of 685 saving groups: 7,473 OSGs were involved in saving groups activities
- 6276 girls enter value chains (Coca Cola, d.Light)- For girls over 18 years old.

Gatekeepers involvement and support

- Sensitisation and mobilisation of community members and parents (SBMCs)
- leading the national Technical Working Group on safe spaces and working with the Central Bank of Nigeria (CBN) to develop a financial literacy curriculum that will be rolled out across the 36 states in Nigeria

GEC's overarching goal of improving the life chances of marginalised girls while simultaneously providing further evidence that improved female education contributes to economic growth, reduced poverty, and a range of other social and environmental benefits

Avanti

ICT equipment and content: 205 schools

- Computer labs for individualised learning: 25 computers for each school (with 1000 students)
- Laptops and projectors
- iMilango platform and Maths-Whizz content: Math, English and Life Skills

→ Students engage in learning, increase aspiration, teachers improve their digital literacy, more motivated → Being in school and learning

- SQUID cards: for monitoring attendance

→ Understand marginalisation factors → Being in school and learning

Teacher training: 3,058 teachers trained

- Student-centered learning, activity-based learning, gender sensitive/responsive teaching practices, and integration of materials from the LCs into teachers' daily curricula;

→ Student motivation, confidence and engagement, teachers' confidence and skills → Being in school and learning

Stipends

- Selected based on attendance (less than 70% attendance) and validated by school committees. 10% selected by schools, 10% boys.

→ Offset school cost, encouraging parents to send children to school → Being in school

- Girls Clubs: 387 child clubs (209 of which are girl-only)
- Child clubs to encourage access and dialogue on girl issues
- Tutoring and use of ICT equipment for learning

→ Aspiration → Being in school and learning

Figure C.1: Intervention mapping

✓ This is one of the project's core activities.

✦ This is a project activity but not at the core of the Theory of Change.

Project is not running this activity.

Endline evidence by intervention	SPW projects by country and region					
	Discovery			Coca Cola Cycle 1	Coca Cola Cycle 2	Avanti
	Ken	Nig	Gha	Nig	Nig	Ken
Economic interventions offsetting the cost of education						
Income-generating activities						
Cash transfers						✓
Loans and savings						
In-kind support (school kits, menstrual supplies)						
Infrastructure and resources for schooling						
School and classroom building/ improvement	✦	✦	✦			
WaSH facilities						
Technology in classroom	✓	✓	✓			✓
Learning materials	✓	✓	✓			
Teacher training and support						
Skills training	✓	✓	✓			✓
Gender responsive pedagogy training	✓	✓	✓			
Inclusive classroom training						
Literacy and numeracy training						✓
Peer support and mentoring for teachers	✦	✦	✦			✦
Community-based interventions						
Media (radio, TV, advertising)	✓	✓	✓			
Community meetings/ gatherings	✓	✓	✓	✓	✓	
Parents' groups/ women's groups	✓	✓	✓	✓	✓	
Visits and support to households						
Interventions with men and boys						
Working with faith groups and traditional leaders				✓	✓	
Adult literacy						
Extra-curricular activity and non-formal education						
Tutoring clubs (homework, reading/ literacy)				✓	✓	✦
Mixed/ boys' clubs	✦	✦	✦			

ANNEX C

Endline evidence by intervention	SPW projects by country and region					
	Discovery			Coca Cola Cycle 1	Coca Cola Cycle 2	Avanti
	Ken	Nig	Gha	Nig	Nig	Ken
Mentoring (peer support, learner guides)	✦	✦	✦			
Life skills and health information	✓	✓	✓	✓	✓	✦
Vocational training						
Accelerated learning and alternative schools				✓	✓	
School management and governance interventions						
Technology for school management						✓
Working with PTAs and other stakeholder groups	✓	✓	✓	✓	✓	
Working with education authorities						
Community and private schooling provision	✓	✓	✓	✦	✦	
Empowerment and self-esteem interventions						
Safe spaces	✓	✓	✓	✓	✓	
Role models (older girls, female teachers, parents)	✦	✦	✦			
Mentoring				✦	✦	
Activities that promote girls' voice and participation	✦	✦	✦	✓	✓	
Marginalisation-related interventions						
Interventions in remote or nomadic locations						✓
Interventions addressing cultural/ linguistic exclusion						
Interventions addressing disability						
Interventions with other marginalised groups				✦	✦	
Violence-related interventions						
Community awareness around violence						
Child protection policies development in schools						
Improvement of referral systems						
Interventions against corporal punishment	✦	✦	✦			
Interventions against peer violence						
Interventions against child marriage and FGM						
Interventions against abuse from adults in charge						

Annex D – Learning Outcomes

Endline Report – Strategic Partnerships Window

Final Version (September 2017)

Annex D – Learning Outcomes

D.1 Avanti

Box D.1 Literacy and numeracy score calculation by Avanti

At baseline and endline, Avanti tested reading fluency by measuring the number of words per minute (wpm). However, at endline, the length of the reading passage has been increased from 100 to 179 words in order to avoid ceiling effects.

During the course of the project, Avanti also changed the numeracy test that was scored on 20 points at baseline and on 32 points at endline. The reason was similar than for literacy (avoiding ceiling effects at endline). Unlike for reading fluency test, for which additional words that have been added to the reading task did not change the task difficulty, the additional questions added to the numeracy test made it harder to achieve a given percentage of correct answers. Therefore, neither raw numeracy scores nor percentage of correct response are comparable between baseline and endline.

Comparability issues have been solved by the project through a standardization of literacy and numeracy scores and by performing DID regression on them. Standardisation has been done by using the following methodology:

1. Using the sample of re-contacted girls at endline, the average score and standard deviation have been computed for each treatment group A, B and C, and for the control group D.
2. A new variable expressing the standardised baseline score has been created by subtracting the average from the score and dividing by the standard deviation.
3. Steps 1. and 2. Have been repeated to standardise the endline scores (by using the endline average).

Average standardised scores are then reported in the project's Outcome Spreadsheets and the DID regressions are based on these scores.

D.1.1 Distribution of literacy scores for Avanti

To present the distributions Avanti's literacy scores, **we used the wpm scores** because they are easier to interpret than standardised wpm scores, and because distribution for both are identical. We fixed **bins with 10 wpm ranges**: the first bin includes scores from 0 to 9, the second from 10 to 19, etc. This means that, at baseline, the last bin only contains scores equal to 100, whereas at endline, this score is included in the 100-109 wpm bin (as the baseline paragraph to read contained 100 words whereas the endline one contained 179 words). Although it is important to keep this in mind, this does not affect the shape of the distributions presented below, as negligible number of girls reached this level at baseline.

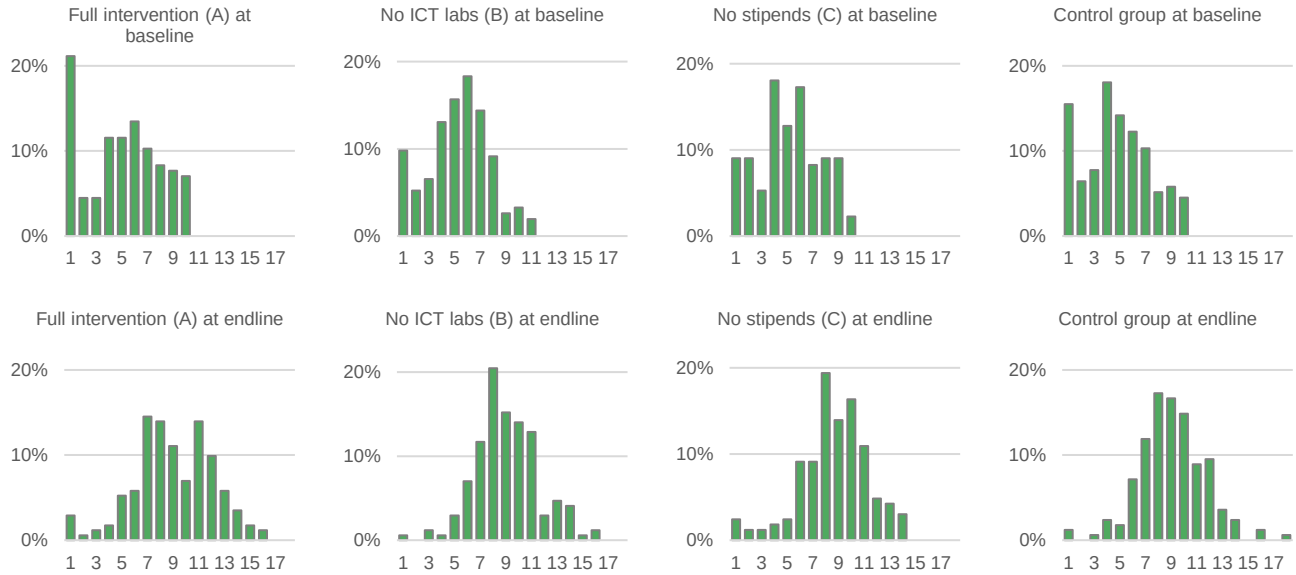
Between baseline and endline, a decrease in the lowest scores is observed in all observed groups A, B, C and D.

At baseline, distributions of treatment groups A, B, C and control group scores share high proportions of 0-9 wpm scores (21%, 10%, 9% and 15% respectively) and a spike at 31-60 wpm (37%, 47%, 48% and 45% respectively) which corresponds to bins number four to six. The number of girls scoring 100 wpm (11th bin) is negligible.

At endline, all the groups A, B, C and D distributions have shifted to the right and **a drop in 0-9 wpm scores is observed for all groups, especially in group B** (stipends) where the proportions of the lowest skilled girls are smaller compared to the other groups. Two spikes in the distributions of group A are also observed. The first, is shared with groups B and C and stands at 71-80 wpm. This spike is also observed in control group but to a lesser extent. The second **spike observed in groups A is located at 100-109 and is shared with group C** (ICT labs) only. **Therefore it appears that stipends permit the most marginalised girls in terms of literacy skills to improve, whereas, ICT labs allow the most skilled girls to reach higher literacy levels**.

In parallel, ceiling effects, absent at baseline, have been avoided by extending the length of the paragraph read from 100 wpm to 179 wpm: at endline the percentage of girls from A, B, C and D groups that were able to read more than 100 wpm stand at 22%, 13% 12% and 17% respectively. In the whole sample, the number of girls scoring more than 150wpm is negligible.

Figure D.1: Avanti - Distribution of literacy levels (wpm) at baseline and endline, for treatment groups A, B and C vs. control group D



D.1.2 Distribution of numeracy scores for Avanti

For the distribution of the scores, we use **Avanti's raw scores for numeracy**. Indeed the shape of the distribution for raw scores, standardised scores, and the percentage of correct answer is identical. To make the distribution easier to analyse visually, **we chose to keep the number of bins at 10 at endline, with each bin having an amplitude of 3 points, and the last one includes scores from 27 to 32.** This does not affect the distribution shape since no one scored more than 29 points out of 32.

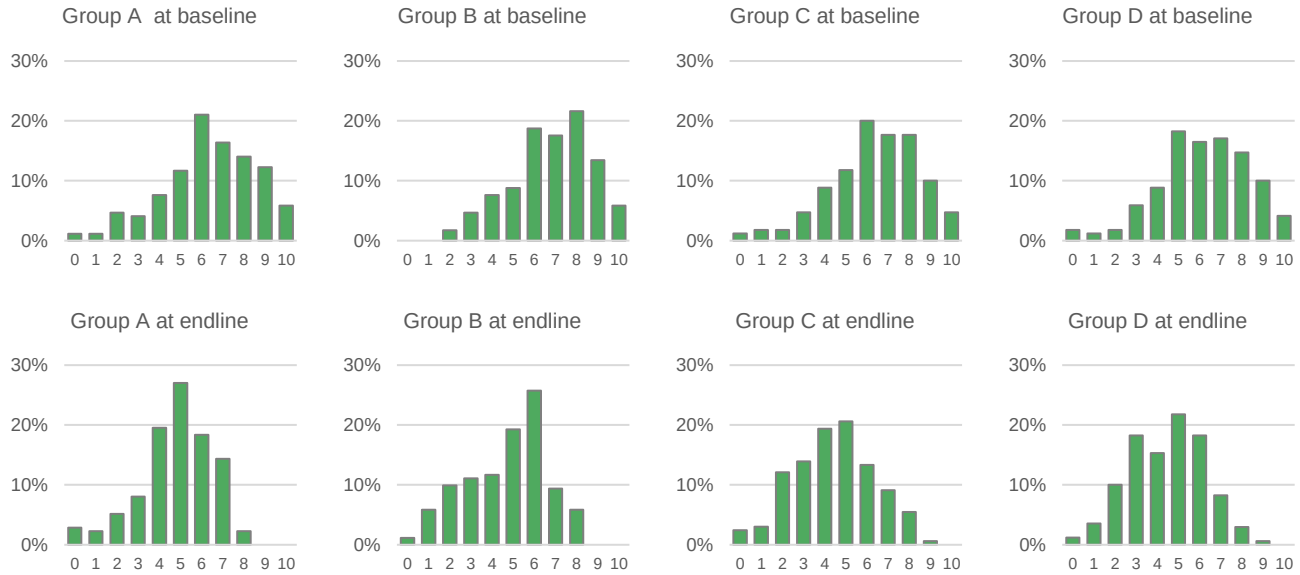
It is important to note that these shifts do not correspond to a decrease in numeracy skills, and are mostly due to the change in the Uwezo test difficulty that permitted to avoid ceiling effects at endline. Therefore the comparison cannot be directly done for the same group between baseline and endline, but we can compare the different groups at baseline and then at endline in order to identify Avanti's programme potential effects.

At endline, provision of ICT labs permitted to the least skilled girls to improve at endline whereas stipends favoured higher scores.

At baseline, in the three treatment groups, and in the control group, distributions are bell-shaped (few girls had a low score, and few had a high score), and is skewed to the right: most of the girls laying in the bins corresponding to 6 to 8 points on the Uwezo scale. Therefore, there was not floor of ceiling effects.

At endline, all the distribution shifted to the left, but were still bell-shaped, and distributions of groups A (full intervention) and group B (no ICT labs) are more skewed to the right than the distributions for group C (no stipends) and control groups, which means that **most of girls that received stipends reached higher numeracy scores at endline**. In parallel, in Groups A and C (that received ICT labs), proportion of girls reaching the lowest scores is smaller than in groups B and control groups that did not received ICT labs. In other words, **in the groups that receive ICT labs, less girls reached low numeracy scores at endline**.

Figure D.2: Avanti –Distribution of numeracy scores at baseline and endline, treatment groups A, B and C vs. control group D



D.2 Discovery

D.2.1 Distribution of literacy scores for Discovery

Discovery conducted the same test at baseline and endline in all the location covered. In order to observe the distributions for each of the treatment and the control groups, the **raw literacy scores from 0 to 40 have been divided into 10 bins**: the first includes scores from 0 to 3, the second includes scores from 4 to 7 etc. We chose to include the maximum score 40 in the last bin which has a wider range than the other ones. Nevertheless, as no ceiling effects were observed neither at baseline nor at endline, this should not stand as an issue for our analysis.

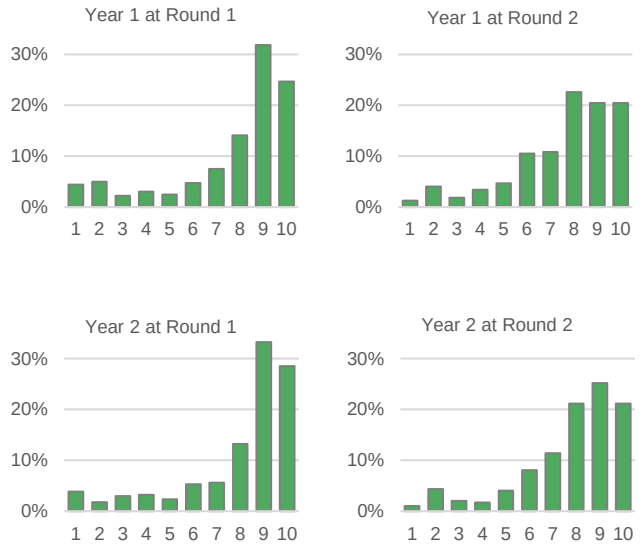
D.2.1.1 Literacy scores in Wajir (Kenya)

In Wajir (Kenya), Discovery programme had no impact on girls' literacy skills.

At Round 1, distribution of the scores for both Year 1 and Year 2 are skewed to the right with many girls reaching high scores on the adapted Uwezo scale.

Proportion of girls that scored 0, as well as proportion of girls that scored 32 and above declined in both Year 1 and Year 2 groups between the two rounds of data collection. This led to an overall decline in the average scores between Round 1 and Round 2. However, in Year 1 group that received the programme for longer period of time than Year 2 group, we observed an increase from 4% to 7% in the proportion of girls that reached the top score of 40, whereas in Year 2, we observed a decline from 9% to 7%. **This means that the programme permitted to the less skilled girls to improve, but has led to a decline in performance for the most skilled girls.** The length of implementation does not play any role as the effect observed are similar in both Year 1 and Year 2 groups.

Figure D.3: Discovery, Wajir (Kenya) - Distribution of literacy levels on adapted Uwezo scales at Round 1 and Round 2, Year 1 vs. Year 2



D.2.1.2 Literacy scores in Nairobi (Kenya)

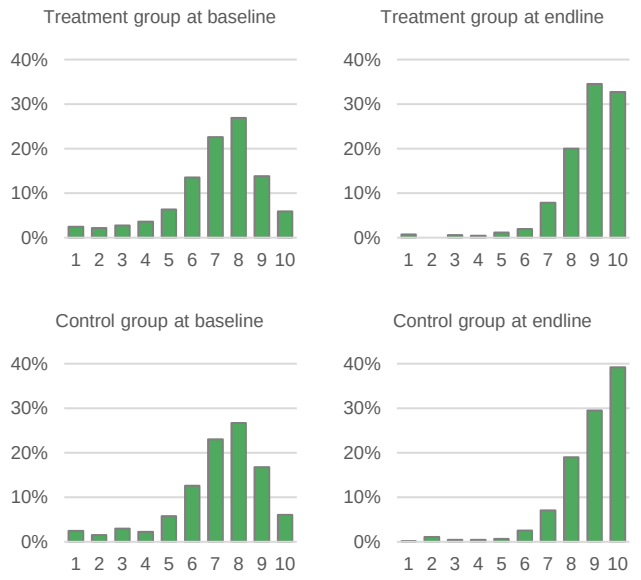
In Nairobi (Kenya), improvements are observed in literacy skills, but the project did not demonstrate any impact.

In Nairobi, literacy scores distribution for baseline is bell shaped in both treatment and control groups with a cluster at the bin corresponding to a 25-28 points score (27% of the total sample in both groups), and few girls at both ends of the distribution on the left end (with less than one percent of the girls from both group score zero and 6% of each sample reaching the highest bin 37-40 among which less than 1% reaching the maximum score of 40).

At endline, both distribution moved to the right side with only 3% of each sample scoring less than 20 points. Most of the girls scored 32 points or more, **but more girls in the control group scored the higher scores** (scoring 37-40) **than in treatment group** – 32% and 40% respectively. Similarly, more control group girls reached the maximum score of 40 than treatment girls (by 4% of the treatment group girls and 6% of the control group ones).

Overall, these improvements only slightly differed in treatment and control groups which explains the lack of impact of Discovery programme on literacy in Kenya.

Figure D.4: Discovery, Nairobi (Kenya) - Distribution of literacy levels on adapted Uwezo scales at baseline and endline, treatment vs. control group



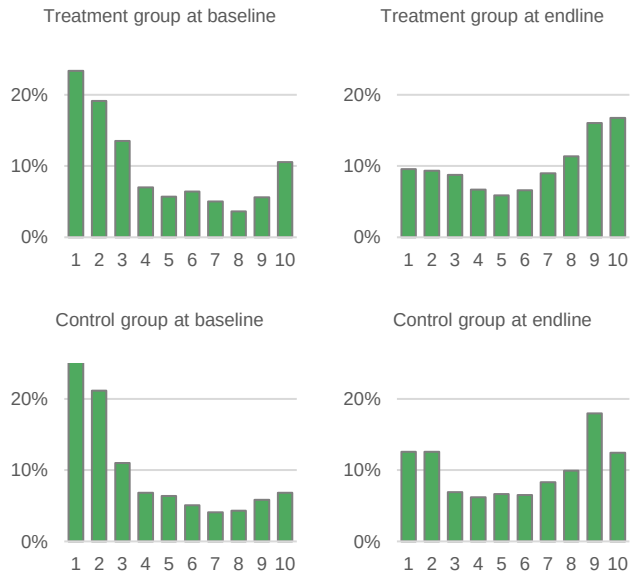
D.2.1.3 Literacy scores in Ghana

In Ghana, the general improvement observed in literacy - with numerous high scores reported at endline – is not attributed to Discovery's project intervention.

At baseline, the distribution of literacy scores were U-shaped, with high proportions of girls having low literacy skills and a slight increase in the bins corresponding to the highest scores. Although 23% of treatment group girls scored 0-4 points, only 2% of the group scored 0, whereas in the control group, these proportions were higher: 28% and 8% respectively. Girls reaching the highest score 40 were only 4% in the treatment group and 1% in control group.

At endline, the distribution are still U-shaped but high proportions have been observed on the right end of the distribution. This decrease in low scores is more visible in treatment than in control group whereas, if we merge the two heist bins, the proportions of skilled girls in treatment and control groups are similar (32% against 30% of treatment and control groups samples). **This suggests that the project was more effective in reducing the proportion of girls having very low literacy skills in comparison to the more skilled girls**.

Figure D.5: Discovery, Ghana - Distribution of literacy levels on adapted Uwezo scales at baseline and endline, treatment vs. control group



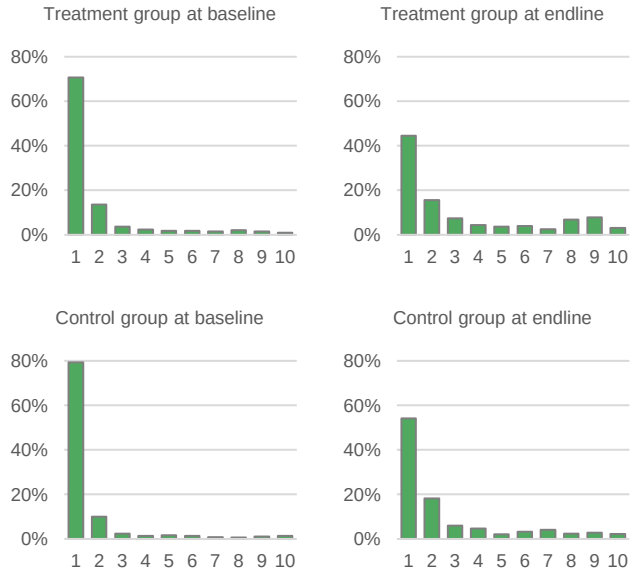
D.2.1.4 Literacy scores in Nigeria

In Nigeria, where most of the girls surveyed had scores close to zero at baseline, a general improvement has been observed in both treatment and control groups. These improvements were higher in treatment group.

At baseline, most of girls (70% from treatment and 78% from control group) scored low on their literacy results (were located in the lowest bin that correspond to 0-4 point scores), with 26% of the girls from treatment and 41% from control group scored 0.

At endline, the proportion of girls scoring low (between 0-4) dropped for both groups (to 44% in treatment and 54% in control group), as well as the percentage of girls scoring 0 points (12% and 15% for treatment and control group respectively). We can suggest that **Discovery appears to have had a positive impact on girls learning, particularly on improving the performance of literacy of unskilled girls**. This effect is statistically significant at 10%. However, it is important to note that the reading levels remain very low at endline.

Figure D.6: Discovery, Nigeria - Distribution of literacy levels on adapted Uwezo scales at baseline and endline, treatment vs. control group



D.2.2 Distribution of numeracy scores for Discovery

Similarly to literacy, Discovery used a 40 point scale to measure numeracy skills at baseline and endline. These scores are presented in the subsection below. In order to measure the distributions of these scores, we also divided the scores into 10 bins as described in in literacy Section D.2.1.

D.2.2.1 Numeracy scores in Wajir (Kenya)

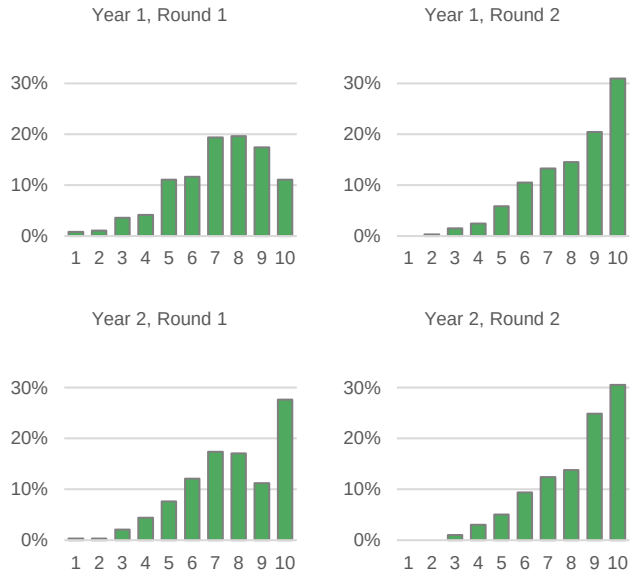
In Wajir, the duration of Discovery's programme implementation had a positive effect on numeracy skills.

At round 1 data collection point, nearly 0% of Year 1 and Year 2 scored 0 in the numeracy test. For Year 2 group, a greater proportion of girls scored 69-39 points compared to Year 1 group that already received the intervention for one year (22% and 9% respectively), and 5% of girls from Year 2 group reached the highest score 40 (compared to 2% of girls from Year 1).

At round 2, although the shape of numeracy scores distribution is similar to round 1, an equal proportion of Year 1 girls and Year 2 girls reached a perfect 40 points score. The proportion of girls scoring 23-35 and 36-40 remain higher in Year 2: respectively 25 and 31% against 20% and 31% in Year 1 group.

Therefore, **improvements are more important in Year 1 group that received the programme longer than Year 2 group which means that the length of Discovery's programme implementation had a positive effect on numeracy skills**.

Figure D.7: Discovery – Wajir: Distribution of numeracy scores at baseline and endline, treatment vs. control group



D.2.2.2 Numeracy scores in Nairobi (Kenya)

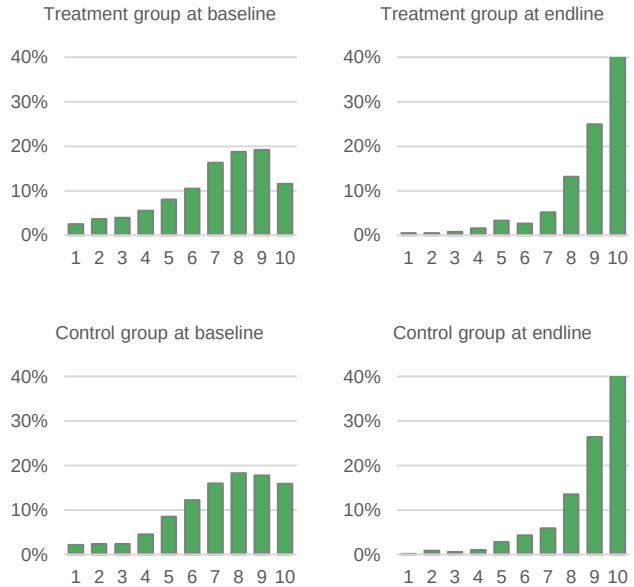
In Nairobi (Kenya) extensive improvements in numeracy scores cannot be attributed to the programme.

At baseline, the distribution of numeracy scores are skewed to the right. They similarly increase until the 32-35 point bin, and then decrease at the last bin that corresponds to the girls that scored 36-40. In both treatment and control groups, only 0.5% of the girls scored zero, whereas the girls reaching the maximum score where 1% and 2% respectively.

At endline, the distributions shift to the right with a decline in the proportions of girls scoring less than 32 in favour of scores higher or equal than 32 that concern 73% of treatment group girls and 70% of control group girls. Furthermore, 13% of girls from each sample reach the maximum score at endline.

However, **girls from control group improved more than girls from treatment group,** which means that Discovery's impact has been negative on numeracy.

Figure D.8: Discovery – Nairobi: Distribution of numeracy scores at baseline and endline, treatment vs. control group



D.2.2.3 Numeracy scores in Ghana

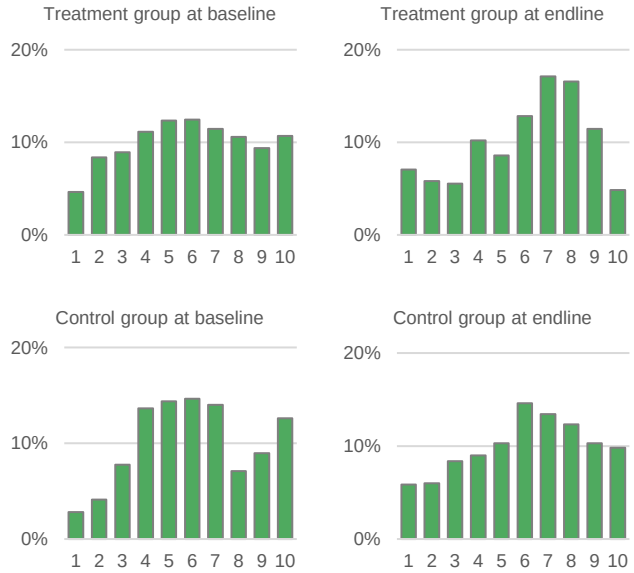
In Ghana moderate improvements are observed in numeracy but more so for control than treatment.

In Ghana, the baseline distributions of treatment and control group numeracy scores did not show similar patterns. In treatment group, distribution is relatively uniform and all the bins contain between 8% and 12% of the sample, except for the one that corresponded to a 0-3 score that represents 5% of the group. In control group, proportions of girls that received the lowest scores (the first three bins) were lower than in the treatment group, and an important cluster is observed at the bins corresponding to scores from 12 to 31 (14% of the sample in each of these bin), and 13% of the girls are located in the last bin. There was also **more girls from treatment group that got a perfect score of 40 than in the control group** (6% against 3% in the control group).

At endline, the treatment and control group distribution shift to the right with important clusters observed at 28-31 and 32-35 bins for treatment group and 24-27 and 28-31 bins in control group. In parallel a substantial decline is observed in the last bin (36-40 points bin), especially in treatment group where this proportion drops to 5% (against 10% in control group). Perfect scores of 40 points are only reached by 1% of girls from each group.

Therefore**, although the least skilled girls improved from baseline to endline, proportion of girls reaching the highest scores in numeracy at baseline decreased at endline, especially in treatment group** which means that Discovery programme had a negative impact on these most skilled girls.

Figure D.9: Discovery – Ghana: Distribution of numeracy scores at baseline and endline, treatment vs. control group



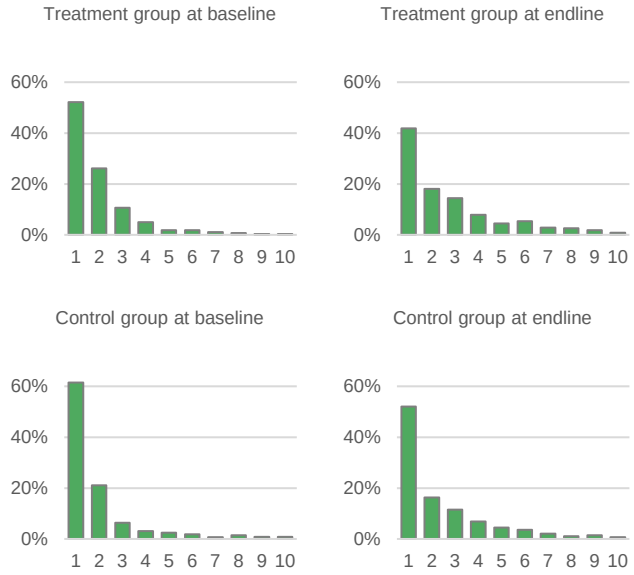
D.2.2.4 Numeracy scores in Nigeria

In Nigeria the proportion of low skilled girls declined from baseline to endline, and this improvement was slightly high in treatment than in control group.

Similar to Literacy levels, girls tested in Nigeria have very low levels in numeracy. 33% of girls from treatment group sampled and 45% from control groups scored zero at baseline.

The proportion of girls scoring zero dropped to 25% in treatment group and 35% in control group. In both groups, there was also less girls scoring less than 8 points, but no increase is observed in the proportion of girls reaching the highest scores, and only one girl in the treatment group scores 40 points. Overall, **improvements have been slightly higher in treatment than in control group**, but not enough to conclude that Discovery had a significant positive impact on numeracy outcome in Nigeria.

Figure D.10: Discovery – Nigeria: Distribution of numeracy scores at baseline and endline, treatment vs. control group



D.3 Coca-Cola

***Learning outcomes have only been measured on in-school girls**. Although Coca-Cola's programme targeted in-school and out-of-school girls, only the former have been tested on learning outcomes. Indeed, out-of-school girls were mainly trained in business skills, entrepreneurship, leadership skills, and financial education, but not specifically on literacy and numeracy skills. Therefore, testing them was not perceived as relevant or appropriate.*

For Cycle 2 baseline and endline, literacy data was found to be unusable, therefore we did not present any analysis in this report.

Box D.2 Literacy and numeracy scores for Coca-Cola

Coca-Cola computed their reading fluency score in terms of wpm by using a reading task. The girls had a maximum of 120 seconds to read a 141 words paragraph. The number of correct words read within the 120 seconds were counted. If the girl finished to read the paragraph before the end of the two minutes, the chronometer was stopped. The wpm score was then computed by dividing the number of words correctly read by the time. This method permitted to avoid ceiling effects as it is always possible to read the paragraph more quickly. It is worth noting that there were some issues with the administration of the tests in Cycle 1, however, the FM advised that these should not interfere with the overall final analysis[1].

For both Cycles, at baseline and endline, Coca-Cola tested girls' level in numeracy through an EGMA test on a 100 point scale. Results reported in this sub-section rely on this scale.

For Cycle 1, data for literacy and numeracy data were available for baseline and endline. However, no statistical regression have been carried out in order to measure the impact of the intervention. As previously explained, Coca Cola appointed a new external evaluator after Cycle 1 baseline was carried out. The new external

[1] Administration errors have been observed at endline but, as they are equally likely in both treatment and control groups, and as the generated spike is observed in both treatment and control group distribution shapes, the FM approved the use of these data to make comparison in reading fluency between baseline and endline, and between treatment and control groups. Nonetheless, it has to be noted that in the absence of these errors, the distributions would probably be more skewed to the right with higher levels of wpm for about one quarter of the girls tested

evaluator disregarded the baseline results and data of the previous external evaluator (as noted, these may have been exaggerated and seemed unrealistic)[2].

For Cycle 2 baseline and endline, literacy data generated by the external evaluator was found to be unusable. Therefore, we did not present any analysis in this report.

D.3.1 Distribution of literacy scores for Coca-Cola

To present wpm distributions, **bins of 10 wpm each have been created**. As only a small proportion of girls - 2% at baseline and 0% at endline in both treatment and control groups - scored more than 150 wpm, we chose to regroup these scores in the last bin for presentation matters.

Most of the girls that were not able to read a single word at baseline increased their reading fluency to 60 wpm or more at endline

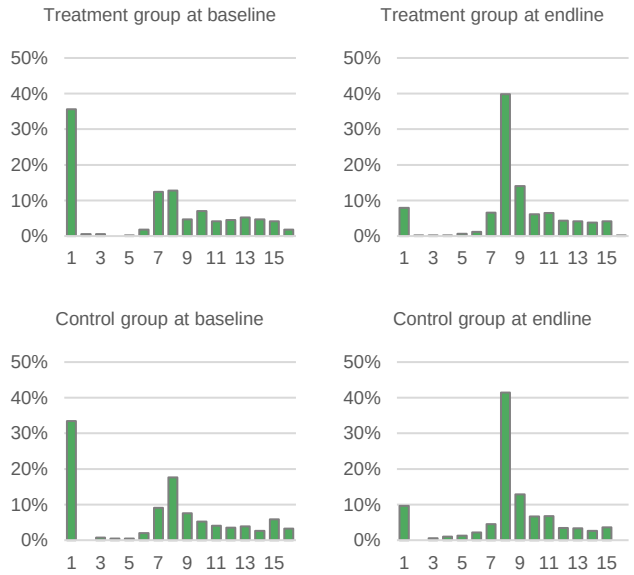
At baseline, distributions of reading fluency scores (wpm) were similar for treatment and control groups with many girls having very low scores: 36% of treatment and 33% of control group girls scored 0-9 wpm, most of which were not able to read a single word. Only 20% of both groups were able to read more than 100 wpm.

At endline, proportion of girls scoring 0-9 wpm dropped to 8% in treatment group and 10% on control group (most of which scored 0 wpm).

While this improvement was observed, it is worth noting that many administration errors have been observed at endline. Indeed, it appears that the time for reading the paragraph has not systematically been measured. *Among the 70% of the girls who correctly read the 141 words from the paragraph (71% in treatment group and 69% in control group), one third (or 24.5 of the total sample) had a recorded time that was equal to 120 seconds. As for consequences, one quarter of treatment and one quarter of control group sample has exactly a 70.5 wpm score. On the one hand 49% of girls from treatment group and 42% of girls from control group correctly read the 141 words in less than 120 seconds (and therefore scored more than 70.5 wpm), and on the other hand, 9% of girls from treatment and from control groups used the 120 second to perform the task but did not finished the paragraph or did not correctly read all the words. From this element, we can assume that the examiners did not record the time rather than allowing the girls to finish to read the paragraph after the end of the 120 seconds. Therefore, we assume that as a consequence, the average wpm at endline could be under-estimated and the distribution of the scores could be more skewed to the right.*

Figure D.11: Coca-Cola, Cycle 1 - Distribution of literacy levels (wpm) at baseline and endline, treatment vs. control group

[2] the external evaluator justified this by providing examples, such as that in the Federal Capital Territory, the average wpm measured at baseline was above 90 and during endline it was significantly reduced to 45 on the average.



D.3.2 Distribution of literacy scores for Coca-Cola

For the scores distributions, **we divided EGMA scores in 10 bins, each of them having an amplitude of 3 points** (0-9, 10-19 etc.). The last bin contains the score from 90 to 100 points but it does not affect the shape of the distributions as only few girls reached the maximum score of 100.

D.3.2.1 Numeracy scores in Cycle 1

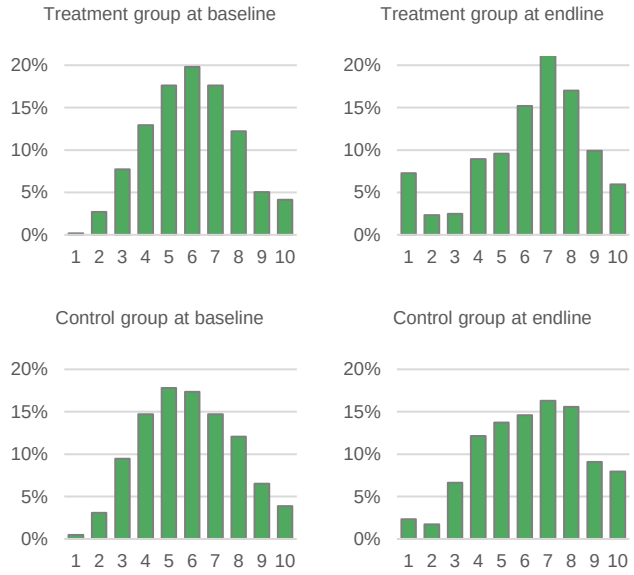
In Cycle 1, Coca-Cola had a negative impact on numeracy by favouring a decrease in numeracy scores among the least skilled girls.

For Cycle 1, the distribution of numeracy scores appeared as a bell-shaped curve for both treatment and control groups, however treatment group distribution was slightly skewed to the right compared to the control one. In both groups, only 4% of the girls scored 90 points or more.

At endline, we observed an uprise of the girls scoring less than 10 points, especially in treatement group where they are 7% in treatement against 2% in control groups. On the other hand, there was also more highly skilled girls with 6% of the treatment group reaching a score higher of equal to 90, against 8% in the control group.

Overall, the siutation worsened for the low skilled girls in both groups, but control group girls were less affected than treatment group ones. There also has been an **increase in the proportion of high skilled girls, especially in the control group**. This led to the negative impact observed above, and perhaps suggests that Coca-Cola failed to help targeted girls to improve their numeracy skills.

Figure D.12: Coca-Cola – Cycle 1: Distribution of numeracy scores at baseline and endline, treatment vs. control group

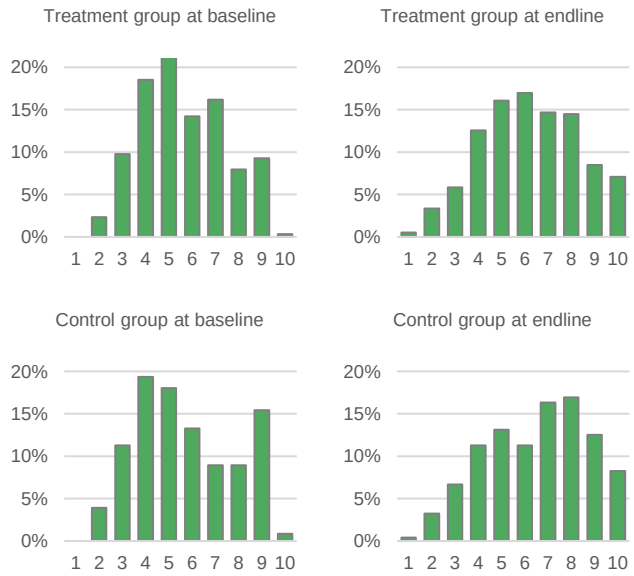


D.3.2.2 Numeracy scores in Cycle 2

In Cycle 2, Coca-Cola had an impact close to zero..

In Cycle 2, at baseline, most of the girls from both treatment and control groups scored between 20 and 59 points out of 100. At endline, distributions shifted to the right with lower proportions of low scores and higher proportions of high scores. This means that **all girls improved their numeracy skills**. We also could note that at baseline and endline, the proportion of girls reaching higher scores is higher in control group, but the difference with the treatment group does not amplify from baseline to endline which suggests that the project did not have any impact on girls' numeracy skills.

Figure D.13: Coca-Cola – Cycle 2: Distribution of numeracy scores at baseline and endline, treatment vs. control group



Annex E.1 – Effectiveness Tables

Endline Report – Strategic Partnerships Window

Final Version (September 2017)

Annex E.1 – Effectiveness Tables

E.1.1 School-related barriers

School related barriers were the focus in which SPW projects' aimed to address. These include:

Poor quality of teaching: teachers not responsive to student needs, teachers' inadequate pedagogy, lack of teachers' knowledge about their topic, use of corporal punishment, teaching not related to concrete employment opportunities, language issues/ school not taught in mother tongue

Inadequate provision teaching materials: lack of school materials, gender biased teaching materials

Inadequate provision of qualified teachers: teacher absenteeism, high pupil teacher ratio, shortage of female teachers,

Poor conditions of commuting to/from school: including school distance, limited number of schools in area

Inadequate school facilities: lack of classrooms, lack of sanitation facilities

What have projects found at baseline?

At baseline, we found evidence across the SPW that **school-related factors were reported as the first most important barriers to girls' education.** While school-related barriers were assumed by the three SPW projects at pre-baseline, Discovery (in all three countries targeted by the project: Ghana, Kenya and Nigeria) and Avanti provided evidence confirming the existence of these barriers, while Coca-Cola did not provide clear evidence to support this assumption.

Pathways through which girls' education is affected primarily relate to the **poor quality of teaching.** This was described by projects in terms of teaching practices and pedagogy, as well as curriculum. Other school-related barriers which affected girls' education were: **the inadequate provision of teaching material; inadequate provision of qualified teachers** including teachers' absenteeism; **conditions travelling** to school which includes safety issues, distance to school and walking under the rain; and the **inadequate provision of schools and facilities** which include a lack of gender appropriate latrines.

Although cross-country differences are generally not sufficient to explain differences in the learning scores observed, **quantitative analysis confirmed that the quality of teaching and school resources form part of the enabling environment that help students learn more.**

Table E.1: Baseline evidence for school factors

Baseline evidence for school factors	Evidence found	Discovery Ghana	Discovery Kenya	Discovery Nigeria	Coca-Cola	Avanti
Poor quality of teaching and learning	4	✓	✓	✓	•	✓
Inadequate provision of teaching materials	3	✓	✓	✓		
Inadequate provision of qualified teachers	4	✓	✓	✓		x
Poor conditions of commuting to/from school	4	✓	✓	✓		x
Inadequate provision of schools and facilities	4	✓	✓	✓	•	x

Note: Evidence found is a sum of projects in which barriers were found and reported at baseline.
Key: Assumed barriers found and reported (✓), Assumed barriers not found (✦), Assumed barriers not reported (•), Unanticipated barriers found (**x**), Not assumed or reported (Grey).

Have interventions been designed and/ or implemented to address the identified barriers?

All three projects designed and implemented interventions addressing school-related barriers to education (see Annex E- table E.2). Discovery and Avanti focused on the provision of **ICT equipment as tools** to enhance teaching and learning in schools, accompanied by **skills training for teachers** (see Box 6 below). Discovery focused on all-classroom activity in which the students watch an educational video followed by the teacher leading an exercise, while Avanti focused on providing individualised support to students through the learning platform (accessed through the computers).

Discovery and Coca-Cola carried out interventions with community representatives to engage them in education. Discovery mainly worked with the school-based management committees and PTAs. Coca-Cola focused on working with **stakeholders at state, regional and community levels** to mobilise and encourage them to engage in girls' education and empowerment.

- While **infrastructure and facilities**, including gender appropriate latrines, were found to be major barriers to education at baseline in at least two of the three projects (with Coca-Cola anticipating the barrier, but not reporting on it), none of the projects have designed or implemented interventions to directly address this. Additionally, while projects designed and implemented training for teachers, the issue of **teacher absenteeism** was also not directly addressed.

Box 6: School-related interventions by project

- **Discovery**:
- Discovery's theory of change focused on core interventions related to the school factors. There are:
  - Provision of technology in classrooms: 1470 schools received "Learning Centers (LCs)" which are large flat-screen television and DVD player, a second smaller TV and DVD player for teachers, and a library of educational DVDs.
  - Teacher trainings provided to 15,383 teacher. The training focused on student-centered learning, activity-based learning, gender sensitive/responsive teaching practices, and integration of materials from the LCs into teachers' daily curricula. Due to the limited time, large number of schools and teacher turnover, the teacher training especially in Nigeria was not all provided to the teachers by Discovery trainers, instead, Discovery used resource teachers who are trained teachers to provide a shorter version of the training to their peers. According to project staff interviewed, teachers did not receive any compensation, but were rewarded with a certificate from Discovery and the Ministry of Education.
  - Mobilisation of parents and community members in education: Through mobilization activities with parents and community members along with the teachers and head teachers, communities produce Community Action Plans (CAP). These include mapping of the assets available to schools as well as the main challenges to education including girls' education. Templates and tools provided by Discovery are used for these workshops to produce such plans. Based on these plans, the community (and through its representatives) is supposed to engage in advocacy activities to fulfil the plans and secure funding for them.
  - **Coca Cola:**
  - Coca Cola carried out two types of interventions addressing school-related factors. These are:
  - Working with School-Based Management Committees (which include parents, head teachers, teachers, community leaders and members of the civil society) to promote girls education. These committee members were trained on leadership skills and resource mobilisations. The project endline report mentioned some of the achievements of the SBMCs which include fixing and refurbishing school facilities and equipment and facilitating the provision of sanitary pads to girls.
  - Coca Cola did not particularly focus on intervening directly within the school system. However, for the in-school intervention, and according to project staff, the Learning Space Coordinators recruited were teachers while the coordinators for the out of school girls were volunteers from the community. The project provided training for the teachers. The training was between 3 and 5 days but it did not seem to focus on teaching skills or pedagogy. For the Coordinators of the out of school girls, the training did not include specific academic literacy skills.

Avanti:

Avanti designed a number of interventions to address the school-related barriers. These are:

- Installing and maintaining ICT tools including connection to internet and providing access to learning content. There were two types of ICT equipment provided: computer labs (25 computers for an average of 1000 students), and projectors and laptops for teachers to use in class.

  The learning content which was provided through the iMilango platform included literacy training exercises for children, African Storybook, Children's encyclopedia, an MoE approved reading programme. It also provided the Maths-Whizz content focused on numeracy and math. It is worth noting that these different content packages and activities are provided to different ages/ grades, i.e. not all grades receive all activities and packages. The project also provided in-field maintenance and support to teachers.

- Avanti also provided electronic attendance monitoring tools to track students' attendance, identify and address patterns for their absence.

- Avanti carried out a ToT centrally with support from the MoE and and the Teachers' Service Commission. The training was for 3 to 5 days. Those teachers were nominated by the schools and head teachers of the targeted schools. It then rolled out the training to other teachers, mainly the English and math teachers, but also other teachers.

Table E.2: Projects' interventions – School-related interventions

	Total Core	SPW projects by country and region						
		Discovery				Coca Cola Cycle 1	Coca Cola Cycle 2	Avanti
		Ken- Nai	Ken- Waj	Nig	Gha	Nig	Nig	Ken
Infrastructure and resources for schooling								
School and classroom building/ improvement		✦	✦	✦	✦			
Toilettes & WASH facilities								
Technology in classroom	5	✓	✓	✓	✓			✓
Textbooks and learning materials	4	✓	✓	✓	✓			
Teacher training and support								
Skills training	5	✓	✓	✓	✓	✦	✦	✓
Gender responsive pedagogy training	4	✓	✓	✓	✓			
Inclusive classroom strategies								
Literacy and numeracy training	1							✓
Peer support and mentoring for teachers		✦	✦	✦	✦			✦
School management and governance interventions								
Technology for school management	1							✓
Working with SMCs, PTAs & other stakeholders	6	✓	✓	✓	✓	✓	✓	
Working with education authorities	4	✓	✓	✓	✓	✦	✦	
Community and private schooling provision								
TOTAL	7	✓	✓	✓	✓	✓	✓	✓

Key: ✓ = The intervention is at the core of the project's intervention strategy. ✦ = The intervention is being used, but is not a core activity.

What has changed since baseline?

At endline (See Annex E Table E.3), it seems that only Discovery was able to achieve some improvement in the barriers identified at baseline – most notably in the **quality of teaching**. There is also evidence that access to **teaching and learning aids** (material and resources) improved in schools supported by both Discovery and Avanti. This is not surprising as both projects directly provided teaching and learning aids to schools that teachers and students could use.

Despite Coca-Cola's engagement with **community and school management committees**, as well as **training Learning Space Coordinators**, there is no clear evidence in their evaluation report that school-related barriers to education improved.

Teaching and learning materials, resources and aids

Avanti and Discovery provided evidence that schools' access to **teaching and learning resources, materials and aids improved between baseline and endline**. This had a number of reported positive effects. Improved access to resources created a more interesting teaching and learning environment, encouraged attendance in schools, increased teachers' confidence and reduced their workload. However, a number of challenges were also reported as limiting the effectiveness of these resources and learning aids, which also limited their impact on the education outcomes that projects set out to deliver.

ICT equipment has created a more interesting environment for teaching and learning.

Both Avanti and Discovery reported evidence that the **provision of ICT equipment to facilitate and support teaching and learning created a more interesting environment at school** and generated interest about education more broadly – particularly, for marginalised communities with limited access and exposure to technology and, as sometimes referred to, exposure to the outside world. Students and teachers also had more resources to use in class.

According to Avanti's endline report, the majority of the targeted girls said that they found school more exciting because of the digital learning tools. Interestingly, the girls in the schools that only received projectors and laptops and not the computer labs showed the highest increase in improved perceptions about school. Our research, though, was unable to unpack and explain this finding.

There is some evidence that using ICT-based content improved teachers' confidence and the teaching and learning process.

Both Discovery and Avanti provided evidence that teaching improved due to the use of ICT equipment. The evidence was clear for Discovery and was described in a number of ways. For example, in Ghana, qualitative evidence described how the ICT tools and content reduced teachers' workloads to a more manageable level. It also was described how it validated what the teacher was trying to convey increasing teachers' confidence. In Nairobi and Nigeria, it was described in terms of helping teachers explain abstract concepts and therefore improving the students' understanding of the lessons.

> *"(Using LC) I have learned to lead the children to discover whatever they are supposed to know themselves without you necessarily have to do everything for the child to learn. The children are now prompted to the issues and it opens their minds to even think wider from what is just around them."*
>
> (Teacher, Discovery, Ghana)

Similarly, Avanti provided some evidence that the online content made teaching easier – the endline report stated that 84.4% of teachers stated that digital learning tools made teaching easier – particularly when explaining abstract ideas; it also allowed teachers to get access to short videos and pictures, which they used for their own tailored teaching.

> "*The teachers are browsing to get more materials from the internet. There is a day I went to* [a primary school] *and the teachers were busy browsing looking for more information to get more materials for teaching, so you find that it is very important."* (Community representative, Avanti, Kenya)

Students' use of ICT tools for learning relies on the teachers' engagement and confidence in using the ICT equipment.

Discovery and Avanti recognised that teachers needed to not only be able to operate the ICT equipment, but also to know how to integrate them into their teaching. Both projects provided training and support to teachers to enable them to effectively use the equipment (although according to interviews with staff, the extent of difficulty teachers faced in adopting the tools as teaching aids was not particularly anticipated by Avanti).

Specifically, Avanti found that the counties where students spent more time using the Math-Whizz are where teachers were observed to be more engaged with their students. This suggests that where teachers are more engaged, students also are encouraged and guided to use ICT as learning aids.

While ICT equipment has created a more interesting teaching and learning environment and process and has improved teachers' confidence, a number of issues limited their usefulness and effect on education outcomes.

There are a number of issues and challenges which project endline reports and project staff have reported to limit usefulness of the ICT equipment, and its anticipated effects on education outcomes.

Limited ability of teachers to operate and use the equipment. This was reported by Discovery and Avanti to sometimes be a challenge, particularly at the beginning of the engagement with the schools and later if trained teachers left the school. Discovery tried to overcome the issue by training resource teachers, who in turn trained and provided support to other teachers. Avanti on the other hand provided continuous field support and maintenance to schools. Yet, at endline, Avanti reported that more that 58% of the teachers did not feel that they were necessarily skilled in using computers and a quarter of the teachers in the treatment group did not use the digital tool that was provided. Additionally, the project noted that there were problems in applying the use of the Math-Whizz, with the lessons starting from the beginning every time the student logged on instead of continuing from where the student was last time. The issue was later resolved by a system update. There is anecdotal evidence that Avanti (through its consortium member Camara) provided continuous in-field support to solve such issues. It is not clear to what extent this was effective or long lasting.

The equipment and rooms were sometimes crowded, inappropriate and not practical. Discovery's endline evaluation reported this issue primarily in terms of the number of students per Learning Centre (LC) classroom in all three countries. In Ghana, the LC class size ranged from 7 to 85 students. In Nigeria, the LC class size ranged from 8 to 120 students. In Nairobi, the LC class size ranged from 7 to 99, and most of these classes were taught by a single teacher. As this teacher explains:

> *"We have just a small room as a learning centre for a whole class so sometimes the teacher has to strategize to get the children in... It's consuming a lot of instructional time…."* (Teacher, Discovery, Nigeria)

Additionally the state of the rooms were sometimes poor. In Nigeria, this was particularly described in terms of roof leakages. For Avanti this was also described in terms of the availability of computers for the students – on average there were 25 computers per school, each comprising of about 1000 students who accessed the computers on a first-come-first served basis. The effectiveness of the equipment was also constrained by the availability of teachers to oversee students using the equipment, as well as their ability to use the projector and the computer labs simultaneously. According to the endline evaluation report the projector would be kept in the computer lab for safety and transporting the projector to a room with electricity was a hassle, inefficient and sometimes impractical.

> *"We appreciate the idea, but we also want to request that if possible we need to have somebody on the ground, an ICT assistant for example. If one of your staff would be here permanently to keep the door open throughout the day it would expose these children more compared to a teacher who has something to do."* (Teacher, Avanti, Kenya)

System problems and a shortage of electricity/ fuel/ generators to operate the LCs (Discovery) and computer labs (Avanti) was a key challenge in all locations. In Avanti's case for example, the endline evaluation report states that computer-based learning was available for only 3.6 out of 6 hours during the school day, and in term three it dropped to 2.6 hours per day. This was particularly a challenge because the electricity bills for schools increased tremendously because of the electronics being used at school, which also exceeded the allowance allocated by the Ministry to pay electricity bills. In most cases, the school management committees were responsible for finding additional resources to pay the bills, but not all school committees managed to solve the issue. In general these (sometimes lengthy) cuts in electricity resulted in disruptions in the use of the equipment.

There were also issues with the educational content and its alignment with the curriculum, context and lesson plans. While the educational content of Discovery and Avanti was approved by the relevant authorities, it was reported that teachers and Head Teachers sometimes felt that the content was not sufficiently aligned to the local context, school curriculum and lesson plans. In Ghana, some teachers in Discovery's schools expressed concerns about a lack of local focus, such as local history. Or as a Head Teacher in Wajir stated:

> *"Fear is that the content of the cassettes might be contrary to the cultural practices. It might be a taboo and it might cause shock. And you know when a teacher is somebody not from this community they might take it to be very positive for themselves only to see after they have started the lesson that it has caused a problem in the class."* (Head Teacher, Discovery, Wajir).

This was also found in Avanti's targeted areas in which some teachers and Head Teachers felt that the content was not relevant to the local context and culture, and did not see the added value of some of the content, which focused on other geographic areas (such as Asia and Latin America). It is not clear however whether the students felt the same about increased exposure to other parts of the world.

There is some evidence that the length of the videos provided by Discovery did not fit within the lesson plans and the accent of the narrator (described as a Western accent) in the videos was difficult for students and teachers to understand.

Additionally, Avanti found that some teachers were leading revisions for the exams using alternative resources (more traditional content) to the online content. It is not clear however, whether this is due to the inability of teachers to use the tools and content in an effective and useful way to ensure relevance of the content, or whether there are limitations to the content's appropriateness and relevance to the national curriculum.

Technology for school management

In addition to providing ICT equipment to enhance teaching and learning, Avanti provided digital-based systems for schools to enhance their attendance monitoring. The purpose of the system as described in their theory of change (ToC) is to provide real-time data for schools and authorities to better understand the attendance patterns of children and marginalisation factors. This, as noted, would allow the school and stakeholders to better tackle marginalisation factors and barriers to education, and ultimately improve attendance.

ICT-based monitoring system encouraged students to attend school in a timely manner, but there is insufficient evidence to suggest that it has been effective in improving student absenteeism.

There is mixed evidence of the extent to which the real-time data was being used to tackle issues of marginalisation and barriers to education as suggested in Avanti's ToC. While the endline evaluation report did not provide strong evidence to support this, project staff provided anecdotal evidence of this happening – for example, where teachers have identified repeated absence of students, investigated the matter and reported it to the relevant school committee. It is not clear however what the scale and added value of the new digitalised tools are in comparison to the traditional way of keeping attendance records.

However, the report does provide evidence that the electronic monitoring system encouraged students to attend school. As illustrated in the report, this was demonstrated by students who feared being reported to the authorities as having missed school or being late for school.

> *"Children usually attend school every day and the child tells you, "Mum I can't miss going to school because if I get late, the computer will show that I was not in school. It is not like in the olden days when children used to hide in the bushes, you know that if its 8 a.m., you know you have to swipe in the computer, so it's a must by 8 a.m. to be in class so that is something that makes them not to be late for school as they do it daily."* (Caregiver, Avanti, Kenya)

Teacher training and support

Discovery and Avanti provided evidence that teacher training and support interventions have positively affected teachers' skills and the classroom environment. This emerged from a number of interventions of which provide skills training in learning and student centred approaches, gender sensitive practices, and in integrating LCs or digital-based learning into lesson planning.

As previously mentioned, Coca-Cola trained teachers who are the Learning Space Coordinators for in-school girls on numeracy, literacy and other academic subjects. There is no clear evidence of that this training affected teachers' skills.

Teacher training had some positive effects on teaching quality, but with limited improvements in their confidence, particularly in the use of ICT equipment and their capacity to encourage students' creativity and critical thinking..

Discovery in all three countries reported that teaching quality had improved at endline compared to baseline. This was mainly measured through classroom observation, which specifically aimed at measuring "teaching best practices" (see Box 7), but also through interviews and focus groups discussions. As reported, the improvement was specifically evident in the use of a variety of activities, group work, gender equitable language, and actively involving non-participating students. Teachers themselves reported improved teaching methods but also a more gender-sensitive approach to teaching. As this teacher in Nigeria states:

> *"The change is, before Fitila, hardly will you see students doing group discussions. The group discussion helps them in understanding things because they discuss within themselves. There are introverts and extroverts amongst them. Some of the students don't understand from the teacher's way of teaching, but if you group them and they talk or argue within themselves, it helps them a lot. This has a long lasting effect on the students." (Teacher, Discovery, Nigeria)*

The effects of improved teaching skills were reported to have a positive effect on students' motivation, classroom engagement and interest in learning in general. However, it is worth noting that households did not report changes in the quality of teaching (see below and our reanalysis from project data).

Box 7: Discovery's Teaching Best Practices

Discovery adopted the framework on essential teaching practices developed by the Centre for Educational Effectiveness. The framework includes six categories of practices, each has 3 to 7 specific practices which can be observed and noted in class. Discovery's external evaluator selected 13 specific best practices and developed a classroom observation tool to measure these practices. These are:

- Does the teacher have a lesson plan?
- To what extent did you think the teacher met the objectives of the class?
- Towards the beginning of the class, does the teacher allow students to share what they already know or think about the topic?
- Did the teacher use a variety of activities in the lesson?
- Did the teacher clearly explain the expectations for collaboration (working together) to students?
- Does the teacher encourage students to think creatively to solve real-world problems?
- Did the teacher ask higher-order questions?
- Did the teacher use gender-equitable language (in a positive way) or non-gender-equitable language (in a negative way) throughout the lesson?
- Did the teacher call on or actively try to involve a student who was not participating?
- Did the teacher have students work together in groups or pairs?
- Does teacher provide positive, encouraging feedback to boys and girls?
- Did the teacher ask for the students' opinions?
- Did the student activities seem to contribute to reaching a learning objective in the class (clearly aligned with what the students were supposed to learn that day)?

While the reports generally note that there has been an improvement in the quality of teaching, the teachers' encouragement of more sophisticated and challenging way of critical thinking was limited and did not appear to have improved. Also, in some of Discovery's intervention areas, teachers' motivation and confidence was reported to have increased more in the control group than in the treatment group. For Avanti, teachers' confidence in using ICT was reported to be mixed limiting their use of the ICT equipment.

Avanti and Discovery provided possible explanations for the limitations in the effectiveness of their teacher training activities.

Teacher relocations, redeployment (particularly between treatment and control groups), and retirement meant that trained teachers moved away from intervention schools. Avanti tried to provide continuous support to fill in the capacity gaps of teachers in schools. Discovery adopted the model of resource teachers who provided training and support to other teachers. The effect of these efforts however were limited as evidenced by the limited quality of their teaching.

During interviews, the challenge in Wajir was particularly noted. Wajir does not have a sufficient number of teachers who are from the region, and due to violence in the area, many teachers relocated and not many trained teachers went back to teach in Wajir. Again, resource teachers were used, but this still limited the quality of the training and ultimately, the quality of teaching.

Insufficient teacher training: Avanti's endline evaluation report makes an attempt to link the limited use of ICT to the skills training provided to teachers, which, as suggested, might not have been sufficient. The report and staff also noted the difficulty in getting teachers to use the ICT-based tools for teaching, which needed more in-depth and prolonged engagement with the teachers.

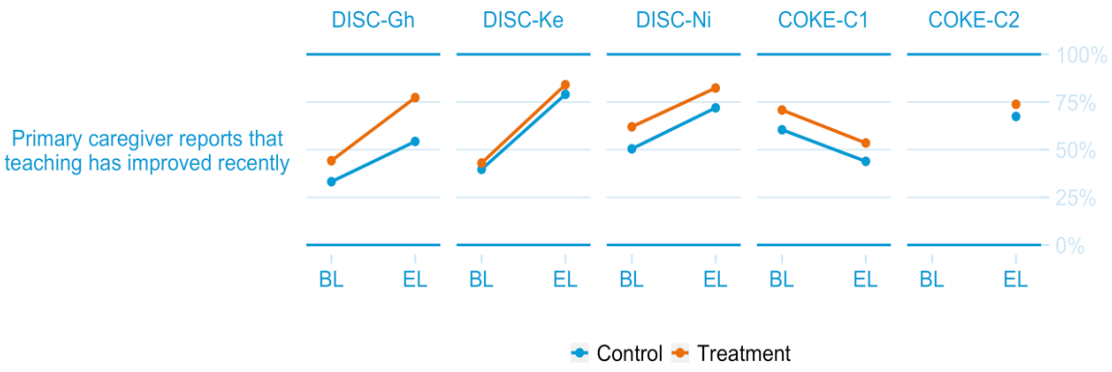
Discovery, and particularly Discovery's project in Nigeria reported that not all teachers were trained by Discovery because of the large number of teachers in a school combined with the limited timeframe for the training. The report states that about 50% of the teachers in Nigeria were trained by the resource teachers and so did not receive the full set of training activities.

Evidence from the EM's reanalysis of project data

As discussed in this section, improving the quality of teaching was a central goal of projects in the SPW. In addition to the teacher training components of all three projects, the ICT components were also intended to improve teaching quality by providing effective teaching aids. While teaching quality is notoriously difficult to measure, SPW project data offers a few opportunities to analyse impact in this area.

One rough metric of teaching quality collected across all windows of the GEC is parent perceptions of teaching quality. For Discovery and Coca-Cola, this data is presented in Figure E.1. One complication of interpreting these responses is that the survey question asks if teaching has improved recently, not how good teaching is currently. This means that if we take these results at face value, a large proportion of families already believed that teaching was improving in all countries at baseline. And even among the control group the portion of families who believe teaching is improving increased from baseline to endline for Discovery. On the other hand, the results show little difference between the change in treatment and control groups. Discovery's programme in Ghana is a possible exception, where the portion of families who said education was improving increased by 11 percentage points more in the treatment group than in the control group.

Figure E.1: Perceptions of changes in teaching quality (Discovery and Coca-Cola)



This finding in Ghana should be approached with some caution because there seems to be a systematic pattern at baseline that caregivers were less optimistic about teaching in the control group than the in treatment group. We do not know what accounts for this difference, so it is possible that whatever caused this difference is also responsible for the larger increase in optimism in the treatment group over the course of the project. Still, if we take this together with other sources of evidence, there is a plausible case that Discovery's teacher training and ICT resources worked better in Ghana than elsewhere. In particular, at baseline, Ghana was the only country where the "student-centred" teaching methods seemed to have a positive association with student performance at the school

level, and as we discuss later in this annex, caregivers in Ghana appear to be more engaged in their children's education than in the other countries. None of this is conclusive, but it does make a plausible case that in some of the communities where Discovery worked in Ghana, the teaching approaches they promoted were more suitable for the local context than elsewhere.

While parental perceptions of teaching quality are useful because we can compare this across all GEC windows, we have more detailed evidence of the changes in teaching quality in the classroom observations conducted by Discovery. While the sample size is relatively small (between 157-178 observations per country project) and subject to the consistency problems across observers, it is one of the larger and most informative datasets on teaching quality collected across GEC windows. In the baseline report for the SPW, we used the first round of classroom observations to explore the relationship between learning outcomes and teaching practices promoted by the project. In this analysis, we found a generally weak association between the use of best teaching practices identified by the project and learning outcomes, but we noted that in a few of the highest performing districts, particularly in Ghana, these practices were more common.

With two more waves of data collection (midline and endline), we can build on this, by assessing how effective teacher training was at changing teaching practices. In Discovery's endline evaluation report, it states the difference in the average number of good practices used by teachers between treatment and control groups. It reports that the difference was 1.6 in Ghana, 3.3 in Kenya, and 1.3 in Nigeria. While the static approach of comparing treatment and control groups at endline suggests that the project changed teaching behaviour, this analysis does not directly assess the change from baseline. In E.2, we present 12 indicators of best teaching practices tracked from baseline to endline.[3] After inspecting these figures, it is less clear whether the training succeeded in changing behaviour. For example, for practices 3 and 4 in Kenya, asking students to share what they know about a topic, and using a variety of activities, the main reason that treatment teachers did better was because this practice declined significantly in the control group. The actual increase in the use of these practices in the treatment group was small by comparison.

Looking across these indicators, there are very few practices where we see that the use of a practice increased in the treatment group and more than in the control group. It is possible that in certain countries certain practices were adopted more readily, such as involving disengaged students in Kenya or preparing a lesson plan in Ghana, but there is not a clear pattern of adoption of the overall teaching method taught by the programme among the treatment group. If we accept this interpretation of the results, another question is whether we can identify individual practices that were adopted more readily in some areas than others and if there might be reasons for this. There are some candidates for this kind of analysis. For example, it appears that in Kenya, there was a strong increase in the practice of engaging students who are not participating in the treatment group and not in the control group. However, many of the trends found in this data do not make sense if taken at face value. For example, for the practices of having a lesson plan in Ghana, and explaining the expectations of group work, the treatment group gets worse relative to the control group between baseline and midline, and then better than the control group between midline and endline. If this really reflected overall changes in the two groups, it would be hard to rationalise with the claim that teacher training improved teaching practices. Why would practices get worse before they get better? Given these results, the more important take away is that there is not a consistent trend that these practices are incrementally adopted more among teachers in the treatment group than in the control group. The particular changes in variables may be due more to noise in the data. However, if this particular training methodology or similar methodologies are used, it would be worthwhile identifying other apparent trends and try to conduct some scoping work to determine whether there are some practices that get adopted more readily and why.

[3] These are the teaching practices referenced in Discovery's endline evaluation report and discussed in Box 7. Within the classroom observation datasets, there are sometimes different variables measuring the same practice and different thresholds that can be set to determine if a teacher did exhibit that practice. In presenting this data, we are not trying to directly replicate the analysis conducted by Discovery, and our results may differ in some respects from the original analysis because of the choices made. Instead, the contribution of this analysis to look at how practices changed over time, and by using the same dimensions of teaching quality, we ensure that our analysis is compatible with the analysis conducted by Social Impact, Discovery's external evaluator.

Figure E.2: Change in best teaching practices as defined by Discovery

Table E.3: Evidence reported by projects for (changes in) barriers relating to school-related factors

Endline evidence for school-related factors	# projects with barriers lessened /remove	SPW projects by country and region						
		Discovery				Coca Cola Cycle 1	Coca Cola Cycle 2	Avanti
		Ken-Nai	Ken-Waj	Nig	Gha	Nig	Nig	Ken
Poor quality of teaching	4	▲	▲	▲	▲	⃠	⃠	⃠
Inadequate provision teaching materials and aids	5	▲	▲	▲	▲			▲
Inadequate provision of qualified teachers:	0	≡	≡	≡	≡			⃠
Poor conditions of commuting to/from school	0	⃠	⃠	⃠	⃠			≡
Inadequate school facilities	0	⃠	≡	⃠	⃠			⃠

Key: ▲= Barriers which have lessened or been removed since baseline; ≡ = Barriers which have not changed or have worsened since baseline or compared to control; ! = Barriers discovered at endline; ⃠= Barriers for which evidence is inconclusive or not available.

Have changes in barriers had an effect on education outcomes (attendance, learning)?

As shows in Annex E table E.4, there is very limited evidence to show that school-related interventions have improved the education outcomes of girls. There is some qualitative evidence which suggests that digital tools and equipment as well as improved teaching encouraged students to attend school particularly for Discovery in Kenya and Nigeria. Additionally, there is some weak quantitative evidence particularly in Ghana and Nairobi suggesting a link between improved teachers' practices and learning outcomes.

For Coca-Cola, there is anecdotal evidence from project staff noting that due to the training provided to teachers, scores of in-school girls in the targeted regions have improved in the national final secondary school examination. This, however, is not evidenced in the report.

Avanti used different intervention groups to identify whether the each type of intervention had an effect on education outcomes. It found no evidence that its school-related interventions had a direct effect on education outcomes (assessed through statistical tests).

Additionally, the projects noted major limitations and challenges hindering the achievement of outcome results:

- Discovery's project staff noted that the focus of the design at the outset of the programme was not on numeracy and literacy, but on improving the life chances of girls. They also noted that in order to achieve significant rapid gains in literacy and numeracy need focused interventions that equip teachers to more effectively teach basic math and reading skills.
- In the case of Coca-Cola and Avanti, the time allocated for teaching and learning numeracy and literacy skills is very limited. For example, Coca-Cola's in-school girls have about 2 hours per week in the Safe Spaces. The time is divided in the following: academic tutoring 50%, financial education 25%, and leadership and life skills 25%- including vocational skills. This means that girls have less than an hour per week to train on nuemracy and literacy skills, but also cover other academic subjects. Avanti has 25 computers per school wih an average functioning time of 2.6 hours per day for the labs (term 3). It also provided evidence that the time on task per girl per week is not sufficient and doesn't meet the recommended time to achieve learning results

Table E.4: Projects' School-related interventions affecting education outcomes

	Total Core	SPW projects by country and region						
		Discovery				Coca Cola Cycle 1	Coca Cola Cycle 2	Avanti
		Ken-Nai	Ken-Waj	Nig	Gha	Nig	Nig	Ken
Infrastructure and resources for schooling								
School and classroom building/ improvement								
Toilettes & WASH facilities								
Technology in classroom		A	NL A	A	⃠			⃠
Textbooks and learning materials		⃠	⃠	⃠	⃠			
Teacher training and support								
Skills training		NL A	⃠	A	NL	⃠	⃠	⃠
Gender responsive pedagogy training		⃠	⃠	⃠	⃠	⃠	⃠	⃠
Inclusive classroom strategies								
Literacy and numeracy training								⃠
Peer support and mentoring for teachers		⃠	⃠	⃠	⃠			⃠
School management and governance interventions								
Technology for school management								⃠
Working with SMCs, PTAs & other stakeholders		≡	⃠	⃠	⃠	⃠	⃠	⃠
Working with education authorities		⃠	⃠	⃠	⃠	⃠	⃠	⃠
Community and private schooling provision								
TOTAL		⃠	⃠	⃠	⃠	⃠	⃠	⃠

Key: A = Intervention improved access to school (enrolment, retention and/ or attendance); L = Intervention improved literacy N = Intervention improved numeracy; ≡ = Intervention with limited or no effect on educational outcomes; ▼ = Intervention with negative impact on educational outcomes; ⃠ = Intervention for which evidence is inconclusive or not available.

E.1.2 Poverty

Key Findings

Poverty-related factors are still prevalent barriers to education at endline. Only Avanti designed and implemented a core activity (i.e. the provision of stipends) to address this barrier. Coca-Cola focused on income-generating activities and facilitated saving groups and other economic and financial-related interventions that were not intended to directly affect the barriers to an academic education that their target girls faced.

Projects reported that direct interventions to offset the cost of schooling increased attendance, while their indirect interventions did not affect barriers to education or girls' education outcomes. Projects also reported that while there was some evidence that caregivers might have shifted their attitudes to understanding the benefits of girls' education, this did not translate into an actual decrease in girls' housework commitments that could have improved attendance and enrolment in school.

Our reanalysis of project data suggests that poverty remains one of the most important barriers to girls' educational achievement and that the projects had little impact in this area. Our reanalysis of Avanti's and Coca-Cola's data did not find any significant difference between the treatment and control groups with regards to the time girls spent on household duties, which remains a key barriers to girls accessing a quality education.

What was the situation at baseline?

At baseline (See Annex E table E.5) we found that poverty-related factors were ranked second among the main barriers to education. Poverty-related factors were anticipated by all projects, but Coca-Cola did not present strong evidence in its baseline report to support its assumptions about their effects on the success of the project's theory of change. Pathways through which girls' education were affected primarily related to extreme poverty and a lack of resources, which included material deprivation, limited resources and financial issues faced by families, forcing households to find and apply coping strategies in order to be able to send their girls to school.

Other poverty-related barriers described by Discovery relate to household commitments and income-generating activities and the cost of schooling that were reported by Avanti and Discovery. Avanti produced qualitative evidence that food and water shortages affected girls' education at baseline.

Table E.5: Evidence reported by projects at baseline for barriers relating to poverty

Endline evidence for poverty related factors	Evidence found	Discovery Ghana	Discovery Kenya	Discovery Nigeria	Coca-Cola-Cycle 1	Avanti
Extreme poverty and lack of resources	4	✓	✓	✓		✓
Household commitments /income generating activities	3	✓	✓	✓	✦	✦
Cost of schooling	4	x	x	x	✦	✓
Shortage of food and hunger	1					✓

Note: Evidence found is a sum of projects in which barriers were found and reported at baseline.
✓= Expected barriers found and reported; ✦= Expected barriers not found or reported; x = Unanticipated barriers found, Grey= Not assumed or reported.

Have interventions been designed and/ or implemented to address the identified barriers?

Out of the three SP projects considered in the report, and all of which have identified poverty-related barriers to girls education at baseline, only Avanti designed core activities related to economic interventions aiming at directly offsetting the cost of education and enabling girls to attend schools and/ or learn from the outset of the programme.

Coca Cola trained out of school girls on income generation activities and skills, it formed savings groups and provided them with assets in order to start their own income generating projects. The design of these interventions however, did not aim to offset the cost of schooling for girls nor was the direct aim to enrol them in school.

Box 8: Projects' specific interventions

- **Discovery:** Discovery did not design any interventions targeting poverty although poverty-related barriers were found at baseline to be important. However, there is some evidence in their evaluation reports and from discussions with project staff that the girls' clubs, particularly in Nigeria, were engaged in income-generating activities, such as soap making, which supported girls' livelihoods.
- **Coca-Cola:** Coca-Cola designed income-generating activities for out-of-school girls (62% of the total number of girls reached by the project) through asset provision and creating saving groups for out-of-school girls (who are 18 years old and above), which aimed at improving the girls' economic situation. However, as the ToC set out and according to project staff, these interventions were not directly designed to offset the cost of education for girls, or to improve education outcomes for these girls and their families within the life of the project. Rather, Coca-Cola's intervention with out-of-school girls' was focused on improving their life chances by enabling them to increase their income and get more control over their lives through new life skills they acquired. However, from the interviews with the project's staff, it seems that the project was also trying to enrol out-of-school girls who were engaged in those activities in school and on other literacy courses.
- **Avanti:** Avanti provided stipends to increase attendance at school. The project assumed that girls were not attending school because their families could not afford schooling. According to its endline report, Avanti identified students based on attendance criteria, and validated the final selection through a consultation process with the school and community committee to ensure that the girls were the most in need (see Section 3.1 on the project's reach for further information).

Table E.6: Projects' interventions – Economic interventions

ECONOMIC	Total Core	SPW projects by country and region					
		Discovery			Coca Cola Cycle 1	Coca Cola Cycle 2	Avanti
		Ken	Nig	Gha	Nig	Nig	Ken
Income-generating activities	0				✦	✦	
Loans and savings	0				✦	✦	
In-kind support (school kits, menstrual supplies, etc.)	0						
Stipends	1						✓
Disbursement of financial aid	0						
Total	1				✦	✦	✓

Key: ✓ = The intervention is at the core of the project's intervention strategy. ✦ = The intervention is being used, but is not a core activity.
Note: This categorisation is built on the FM's intervention mapping of projects. Information is derived from the FM's intervention mapping and projects reports and documents.

What has changed since baseline?

Out of the three SPW projects that identified poverty-related barriers to girls' education at baseline, only Avanti designed core activities related to economic interventions aiming at directly offsetting the cost of education and enabling girls to attend schools and learn from the outset of the project (see Annex E- table E.6).

Coca-Cola trained out-of-school girls in income-generation activities and entrepreneurial, financial and business skills. The project formed savings groups and provided their target girls with assets in order to start their own income-generating projects. The design of these interventions however, did not aim to offset the cost of schooling for girls nor were they intended to enable girls to enrol in school.

What has changed since baseline?

We acknowledge that it is beyond the capacity and mandate of the GEC to address structural barriers to education by alleviating poverty. However, we can investigate whether projects have been able to help girls and their families facilitate better access to education and quality learning by reallocating resources or bridging gaps in household finances. We can also measure whether families and caregivers decreased girls' household duties and their involvement in income-generating activities home to allow them more time to attend school and do homework.

At endline, the available evidence from projects' reports suggest that only Avanti managed to have a positive effect on poverty-related barriers. Avanti reduced the cost of schooling as a barrier to education by providing stipends to some of its students. Coca-Cola reported that 'gatekeepers; (understood as caregivers and community leaders) reported a more equitable division of labour, although the actual division of labour did not seem to decrease. Discovery did not report a change in the poverty barriers they found at baseline these were not addressed by the project.

Cost of schooling

The available evidence shows that only Avanti was able to decrease the cost of schooling through the provision of stipends. While Coca-Cola's ToC includes income-generating activities, these were focused on out-of-school girls with no direct aim to offset the cost of their schooling, enrol them in schools or improve their numeracy and literacy skills.

Direct interventions offset cost of schooling and increased attendance, while indirect interventions did not because they were not designed at the outset to have this type of effect on girls' education.

Avanti provided stipends that were 'semi-conditional' on children's attendance in school. The stipends were non-conditional in part because the project believed it would have been difficult to apply fully conditional payments in practice. The stipends were disbursed through certain merchants who sold necessity items such as food, but also school-related materials.

According to Avanti's endline evaluation report, over 10,000 beneficiaries received about 1,000 KES. To contextualize this, the report mentioned that a majority of parents (60.2%) spend 500-1,999 KES on education, which is a considerable proportion of their annual income. Therefore we can assume that the stipends covered a substantial amount of their annual spend on education. The report also provides evidence that the stipends fulfilled their intended purpose because they were primarily spent on food, household items like soap, and some school-related items like learning materials and stationary.

While attendance was not entirely conditional to receiving the stipends, it appears that they had a positive effect on girls' attendance. The report states that more than half of the stipend recipients increased their attendance by any measure, and about 68% of the recipients increased their attendance by at least 10%. However, the report recognises that the provision of stipends are unlikely to have a durable effect.

While the direct provision of stipends appear to have a positive effect, there is no clear effect that income-generation activities offset the cost of schooling. According to Coca-Cola project's interviewees, the income-generating activities targeted out-of-school girls who were 18 years old and above (in accordance with local laws and legislation). The endline report also states that: 1,747 in-school girls (ISGs) were involved in saving groups activities; 7,473 (out-of-school girls (OSGs) were involved in saving groups activities; and 6276 OSGs who were 18 years old and above entered value chains (related to products associated with Coca-Cola and Light).

There has been some recorded successes, such as increasing the overall savings of girls in the savings groups; a reported 90% of Cycle 2 girls having increased their savings, and some girls have accessed loans to start their business:

> *"I have started a business from my savings selling pampers"*
>
> (Beneficiary girl, Coca-Cola Cycle 1, Lagos)

Despite the large number of girls supported, and despite evidence that girls increased their savings, **it is not clear to what extent the project has had a positive effect on girls' lives.** For example, the 2015 Annual Report for Coca-Cola reports that while girls appear to have increased their savings (some reported a maximum of N1300 in savings over nine months), the cost of the first crate of Coca-Cola (which was not provided by Coca-Cola) was

reported to cost significantly more than these savings, at N1800. During interviews, it was mentioned that following advocacy on behalf of the girls, the crates were eventually provided to girls.

Another challenge which the project faced was the issue of training out-of-school girls below the age of 18 in income-generation activities. At the design stage, the project assumed that girls below the age of 18 could be involved in these types of activities, but this was prohibited by local laws and legislation. This left some girls frustrated at not being able to participate in these types of activities.

Additionally, there is no strong evidence that the interventions affected the girls' barriers to education, or affected their education outcomes (attendance and learning). There is however, anecdotal evidence, mainly from project staff, that out-of-school girls have become more interested in joining literacy classes and going back to school, although the latest project figures (in the project completion report) show that only 12 girls managed to re-enrol in school.

Access to finance for adolescent girls might not translate into increased spending on girls' education

As discussed above, Avanti provided clear evidence that the direct provision of stipends allowed caregivers to address the cost of schooling as a key barrier to education. However, Avanti also stated as part of its analysis of barriers, that once children grow older (i.e. reach adolescence), they are more likely to drop out of school to provide financial support their families and because of the opportunity cost for these older children of going to school.

Coca-Cola, who is also working with out-of-school adolescent girls, did not provide evidence to suggest that increasing the income of girls enables them to access education through increased spending on their education. Instead, the endline evaluation report states that "the importance of the financial stability of the gatekeepers cannot be overemphasized". It is worth noting that Coca-Cola could only provide income-generating activities with girls over 18 years old. This limits the effect of the project on younger girls.

Although a conclusion cannot be strictly drawn from these examples, but the evidence might suggest that providing the opportunity for adolescent children to generate income is unlikely to lead to increased spending on their education.

Housework commitments

By the end of the GEC, we still find that housework work commitments continue to be an important barrier to girls' education for all projects.

While attitudes of parents and caregivers might have improved towards girls' education, household chores for girls continue to be an important barrier to girls' education resulting in them not being in school.

Generally, projects tried to address this barrier through general awareness raising and sensitisation activities with parents and community members stressing the importance of girls' education and trying to facilitate better access for girls to education. Household were encouraged to reallocate scarce resources and bridge gaps suggesting a clear link between projects' interventions targeting this barrier and interventions targeting parental attitudes towards education.

While community mobilisation and sensitisation appears to have had a positive effect on parental or caregiver attitudes towards girls' household commitments for Coca-Cola Cycle 2, it does not seem to have worked for Discovery or for those girls participating in Coca-Cola's Cycle 1 course (see Annex E Table E.7). Discovery's endline reports found direct links between household chores and girls' enrolment in Wajir, Nairobi and Nigeria. The project's reports found that while awareness raising has been carried out, and attitudes of parents and caregivers appears to have improved towards girls' education, this did not translate into a decrease in the amount of household chores girls had to do to allow more time to study at home. Evidence provided shows that girls are still primarily responsible for doing household chores.

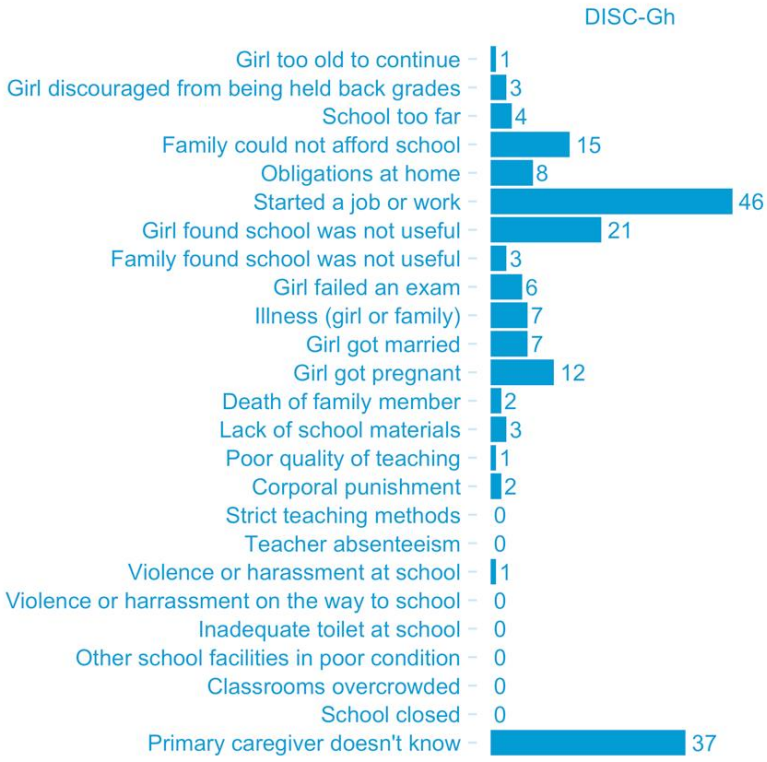
Avanti reported no clear evidence of the extent to which the barrier exists, but found that the barrier still exists. For example, the report discusses how girls in Kajado often have to assist their mothers in household duties and miss school. As described at baseline, there seems to be two contributing factors to this: poverty, and social and cultural norms. As illustrated by a caregiver in Kaduna:

> *"…her task is already defined by God"*

Evidence from the EM's reanalysis of project data

Reanalysis of project data provides some evidence to support the finding that poverty remains one of the most important barriers to girls' educational achievement and that projects had little impact in this area. In our baseline report for the SPW, we looked for systematic differences in indicators of poverty between samples of girls who are in school and those that are out of school in the Coca-Cola and Discovery projects. Reviewing this evidence from our reanalysis of project baseline data, we concluded that no individual indicators of material deprivations were consistently associated with lower enrolment. However, in different contexts, particular material deprivations were more common among households with out-of-school girls. We also found that household perceptions of their poverty level may have a more important impact on their decisions to enrol their children than their actual living standards. Finally, we found in data from Avanti, that there was a relatively strong association between the amount of work that girls have to do outside of school and their reading test scores. Because all these results came from cross-sectional data, this was only associative evidence.

Figure E.3: Reasons given by primary caregiver for girl leaving school (Discovery, Ghana)



One source of evidence about the impact of poverty on enrolment at endline comes from Discovery's household survey, where the evaluator followed up with the households of girls who dropped out of school between baseline and endline. There are many advantages to this data source compared to the cross-sectional data at baseline. Because of the way the sampling for this project was done, it is reasonable to consider this a small but representative sample of girls who dropped out of school during this time period. The sampling approach was to select girls randomly in schools and then follow up with their family at their home. This meant that when there was attrition from the sample of girls selected in the school, the project could still follow up with the families of those girls to find out why they were not at school. For Discovery's project in Ghana, there was attrition of 421 girls out of a sample of 1978, and of those girls, the project was able to follow up with 366 of the families of these girls. Of these, the primary caregiver of 186 girls reported they are no longer enrolled in school. With an 87% success rate following up with these families, the potential non-response biases among this group are relatively small. Figure shows the frequency of different reasons given by the primary caregiver for why these girls dropped out.

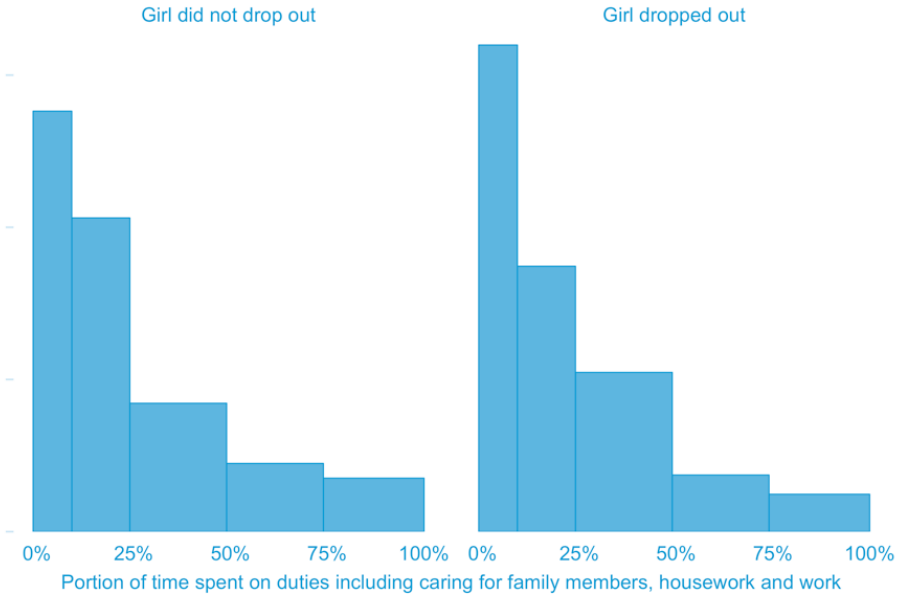
These responses suggest that systemic poverty is the largest cause of girls dropping out of school. The most common reason given was that the girl had left school to work, with a significant number also reporting that they could not afford school or that the girl had too many obligations at home. If we take a broader view of how systematic poverty affects the decisions of households, many of the other reasons given for dropping out also fit

with this hypothesis. A significant portion of families said they or the girl did not find school useful, which may be a reflection of the lack of opportunities they believe there are.

At first glance, this also appears to support a hypothesis put forward by many GEC projects that one of the major ways poverty affects educational outcomes is through the time girls have to commit to work and other tasks outside of school. Since taking work was the largest reason girls dropped out of school, it would seem likely that these kinds of commitments affect girls' attendance and diligence while they are in school. However, the data from Discovery, Ghana does not support this.

Figure E.4 shows the distribution of the portion of time girls spent on duties outside of school comparing the girls who did drop out to those who did not. Surprisingly, there is no difference between the groups. On average, girls who dropped out were reported to spend 23% of their time on duties outside schools, compared to 26% among girls who did not. Even comparing the girls that dropped out to start a job or work, this group only reported spending 33% of their time on work on average. As shown in Figure E.4 there also was little difference in the distribution of time girls spent between the two groups: there was not a larger cluster of girls who spent most of their time working or in any other way to distinguish the two groups.

Figure E.4: Histograms of time girls spend on duties comparing girls who dropped out to girls who did not at baseline (Discovery, Ghana)[4]



Another notable aspect of the responses given in E.4 is that very few responses related directly to the quality of schools or teaching. While a significant portion of respondents said that the girl found that school was not "useful," it is not clear whether this was because the school was poor quality or because the girl and/or her family felt that the skills learned at school would not be helpful. However, since almost no respondents gave reasons directly related to the quality of schooling, it appears that at some level poverty is a more fundamental determinant of a family's decision to keep their child in school or not.

Unfortunately, the follow-up interviews with the families of girls who were not present at school had a lower success rate in Kenya and Nigeria, so we cannot compare these results across project areas. For these projects' sample sizes are too small and there is too much room for analysis.

Despite the importance of poverty, we would not expect to see a direct impact of SPW projects on the overall incidence or depth of poverty within the timeframe of these projects. Poverty is a systemic problem in the communities where SPW projects operated, and none of the projects attempted to directly reduce the level of poverty. However, following the projects' theories of change and the evidence in their endline reports, projects could have impacted on barriers related to poverty by reducing the time girls spent on work and duties, or helping families afford the cost of schooling. Looking for these effects, it is important to bear in mind that the interventions

[4] The histograms in the figure are densities, which means that the y-axis is scaled such that the total area of both graphs integrates to 1. This allows us to compare the shape of the distribution directly. The sample size for girls who did not drop out is much larger.

directly affected the financial situation of families – Avanti's stipends, Coca-Cola's support for savings groups – were minor components of the projects. Other programme components aimed at changing attitudes toward girls' education could have had an effect on girls' duties, but we would also expect these effects to be small. It is not surprising that we do not find that there was any significant difference between treatment and control groups in the time girls spent on household duties.

Figure E.5: Change in indicators related to girls' household duties and time spent on work

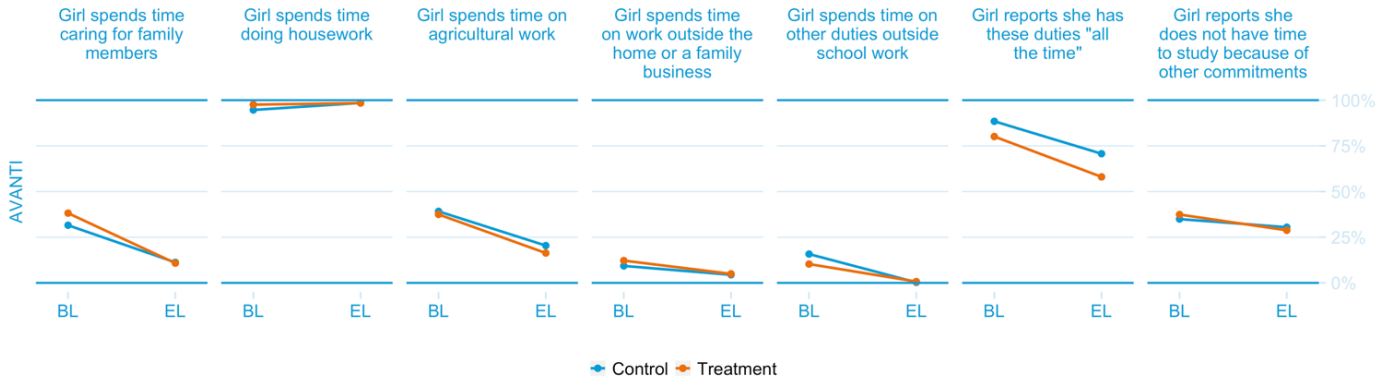
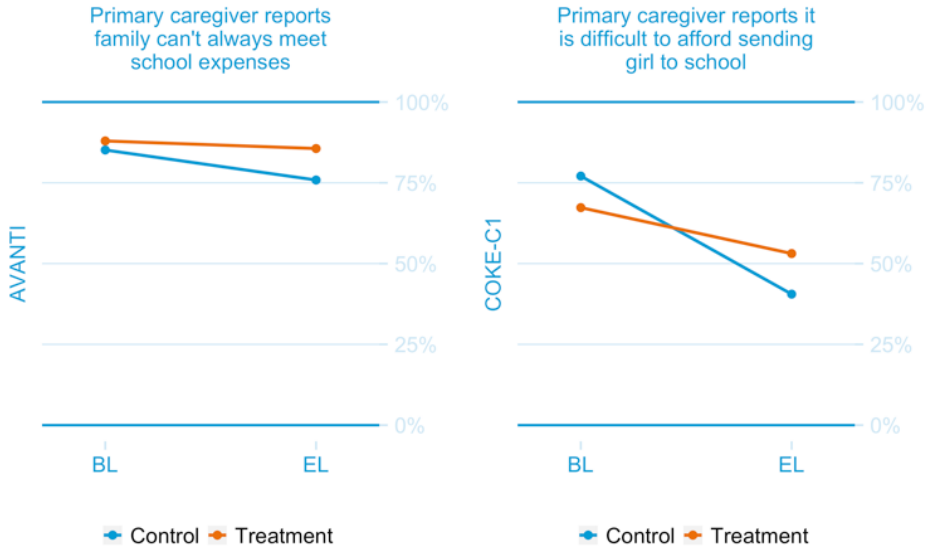


***Figure E.5* shows the change in several indicators related to girls' household duties and work for Avanti's project. It is clear from this evidence that there is no significant difference between the changes in the treatment and control groups. Given the approach Avanti took in attempting to target girls who are poor and do not have a good attendance record for stipends, this project would have had the best chance among SPW projects of affecting this indicator through financial support. One other notable feature of the evidence from Avanti is that there was a general trend across treatment and control for girls to report having fewer duties and spending less time on their duties, but there was no change in the last indicator in *Figure E.5*, the girl feels her duties prevented her from studying. It is possible that the decreases in duties are mostly an artefact of changes in the way the survey was administered between baseline and endline. But if we accept this data, it suggests that marginal changes in the duties girls have do not necessarily have a direct effect on how much they can concentrate on school.**

Figure E.6: Family perceptions of hardship of school expenses



Limited evidence was available to assess whether Avanti's stipends and Coca-Cola's savings groups helped families to afford school. Figure E.6 presents the responses to simple questions to the girls' primary caregivers asking whether they can afford to send the girl to school. It is somewhat difficult to interpret these findings. Coca-

Cola's Cycle 1 data shows a major decline in the households in the control group who report that it is difficult to afford school. Given that the time elapsed between baseline and endline was only nine months, this is not a plausible change. Avanti's data shows that the situation changed little for either the treatment or control groups.

Table E.7: Evidence reported by projects for (changes in) barriers relating to poverty

Endline evidence for poverty	# projects with barriers lessened /remove	SPW projects by country and region						
		Discovery				Coca Cola Cycle 1	Coca Cola Cycle 2	Avanti
		Ken- Nai	Ken-Waj	Nig	Gha	Nig	Nig	Ken
Cost of schooling	0	=	=	=	=	=	⃠	▲
Significant housework commitments of girl	1	=	=	=	=	⃠	⃠	!
Hunger and health related factors	0							⃠
Extreme poverty and lack of resources	0	=	=	=	=			⃠
Girls and income-generating activities	0	=	⃠	=	=			!

Key: ▲ = Barriers which have lessened or been removed since baseline; = = Barriers which have not changed or have worsened since baseline or compared to control; ! = Barriers discovered or reported at endline (and not baseline); ⃠ = Barriers for which evidence is inconclusive or not available; Grey: Barriers not reported by projects at baseline.

Have changes in barriers had an effect on education outcomes (attendance, learning)?

Only Avanti observed a positive effect of its intervention on education outcomes, and this was mainly on attendance. However, this was strictly observed on the students that received the stipends and did not reflect an overall increase in attendance at the project level. Please refer to Section 3.2 Outcome section, for further discussion based on our analysis of education outcomes and attribution to projects' interventions.

Table E.8: Projects' Economic interventions affecting education outcomes

ECONOMIC	Total Core	SPW projects by country and region						
		Discovery				Coca Cola Cycle 1	Coca Cola Cycle 2	Avanti
		Ken- Nai	Ken- Waj	Nig	Gha	Nig	Nig	Ken
Income-generating activities	0					⃠	⃠	
Loans and savings	0					⃠	⃠	
In-kind support (school kits, menstrual supplies, etc.)	0							
Stipends and scholarships	1							A
Disbursement of financial aid	0	⃠	⃠	⃠	⃠			

Key: A = Intervention improved access to school (enrolment, retention and/ or attendance); L = Intervention improved literacy; N = Intervention improved Numeracy * indicates that the effect on education outcomes (attendance, learning) could be evidenced in the Outcome Spreadsheets, in addition to the narrative provided in the Project Midline Evaluation Reports; = = Intervention with negative, limited or no effect on educational outcomes; ⃠ = Intervention for which evidence is inconclusive or not available, Grey: Intervention not part of the design or implementation of the project.

E.1.3 Girls' aspirations, decision making and early marriage

Key Findings

There is some evidence that girls' aspirations and interest in schools has improved from baseline to endline. This is due to a number of factors including the effects of girls' clubs and safe spaces. Girls' clubs and safe spaces in particular appear to have improved girls' wellbeing and confidence, although this has not helped girls overcome barriers to education such as girls' decision-making around schooling and marriage.

There is some evidence to suggest that girls' clubs with a focus on tutoring affect girls' learning. This was observed for both Avanti (through qualitative evidence) and Discovery (through qualitative and also quantitative evidence). However, both these findings need to be treated with caution because there was no evidence that these changes were attributable to the project and because these findings cannot be generalised –f for example, there is evidence that suggest that Discovery focused on high achieving girls.

What was the situation at baseline?

At baseline, projects found several related to girls' aspirations and decision-making around education, in addition to incidents of early marriage and pregnancies (see Annex E- Table E.9). Early marriage and pregnancy were described as an alternative to education in some contexts, and their prevalence was found to be strongly correlated with poverty levels. Most projects in their targeted countries (except for Discovery's project in Ghana) found evidence that early marriage is a barrier to education. A lack of female role models, was assumed as a key barrier by Discovery, but was not directly assessed. Discovery's project in Kenya and Coca-Cola found other education barriers related to girls' aspirations and decision-making, such as older girls' lack of interest and motivation towards certain subjects such as math and science and their increased interest in boys affecting their schooling.

Table E.9: Evidence reported by projects at baseline for barriers relating to girls' aspiration, decision-making and early marriage

Baseline evidence for girls' aspirations, decision making and early marriage	Evidence found	Discovery Ghana	Discovery Kenya	Discovery Nigeria	Coca-Cola	Avanti
Early marriage	4		x	x	✓	x
Pregnancy	4	x	x		✓	x
Other-related barriers: FGM, Family's recent mobility, Parents' knowledge about education system requirements	2	x	x			
Lack of female role models	0	•	•	•		
Motivation and interest in schooling or certain subjects	2		x		x	
Decision making power	1				x	

Note: Evidence found is a sum of projects in which barriers were found and reported at baseline.

✓= Expected barriers found and reported; ✦= Expected barriers not found; x = Unanticipated barriers found •= Expected barriers not reported, Not assumed or reported (Grey).

Have interventions been designed/ implemented to address the identified barriers?

Projects aimed at addressing the barriers to education related to girls' aspirations, decision-making and early marriage through two main categories of interventions: (1) extra-curricular activity and non-formal education; and (2) interventions to improve empowerment and self-esteem (see Annex E- Table E.10). Discovery and Coca-Cola designed and implemented core interventions to specifically and directly affect these barriers to education. For example, Discovery included girls' clubs with the explicit aim of improving girls' self-esteem and aspirations. Coca-Cola also included specific sessions in its education cycle aimed at developing girls' life skills, leadership skills and

decision-making. Avanti's ToC however did not focus on this type of barrier to education (i.e. it was not a core intervention). Avanti instead intended to affect this type of barrier indirectly though: the girls' clubs and mixed clubs; some of its learning content; and through the provision of ICT equipment that in and by itself should increase motivation and interest in education together with increased exposure to the outside world.

Box 9: Projects' specific interventions

All three projects designed and delivered interventions related to extra-curricular and non-formal education activities, and girls' empowerment and self-esteem:

- **Discovery:** The project formed 927 girls' clubs. These were spaces where girls can choose to discuss or carry out activities as they desired. Discovery only provided toolkits for facilitating discussions in those clubs but adopted a flexible approach with regards to the actual content discussed in these clubs. In these clubs, girls engaged in activities including cooking, soap-making, sewing, gardening. These were also considered as safe spaces where girls could discuss topics such as education, hygiene, life at home, challenges faced as a girl, HIV/AIDS, peer pressure, careers, menstruation, discrimination, family issues, female circumcision, sex, early marriage, and pregnancy. These clubs and their activities intended to enhance girls' aspirations, motivation and confidence.

  In addition to the girls' clubs, Discovery also produced and broadcasted National Talk Shows in each of the countries. These talk shows, as described in the project proposal, aimed at presenting role models for parents and girls to inspire them and encourage them to seek education.

- **Coca-Cola:** Coca-Cola introduced the safe spaces in schools (for in-school girls which comprise 38% of the total girls reached) and outside of schools (62% of the total girls reached). Coca-Cola adopted a structured approach where specific topics were discussed. Girls from the two groups were also trained in life skills and leadership skills to increase their self-esteem, confidence and negotiation skills through its Life Skills curriculum. According to project staff, Coca-Cola also created opportunities for girls to practice leadership skills, such as through the 'girls' ambassadors' model. Through this model, girl mentors are identified within the communities, and these provide support to other girls and follow up on their savings.

  Coca-Cola intended pairing girls with other micro-enterprise owners to overcome obstacles to free movement to markets as well as to troubleshoot their problems and increase their confidence. This however did not materialise during implementation. During interviews, project staff noted that this was due to the limited timeframe and resources available. Instead, emphasis was placed on the girls' ambassadors' model.

- **Avanti:** While Avanti's ToC did not include interventions which were entirely designed to address girls' aspirations and motivations, it did aim to address those issues through some its other interventions. For example, through its ICT content, Avanti aimed to raise their self-esteem, career aspirations and knowledge of the outside world. The project design also suggested that the provision of ICT equipment and content would increase interest in education and motivation to attend school.

  Avanti included child clubs as part of its ToC to enhance girls' self-esteem, and intended to deliver content such as the Good School Toolkit and the Q-files online encyclopaedia. The project completion report states that 387 child clubs (209 of which are girl-only) were established.

Table E.10: Projects' interventions – Extra-curricular activity and non-formal education, and Empowerment and self-esteem interventions

		SPW projects by country and region						
		Discovery				Coca Cola Cycle 1	Coca Cola Cycle 2	Avanti
		Ken- Nai	Ken- Wajir	Nig	Gha	Nig	Nig	Ken
EXTRA-CURRICULAR & NON-FORMAL EDUCATION	Tutoring clubs					✓	✓	✦
	Mentoring (peer support, learner guides)	✦	✦	✦	✦			
	Life skills and health information	✓	✓	✓	✓	✓	✓	✦
	Vocational training & economic empowerment	✦	✦	✦	✦	✓	✓	
	Mixed sex / Additional boys clubs	✦	✦	✦	✦			✦
EMPOWERMENT & SELF-ESTEEM	Safe spaces and girls clubs	✓	✓	✓	✓	✓	✓	✦
	Role models	✦	✦	✦	✦			
	Mentoring					✦	✦	
	Girls' voice and participation	✦	✦	✦	✦	✓	✓	

Key: ✓ = The intervention is at the core of the project's intervention strategy. ✦ = The intervention is being used, but is not a core activity.

What has changed since baseline and how?

There is some evidence that **motivation and interest in school or certain subjects has improved for girls**. This was found for both Avanti and Discovery (in three of its four locations). Discovery reported some evidence that girls are more interested in science (particularly in Nigeria and Nairobi) and math (particularly in Ghana and Nairobi). At baseline, the science and math subjects in particular were described in Kenya as male subjects at baseline. However, the endline report in Nairobi shows that girls from both treatment and control groups found school interesting and that more girls in the control group were eager to go to school than in the treatment group (97% in the control group compared to 91% in the treatment group). Avanti reported some evidence that there was an increase in the interest in school in general.

Unpacking the pathways through which changes have occurred, both Avanti's and Discovery's ToCs make links between girls' motivation and interest in school and the introduction of ICT equipment, teacher training (Discussed in school-related factors) but also Girls' Clubs. The latter is discussed below.

There is evidence from the project reports that girls are more interested in school and in certain subjects since baseline. The evidence is mixed across projects with regards to changes in **girls' self-esteem, aspirations and their decision making power**. In both of Coca-Cola's cycles there was evidence that girls' confidence at school and at home improved at endline compared to baseline in the treatment group compared to the control group. However, there is inconclusive evidence with regards to changes in girls' decision-making power. The evaluation report for Cycle 1 reported evidence that there is some autonomy in girls' decision-making over resources, but decision-making about marriage is still within gatekeepers' hands. Evidence from Discovery and Avanti about these types of barriers is either inconclusive or that these barriers still exists suggesting that there was no major change in its prevalence. Avanti for example, presented positive evidence with regards to improved perceptions among girls towards early marriage and decision-making. It appears though that girls are still not able to discuss these issues with their parents.

With regards to **early marriage and pregnancy**, none of the projects managed to demonstrate robust evidence that these barriers to education have changed. Similarly, only Discovery's project in Ghana was able to provide some evidence that the there was an improvement in terms of **girls having role models** who inspire them and encourage them to pursue their education.

Girls' Clubs

Extra-curricular activities, life skills clubs – whether open to girls only, or also to boys – were commonly established as a way to help students develop non-schooling skills, develop greater aspirations, increase their interest in school

and education and their commitment to study. They can also build self-confidence and communication skills, which enable girls to participate more fully in class.

Despite the numerous clubs established, there appears to be some challenges in creating buy-in from parents and community members, and in their operation.

As mentioned, all three projects managed to establish and operate girls' clubs or safe spaces**.** However, Avanti and Discovery reported challenges that they faced during implementation. They however did not specify how these affected the anticipated results of the clubs. The challenges that Discovery faced were mainly reported in Ghana and described in terms of limited support from parents and teachers for these clubs as well as limited financial support to run them. It is not clear to what extent these challenges affected the operation of these activities.

Another concern with regards to Discovery's clubs was the recruitment of girls in the clubs in which girls are selected based on their motivation and commitment to education. One teacher in Nigeria described the process:

> *"It's not done randomly. While teaching in class, there are students that put in great effort while lessons are in progress. They take their work seriously and they are also supported at home. These are the types of students we recruit."*

It is not clear to what extent this recruitment process is followed but it might suggest that many girls who are already educationally marginalised (and possibly generally marginalised) are unintentionally excluded from these clubs.

There was also evidence that Avanti did not particularly focus on this activity during implementation. This was mentioned during interviews and in the endline report. Clubs were optional for teachers and they were not provided with incentives to compensate for the extra efforts they put into the clubs, which limited their commitment to them. Additionally, one interviewee noted that project staff did not particularly focus on the clubs' interventions. It was also mentioned that Discovery's model of girls' clubs would be replicated in Avanti's schools in the next phase of the project, and that these would be delivered with the support of Discovery.

Girls' clubs and girls' safe spaces appear to be effective in increasing girls' wellbeing and confidence, although there is limited evidence demonstrating their effects on education

Despite the challenges and limitations that were experienced, projects presented evidence that girls' clubs and girls' safe spaces had a positive effect on girls' wellbeing and confidence. For example, Coca-Cola found that safe spaces helped girls 'reason better' and voice their opinion without fear of retribution or rejection. Avanti's endline report described the benefits in terms of increasing their skills including learning new things and improving their grades. Discovery's project in Ghana, Nairobi and Wajir also found positive effects on girls' wellbeing and confidence as a result of these clubs.

However, there is insufficient evidence to suggest that increased confidence and skills enabled girls to overcome the barriers to education related to their interest in school or their power to make important decisions about going to school. In Nigeria for example, more girls in the control group stated that they had decision-making power regarding schooling than in the treatment group. However, in Ghana, while girls in the treatment group were more involved in girls' clubs, there does not seem to be a difference between the treatment and control groups with regards to girls' eagerness to go to school. This suggests that while the clubs might have had a positive effect on girls' wellbeing (ranging from personal hygiene to self-esteem), this is not sufficient affect the barriers to education that they face.

While safe spaces and clubs aimed to indirectly address early marriage and pregnancy, these remain key issues and barriers to girls' education that did not change as a result of projects' interventions.

Despite projects attempting to indirectly address issues of early marriage and pregnancy in their clubs and safe spaces, and despite the fact that there are indications that more girls are in favour of delaying marriage, these remain important challenges to girls and their education. This was evidenced in a number of ways, particularly in terms of girls' inability to make a decision regarding marriage. For example, one girl in Kano, Nigeria stated:

> "*If my father tells my mother to stop me, I will have to stop going to the school."*

Additionally, the prevalence of early marriage and its effect on education was demonstrated when parents and teachers were asked about the main reason for girls dropping out of school at endline. In Ghana for example, early marriage was still the most important reason for girls dropping out of school.

Changes in cultural practices and social norms with regards to early marriage in particular is recognised by projects to be a difficult and persistent barrier that requires more than just empowering girls themselves, but also ensuring an enabling environment for change in these practices. For example, while noticing more interest in school and improvements in self-esteem, Discovery also found that parents are still the dominant decision-makers when it came to their daughters' future.

Table E.11: Evidence reported by projects for (changes in) barriers relating to girls' aspiration, decision-making and early marriage

Endline evidence for girls' aspiration, decision-making and early marriage	SPW projects by country and region						
	Discovery				Coca Cola Cycle 1	Coca Cola Cycle 2	Avanti
	Ken- Nai	Ken- Waj	Nig	Gha	Nig	Nig	Ken
Early marriage	≡	⊘	≡	≡	≡	⊘	≡
Pregnancy	≡	⊘	⊘	≡	⊘	⊘	⊘
Other-related barriers: FGM, Family's recent mobility, Parents' knowledge about education system requirements							
Lack of female role models	⊘	≡	⊘	▲			
Motivation and interest in schooling or certain subjects	⊘	▲	▲	▲		⊘	▲
Decision making power	≡	⊘	▲	⊘	⊘	⊘	≡

Have changes in barriers had an effect on education outcomes (attendance, learning)?

The evidence around the effects of most extra-curricular activities, non-formal education and self-esteem / empowerment related interventions has been inconclusive or ineffective with regards to improving education outcomes (see Annex E- Table E.12). There is some indication however that **girls' clubs with a focus on tutoring affected girls' learning.** For example, although Avanti did not focus on girls' clubs, a majority of girls stated that the clubs helped them improve their grades. Many also indicated that their favourite activity during the girls' club was the Maths-Whizz content. This might suggest that the girls use their time in the clubs to do maths exercises. This was also supported by the project staff during interviews who mentioned that students use the weekends and time after school to access the online learning tools.

Across Discovery's three target countries, there is some evidence that participation in girls' clubs (although some the evidence relates to both treatment and control schools) was associated with higher math and reading scores. This finding however, needs to be treated with caution because of the way girls were recruited in girls' clubs, i.e. teachers identified girls who are engaging well in class to participate in the clubs. This might suggest that the more educationally marginalised girls or those who are less interested in school were not recruited.

Table E.12: Projects' Extra-curricular activity and non-formal education, and Empowerment and self-esteem interventions affecting education outcomes

		SPW projects by country and region						
		Discovery				Coca Cola Cycle 1	Coca Cola Cycle 2	Avanti
		Ken- Nai	Ken- Wajir	Nig	Gha	Nig	Nig	Ken
EXTRA-CURRICULAR & NON-FORMAL EDUCATION	Tutoring clubs					⃠	⃠	LN
	Mentoring (peer support, learner guides)	⃠	⃠	⃠	⃠			
	Life skills and health information	LN	N	N	LN	⃠	⃠	⃠
	Vocational training & economic empowerment	⃠	⃠	⃠	⃠	⃠	⃠	
	Mixed sex / Additional boys clubs	⃠	⃠	⃠	⃠			⃠
EMPOWERMENT & SELF-ESTEEM	Safe spaces	LN	N	N	LN	⃠	⃠	
	Role models	⃠	⃠	⃠	⃠			
	Mentoring					⃠	⃠	
	Girls' voice and participation	⃠	⃠	⃠	⃠	⃠	⃠	

Key: A = Intervention improved access to school (enrolment, retention and/ or attendance); L = Intervention improved literacy; N = Intervention improved numeracy; ☰ = Intervention with limited or no effect on educational outcomes; ▼ = Intervention with negative impact on educational outcomes; ⃠ = Intervention for which evidence is inconclusive or not available.

E.1.4 Negative attitudes towards girls' education

Key Findings

There is some evidence that Discovery managed to increase parents' engagement in children's education. However, there is mixed evidence suggesting that community outreach and awareness raising activities carried out by Discovery and Coca-Cola improved attitudes towards girls' education. The evidence also suggests that parenta; engagement was limited to those parents already interested in education, 'better-off' households, and qualified or educated to a certain level. The reported evidence suggests that the TV national Talk shows reached a very small number of the targeted communities.

Our reanalysis of the projects' data found that it is unusual for parents to report a view that could mean they do not value education. Our analysis also suggests that approaches to changing attitudes that are not targeted at particular individuals or focused on specific issues will not be successful. Since the members of the communities where these projects believe at a minimum that it is important to say that girls' education is important, any meaningful effort to change attitudes would need to identify a more specific problem relating to attitudes.

Finally, we also found that many families were willing to say that they consider the economic opportunities for children and the child's gender when making decisions about education and that this trend was increasing. This suggests that one important challenge around attitudes is that families are sceptical of the economic value of education.

What have projects found at baseline?

At baseline, (see Annex E- Table E.13) the SPW projects anticipated barriers related to communities' and caregivers' attitudes towards education. Discovery and Avanti found evidence in their targeted communities that parents and caregivers have negative attitudes towards girls' education and that they do not support girls' education. Discovery described the barrier especially in terms of parents under-valuing investment in girls' education, as girls would eventually get married and leave their families behind, or in terms of favouring boys' education of girls' education. Coca-Cola on the other hand, assumed that parents and caregivers have negative attitudes towards non-religious education and post-primary education, but did not report on their findings at baseline. Avanti assumed that parents and caregivers perceived girls' education as irrelevant but did not find evidence of this.

Table E.13: Barriers found at baseline

Baseline evidence for attitude and behaviour-related factors	Evidence found	Discovery Ghana	Discovery Kenya	Discovery Nigeria	Coca-Cola	Avanti
Negative attitude towards girls' education/lack of parental support	4	✓	✓	✓		✓
Negative attitude towards girls' non-religious education	0				•	
Perceived irrelevance of education	0					✦
Negative attitude towards girls' post-primary education	0				•	

Note: Evidence found is a sum of projects in which barriers were found and reported at baseline.
Key: Assumed barriers found and reported (✓), Assumed barriers not found (✦), Assumed barriers not reported (•), Unanticipated barriers found (**x**), Not assumed or reported (Grey).

Have interventions been designed/ implemented to address the identified barriers?

As Annex E- Table E.14 shows, Coca-Cola and Discovery have both designed and implemented interventions relating to parents' attitudes and/ or engagement in their children's education. Discovery stated in its proposal that it aimed to engage Community Action Mobilisers to work with each of the Learning Centres to set up or energise parent-teacher community associations and develop Community Action Plans to engage parents and the community in children's education. Discovery also produced and broadcasted national TV shows in each of its targeted countries (26 episodes) aimed at discussing issues related to girls' education (including discussing the

value of education). These were intended to shift the mind-set toward girls' education by improving parents' knowledge, attitudes and practices related to girls' education.

Coca-Cola carried out sensitisation and advocacy activities with the communities as well as national stakeholders in order to introduce the project and its value to girls and their communities. According to project staff, the project's local partner "Girl Effect" established and worked with Community Action Committees, which are comprised of community leaders and members such as traditional leaders, youth, women and the local government for the out-of-school girls' intervention, and the School-Based Management Committees specifically for the in-school girls' intervention. It formed the State Advisory Groups for the project to ensure local authority support for the project. It also implemented Champion Days to engage families and communities in girls' education. At the National level, the project also engaged with the media, other development organisations and the government, including by establishing partnerships with the National Youth Service Corps to provide graduate volunteers to support the programme[5].

Avanti did not design specific activities to address parents' negative attitudes towards girls' education or to increase their support in their education.

Table E.14: Projects' interventions – Attitude-related interventions

Intervention type	Intervention	SPW projects by country and region						
		Discovery				Coca Cola Cycle 1	Coca Cola Cycle 2	Avanti
		Ken- Nai	Ken-Wajir	Nig	Gha	Nig	Nig	Ken
COMMUNITY BASED	Media (radio, TV, advertising)	✓	✓	✓	✓			
	Community meetings/ gatherings	✓	✓	✓	✓	✓	✓	
	Parents' groups/ women's groups	✓	✓	✓	✓	✓	✓	
	Visits and support to households							
	Interventions with men and boys							
	Working with faith groups and traditional leaders					✓	✓	
	Adult literacy							
SCHOOL MANAGEMENT & GOVERNANCE	Technology for school management*							✓
	Working with PTAs and other stakeholder groups	✓	✓	✓	✓	✓	✓	
	Working with education authorities	✓	✓	✓	✓	✓	✓	
	Community and private schooling provision							

Key: ✓ = The intervention is at the core of the project's intervention strategy. ✦ = The intervention is being used, but is not a core activity
*Discussed in the School-related factors.

What has changed since baseline?

At endline, and as Annex 5- Table E.15 shows**,** there is some evidence that Discovery managed to increase **parents' engagement** in children's education due to its mobilisation activities. However, there is mixed evidence about whether Discovery and Coca-Cola improved communities' **attitudes towards girls' education** or improved their perceptions of the value of their education.

There is mixed evidence with regards to the effectiveness of the community outreach and awareness-raising activities in improving attitudes and support for girls' education.

There is mixed evidence with regards to the effectiveness of activities aiming to improve communities' perceptions about girls' education. Coca-Cola for example carried out activities that target communities' perceptions about girls' education, including girls' knowledge and skills on vocational training and non-academic subjects. The Coca-Cola Cycle 2 report noted that more parents and community members perceived that girls' education and learning new skills is important at endline compared to baseline. However, both cycles provided evidence that this was not the case in Kano where attitudes towards girls' education does not seem to have positively changed. To illustrate this, it appears that in Kano parents still prefer to send boys to school and not girls. Also, while it seems that attitudes

[5] Project staff interviews and Project Management Response to the external evaluation.

towards girls' education might have improved, the gendered roles and responsibilities have not, placing even more weight on the girls to support their families and community.

> *"…So it is very good for a girl to be educated because she will be a mother tomorrow, right? (Caregiver, Coca-Cola Cycle 2, Nigeria),,*

Similarly, Discovery also found mixed evidence in terms of the effectiveness of the community gender sensitisation (through the Community Action Plans) in changing attitudes towards girls' education. In Ghana for example, while caregivers themselves expressed support to girls' education, they noted that it was uncommon in their communities to send girls to school and that their community did not value education. In Nairobi, community awareness raising is perceived to have positively affected girls' attendance in school due to an increase in parents' interest in education and their encouragement of their daughters to go to school. However, some expressed their preference to send boys to school if they had to choose. In Nigeria, the endline report provides evidence that parents perceived that the value of education declines as the girl gets older.

Avanti did not particularly address the issue of communities' attitudes towards girls' education, but it provided mixed evidence of how parents and caregivers perceive girls' education.

There was little available evidence to explain why changing attitudes and practices towards girls' education was difficult to achieve despite projects' interventions. During interviews with project staff, one interviewee from Coca-Cola mentioned that this might be due to the depth of the social norms and gendered roles within society, in particular girls' destined role in marriage and raising children, and little perceived value in girls' education in comparison to boys' education. As explained, changing these social norms and practices particularly under difficult circumstances such as the financial constraints in which parents have to constantly make choices, is challenging. This is also mentioned in Discovery Wajir's report that explains how parents still prioritise boys' education when facing severe financial constraints.

The evidence suggests that the parents engaged by projects was limited to those already interested in education, 'better-off' households, and those who were qualified or educated to a certain level.

There was also evidence that efforts to engage parents in children's education have resulted in limited results. For example, in Ghana it is reported that more caregivers visit the schools. But in Nigeria, the report states that the parents' visits to school remained the same between baseline and endline. In Nairobi while caregivers are reported to have visited the school, there was no change in the parents' involvement in school activities. It was difficult to explain why projects found it difficult to engage parents in children's education. Suggested explanations were illustrated in endline reports and during interviews with project staff, such as that it is easier to engage parents of children who are performing well in school than it is to engage parents of children who are not performing well in school because they do not have high aspirations for their children's schooling. As this caregiver described:

> *"Most of the time you will find that the parents who attend the meetings are the ones their children perform very well. Some parents assume that there is no need to go for those meetings because their children do not do well in school. They do not see the need." (Teacher, Discovery, Nairobi (Kenya),)*

One interviewee suggested that it is difficult to engage parents who are struggling to make ends meet. This is because these parents and caregivers do not have the time to participate in school activities. The interviewee also mentioned that in Kenya in particular, and since 2014, the government has changed the requirements of who can participate in school management committees and restricted them to those with secondary education.

There is no evidence that mass media reached the targeted communities, or that it had an effect on the targeted communities' attitudes and support for girls' education.

Discovery's second main intervention aimed at changing communities' perceptions towards girls' education through the national chat shows. As previously mentioned, these cost about 13% of DFID's matched funding to Discovery's project. They were presented in the English language and produced and broadcasted locally in each of the three countries.

Discovery's evaluation reports revealed that these shows did not have an effect on the targeted communities' perceptions towards girls' education[6]. This was mainly because most of the targeted communities did not watch the

[6] The external evaluator of Discovery carried out separate studies in urban areas using focus group discussions to assess the effect of the national talk shows on people's perceptions with regards to girls' education. These studies reveal that the show was positively perceived and

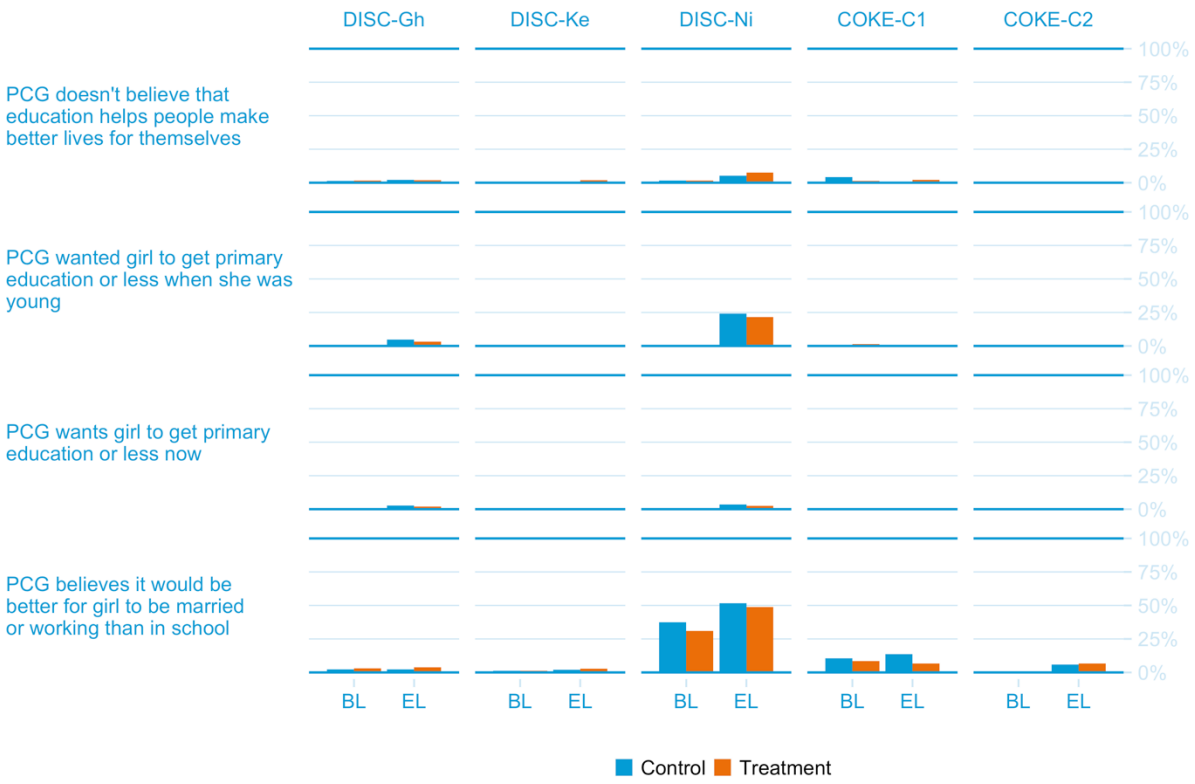
shows in their respective countries and on their local channels. In fact the viewership of the programme in all three countries was at 2.4% with about 1% viewership in Ghana (15 respondents), 1.4% in Nigeria and 4.5% in Nairobi.

The low viewership of the programme was due to limited access to televisions (especially in Ghana and Nigeria) and the language barrier (especially in Nigeria). In Nairobi where the viewership was the highest, focus groups revealed that the time of the programme conflicted with soap operas so viewers would switch between channels. It is also worth mentioning that the attitudes towards the importance of girls' education of respondents who have viewed the shows were positive at both before and after the shows were rolled out. It is also worth noting that Discovery produced the National Talk Sow in Hausa language and aired it on a Nigerian channel that broadcasts for Northern Nigeria. However, this was after the endline data collection.

Evidence from the EM's reanalysis of project data

In principle, it should be easier to measure negative attitudes and changes in attitudes over time using survey data. Surveys are best suited to gauge perceptions rather than constructs like teaching quality. However, survey responses across all GEC windows have found less direct evidence of negative attitudes than we might have expected. Figure E.7 presents the responses of the primary caregivers to a series of questions about their views of the value of education.[7] The most notable thing about the responses to these questions is just how unusual it is for parents to report a view that could mean they do not value education. The exception in the SPW is Discovery Nigeria, where between 30% and 50% of parents are willing to say they think it would be better for their daughter to work or get married at age 18 rather than continuing their education.

Figure E.7: Primary caregiver's perceptions of the value of education



Taken at face value, these responses seem unrealistically enthusiastic about education. World Bank data on tertiary education does not have good coverage over all three countries, but suggests that gross enrolment in

had some positive effect on encouraging and empowering girls particularly through education. However, the purpose of these studies, the design of the tool and the recruitment of participants do not necessarily fit within the scope and purpose of the GEC evaluation framework. For example, the focus groups for Ghana were carried out in Accra, where the project did not intervene, which means that the possible effects would not impact the project's targeted girls.

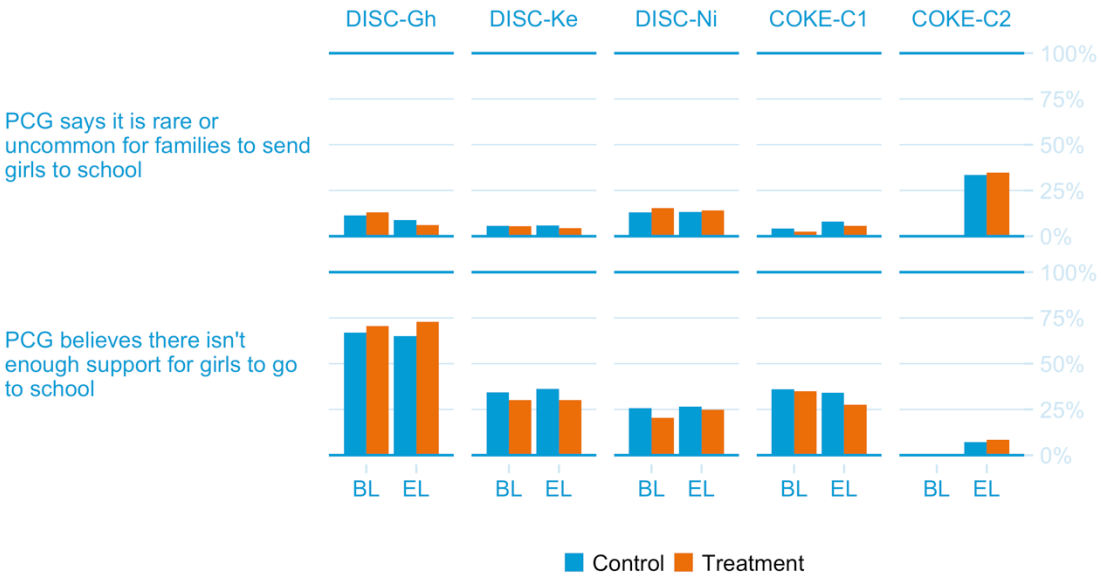
[7] Unlike the evidence for other barriers, these results are presented as a bar chart rather than line charts. This is because there is very little meaningful change from endline to baseline, and the more interesting aspect of the data is the total prevalence of certain views.

tertiary education is between 5% and 15% in these countries.[8] Yet except in Nigeria, nearly 100% of parents report they want their daughter to continue to tertiary education. In interpreting these responses then, we can either believe that parents are irrationally optimistic about their own children's educational prospects or that they are trying to project a positive attitude toward education even though they may be more realistic privately. But in either case, it is hard to reconcile these responses with the hypothesis that negative attitudes among girls' parents are a major barrier for girls getting an education.

However, the picture looks somewhat different when we look at how caregivers view the attitudes of the community more broadly. Figure E.8 shows caregivers' responses to two questions related to support in the community. While caregivers themselves are unlikely to report views that are pessimistic or negative toward education, they are much more likely to say they believe there is not enough support in the community. This view was held by nearly 75% of caregivers in Ghana, and sizable minorities in the other project country areas.

One possible way to interpret this evidence is that the primary caregivers themselves are not the ones who have negative views about girls' education. It could be that other members of the household have more negative views (e.g., it could be that the primary caregiver is usually the girl's mother, while the father is less supportive of girls going to school). Alternatively, it could be that the people surveyed simply are not willing to admit that they have reservations about girls going to school. In either case, this general picture suggests **that approaches to changing attitudes that are not targeted at particular individuals or focused on specific issues will not be successful.** Since the members of the communities where these projects believe at a minimum that it is important to say that girls' education is important, any meaningful effort to change attitudes would need to identify a more specific problem in attitudes.

Figure E.8: Caregiver Perceptions of community support for girls' education



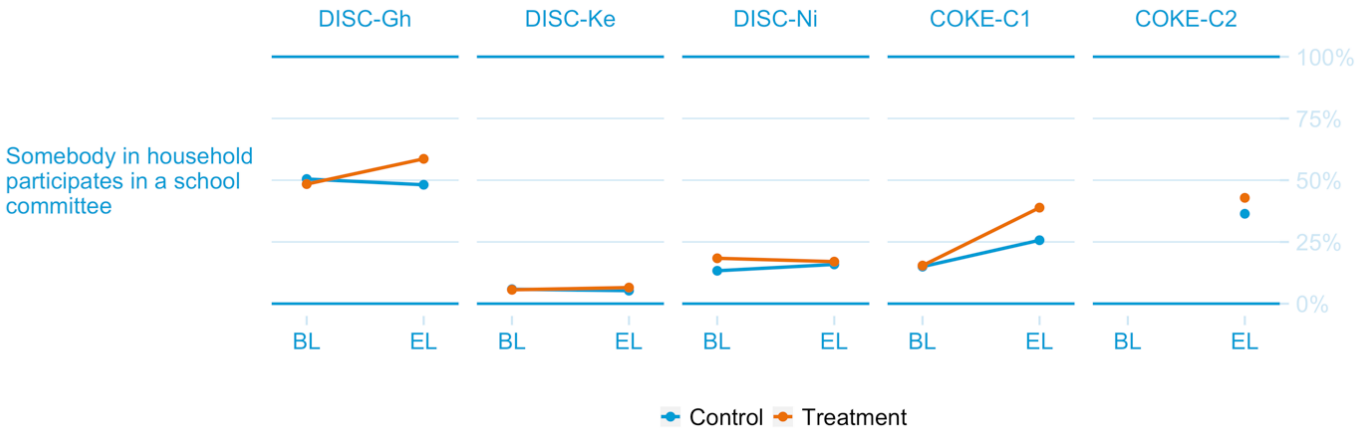
Considering some more specific indicators of attitudes, there is mixed evidence about how things have changed since baseline. One of the only areas where the project data show a potential impact of the projects on attitudes is in parental involvement in education.

Figure E.9 shows the portion of families where no member is part of a school committee. Participation rates vary significantly across project areas suggesting that its significance depends on the context. Moreover, while the students in Kenya had the best outcomes at a country level, very few families participated in school committees in the Kenya project. In this context, it is notable that Ghana started off with a dramatically higher participation rate ran the other project areas, and the treatment group's participation improved more than the control group. Considering this alongside the evidence that families in Ghana had a strong belief there is not enough community

[8] Ghana 2015: 15.94%, Nigeria 2011: 10.07%, Kenya 2009 4.05%, source: http://data.worldbank.org/indicator/SE.TER.ENRR?locations=GH-NG-KE

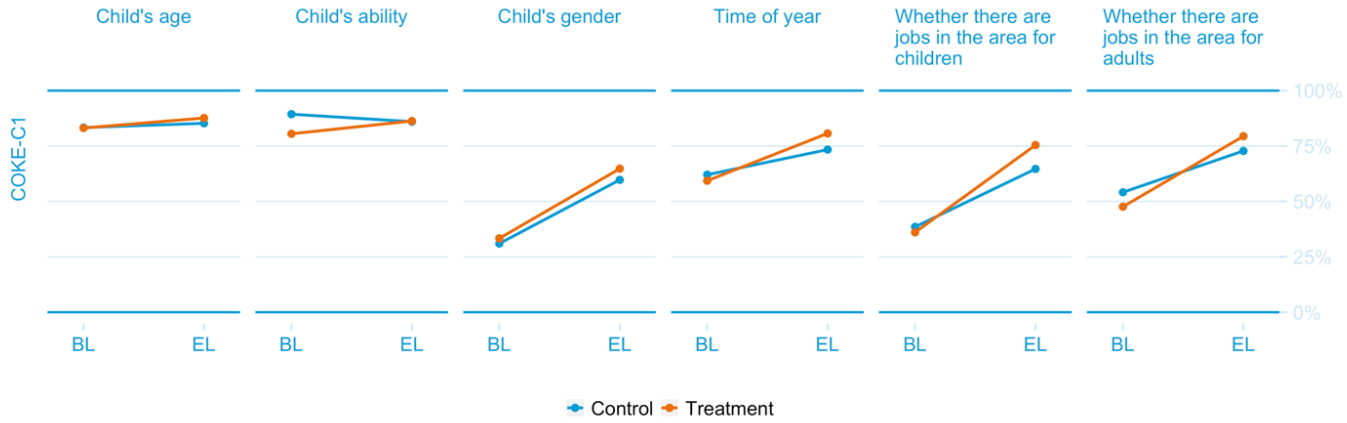
support, there appears to be a significantly different social context in Ghana than in Kenya in particular: families appear to be highly engaged but frustrated with the support available.

Figure E.9: Evidence on parental involvement in children's education



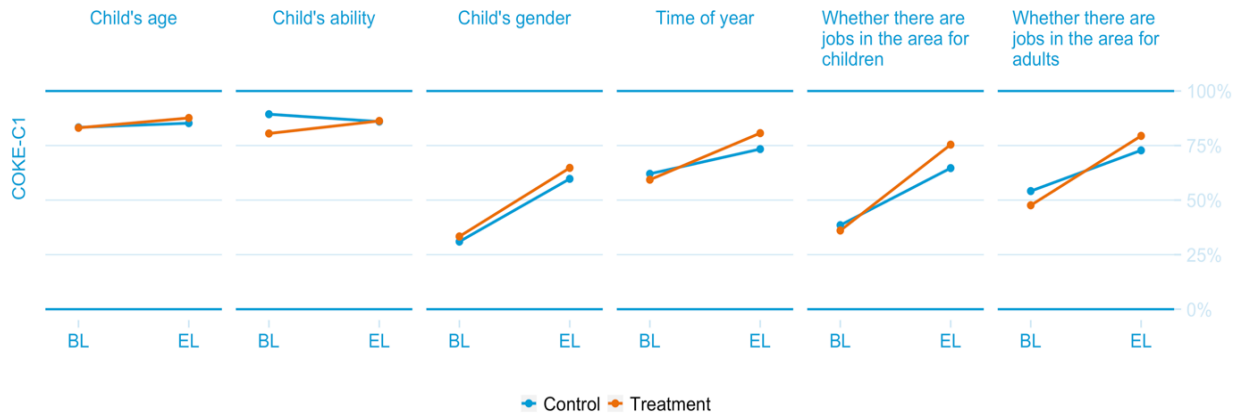
Finally, one potential area where families reveal more pessimistic views about education is in their responses to questions about what factors they take into consideration when deciding to send a child to school. In principle, if projects had succeeded in changing attitudes, we would expect more parents to say that they do not consider the child's gender when deciding to send the child to school. In Coca-Cola's data from Cycle 1, we find that there was no difference between treatment and control groups but that over the course of the project there was a significant increase in the portion of households who say that they take gender into account. Given that a cycle of Coca-Cola's project only lasts nine months, it is difficult to understand what could have caused such a large change in perceptions in that timeframe. To the extent that this may reflect inconsistencies in the way the survey was administered, it may be more informative to look only at the change in the difference between treatment and control groups, which is minimal.

Error! Reference source not found.However, taking all the evidence as a whole, it does seem significant that many families were willing to say that they consider the economic opportunities for children and their gender and that if



anything that trend was increasing. It is important to bear in mind that the Coca-Cola project is in Nigeria which appears to be implemented in a significantly different context than the projects in Ghana and Kenya. In Kenya, there seems to be a significantly better level of educational achievement and in Ghana there appeared to be more parental engagement in education and frustration with what parents viewed as a lack of support for education. But at least in this project area, this evidence suggests that one important challenge around attitudes is that families are sceptical of the economic value of education.

Figure E.11: Factors primary caregiver takes into account when deciding whether to send child to school (Coca-Cola, Cycle 1)



Finally, while we generally have little direct evidence on the effectiveness of particular interventions attempting to change attitudes, one exception is the television programme produced by the Discovery project. In their household survey, Discovery asked families if they had seen the programme they produced. The results are that almost no households had seen the programme. There are a number explanations for the lack of viewership (discussed previously in this section). In **Error! Reference source not found.** E.12, we examine one problem, which was that many households simply did not have a television. The most household-owned televisions in Kenya and viewership was higher there, but even there less than 5% of household had seen the programme.

Figure E.12: Reach of Discovery television programme and portion of families who do not own a television

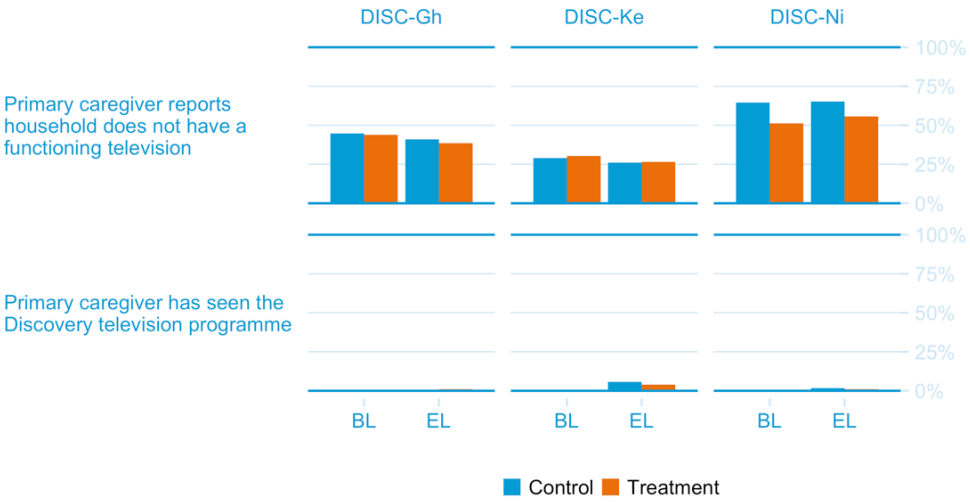


Table E.15: Evidence reported by projects for (changes in) barriers relating to attitudes

Endline evidence for attitudes	SPW projects by country and region						
	Discovery				Coca Cola Cycle 1	Coca Cola Cycle 2	Avanti
	Ken-Nai	Ken-Waj	Nig	Gha	Nig	Nig	Ken
Negative attitude towards girls' education/ lack of parental support	〓	〓	〓	〓	〓	〓	〓
Negative attitude towards girls' non-religious education	⃠	⃠	⃠	⃠			⃠
Perceived irrelevance of education	⃠	⃠	〓	⃠			⃠
Negative attitude towards girls' post-primary education	⃠	⃠	⃠	⃠	〓	〓	⃠

Key: ▲ = Barriers which have lessened or been removed since baseline; 〓 = Barriers which have not changed or have worsened since baseline; ! = Barriers discovered at midline; ⃠ = Barriers for which evidence is inconclusive or not available.

Have changes in barriers had an effect on education outcomes (attendance, learning)?

Projects have not clearly demonstrated changes in attitude-related barriers to education. However, Discovery identified linkages between its interventions and educational outcomes and found evidence that in Nigeria and Ghana, parents' engagement in girls' education had a positive effect on their reading and math scores. In Wajir, it presented qualitative evidence that parents' engagement possibly had an effect on the girls' attendance in school.

Similarly, Coca-Cola provided some qualitative evidence suggesting that that the engagement of community members possibly has a positive effect on girls' attendance in schools, particularly as these community groups would monitor the girls' attendance and follow up with her in cases of absenteeism.

Table E.16: Projects' awareness raising interventions affecting education outcomes

Intervention type	Intervention	SPW projects by country and region						
		Discovery				Coca Cola Cycle 1	Coca Cola Cycle 2	Avanti
		Ken- Nai	Ken- Wajir	Nig	Gha	Nig	Nig	Ken
COMMUNITY BASED	Media (radio, TV, advertising)	⃠	⃠	⃠	⃠			
	Community meetings/ gatherings	⃠	⃠	⃠	⃠	⃠	A	
	Parents' groups/ women's groups	⃠	⃠	⃠	⃠	⃠	A	
	Visits and support to households							
	Interventions with men and boys							
	Working with faith groups and traditional leaders					⃠	⃠	
	Adult literacy							
SCHOOL MANAGEMENT & GOVERNANCE	Technology for school management*							⃠
	Working with PTAs and other stakeholder groups	⃠	A	LN	LN	⃠	⃠	
	Working with education authorities	⃠	⃠	⃠	⃠	⃠	⃠	
	Community and private schooling provision							
	Key: A = Intervention improved access to school (enrolment, retention and/ or attendance); L = Intervention improved literacy; N = Intervention improved numeracy; Ξ = Intervention with limited, negative or no effect on educational outcomes; ⃠= Intervention for which evidence is inconclusive or not available.							

E.1.5 Violence

Key Findings

At baseline, both Discovery and Avanti found evidence of violence-related barriers to education that exist in their targeted communities. Only Discovery aimed to indirectly address some of these factors through gender-responsive training for teachers and through community workshops. There is no evidence that these activities have been effective as Discovery provided evidence that violence, particularly in terms of corporal punishment and safety during journey to school still existed. There is no evidence provided suggesting a change in education outcomes in relation to interventions addressing violence-related barriers.

What have projects found at baseline?

As shown in Table E.17, only Discovery anticipated violence-related factors. However, during the baseline research, both Discovery and Avanti found violence-related barriers to education in their targeted communities. Coca-Cola did not make any assumptions about violence-related barriers or report on them at baseline.

Discovery anticipated sexual harassment and abuse to be a barrier to girls' education in all three countries, but found clear evidence of its existence only in Ghana. However, it did find some evidence that violence and harassment in Nigeria and Kenya existed, although it was not specific to sexual violence and harassment. In Nigeria, this was described in terms of corporal punishment by teachers. Avanti found that insecurities and fear related to the long commute to school was a barrier to girls' education.

Table E.17: Barriers found at baseline:

Baseline evidence for violence-related factors	Evidence found	Discovery Ghana	Discovery Kenya	Discovery Nigeria	Coca-Cola	Avanti
Sexual harassment and abuse	1	✓	✦	✦		
In-school and on the way to school violence and insecurities	4	x	x	x		X

Note: Evidence found is a sum of projects in which barriers were found and reported at baseline.
Key: Assumed barriers found and reported (✓), Assumed barriers not found (✦), Assumed barriers not reported (•), Unanticipated barriers found (**x**), Not assumed or reported (Grey).

Have interventions been designed to address the identified barriers?

As shown in Table E.18, Discovery did not design direct interventions to address student's safety and security issues. However, it tried to address the topic through gender-responsive training for teachers and community workshops. There is no evidence that Coca-Cola and Avanti designed or implemented activities that aimed to specifically address violence-related barriers to education. .

Table E.18: Projects' interventions – Violence-related interventions

	Total Core	SPW projects by country and region						
		Discovery				Coca Cola Cycle 1	Coca Cola Cycle 2	Avanti
		Ken-Nai	Ken- Waj	Nig	Gha	Nig	Nig	Ken
Addressing sexual harassment and abuse								
Addressing corporal punishment in schools- Teacher training		✦	✦	✦	✦			
Community awareness								
Development of child protection policies in school								
Strengthening referral paths between school and service providers								
Addressing violence between peers								
Addressing harmful traditional practices								
Addressing violence and insecurity on the way to school								

Key: ✓ = The intervention is at the core of the project's intervention strategy. ✦ = The intervention is being used, but is not a core activity.

What has changed since baseline?

At endline, Discovery and Coca-Cola (Cycle 2) provided some evidence with regards to violence-related barriers to education. In all three of Discovery's countries some evidence was provided (in Kenya the evidence is clearer in Nairobi than Wajir) that **corporal punishment** still exists within the targeted communities and that some girls still feel **unsafe during their journey to school**.

Indirect interventions to address violence-related factors have not been effective.

In all three countries, Discovery aimed at indirectly addressing violence particularly at school and by teachers through teacher training and community workshops. These however do not appear to be particularly effective because in all three countries there is evidence that corporal punishment by teachers still exists.

In Nairobi (where corporal punishment is unlawful[9]), the report found that 14% of treatment girls felt afraid at school, mainly due to teachers' behaviour and corporal punishment. In Nigeria (where corporal punishment is still lawful[10]), the ratio was significantly low with 5% of girls feeling insecure at school or on the way to school. In Ghana (where corporal punishment is lawful in schools[11]) about 4% of the girls felt afraid at school and particularly referred to corporal punishment by teachers.

Additionally, there is evidence that bullying, especially by boys, is another reason why girls feel insecure at school or on the way to school. This is despite the fact that project staff during interviews mentioned that tackling harassment by boys was also addressed by designing special toolkits for teachers and mentors. There is no further evidence to assess the effect of these efforts.

[9] endcorporalpunishment.org
[10] endcorporalpunishment.org
[11] endcorporalpunishment.org

Table E.19: Evidence reported by projects for (changes in) barriers relating to violence

Endline evidence for poverty	# projects with barriers lessened /remove	SPW projects by country and region						
		Discovery				Coca Cola Cycle 1	Coca Cola Cycle 2	Avanti
		Ken- Nai	Ken- Waj	Nig	Gha	Nig	Nig	Ken
Sexual harassment and abuse		⃠	⃠	⃠	=	⃠	⃠	⃠
Teacher violence and corporal punishment		=	⃠	=	=	⃠	⃠	⃠
Peer bullying or harassment		=	⃠	=	=	⃠	⃠	⃠
On the way to school violence and insecurities		=	=	=	=	⃠	=	⃠

Key: ▲ = Barriers which have lessened or been removed since baseline; = = Barriers which have worsened or not changed since baseline;; ! = Barriers discovered at endline; ⃠= Barriers for which evidence is inconclusive or not available.

Have changes in barriers had an effect on education outcomes (attendance, learning)?

There is no evidence which links barriers to education with education outcomes.

Table E- 20: Projects' Economic interventions affecting education outcomes

	Total Core	SPW projects by country and region						
		Discovery				Coca Cola Cycle 1	Coca Cola Cycle 2	Avanti
		Ken-Nai	Ken- Waj	Nig	Gha	Nig	Nig	Ken
Addressing sexual harassment and abuse								
Addressing corporal punishment in schools- Teacher training		⃠	⃠	⃠	⃠			
Community awareness								
Development of child protection policies in school								
Strengthening referral paths between school and service providers								
Addressing violence between peers								
Addressing harmful traditional practices								
Addressing violence and insecurity on the way to school								

Key: A = Intervention improved access to school (enrolment, retention and/ or attendance); L = Intervention improved learning (literacy and/ or numeracy); = = Intervention with negative, limited, no effect on educational outcomes; ⃠= Intervention for which evidence is inconclusive or not available.

Annex E.2 – Sustainability Tables

Endline Report – Strategic Partnerships Window

Final Version (September 2017)

Annex E.2 – Sustainability Tables

Table E.21: Avanti (Kenya) – Reported effectiveness in sustaining activities

Stated Strategy (How)?	Sustain what critical activities?	Resources levered to sustain?	Who?	Evident Drivers?	Evident Barriers?	Likelihood to continue?
Global Level – ***DFID funding through GEC Transitions***	New project design	DFID	DFID	**Additional funding could sustain all activities below**		Depends on project design?
Regional/ State/district level – ***MoE sustain some activities in schools***	Teacher training		MoE	County MoE officials engaged from start – close working relationship as gatekeepers Align with MoE activities in schools e.g. delivering iMlango over DLP tablets Local MoE trained on Maths-Whizz		Unclear what effect MoE support has on school capacity to continue
School level – ***School Funding***	iMlango platform & Maths-Whizz content: Math, English and Life Skills		Head teachers, teachers	83% head teachers stated willing to make contribution to costs to continue project through a) parental (80%) b) MoE contributions (29%) Teachers acting as champions 78% teachers report using teaching resources in class	48% of teachers surveyed believe teacher absence remains a key barrier 34% teachers report use computers less than once /month 13% report using internet to prepare for lessons	Unclear whether schools have resources to continue
School Level – ***equipment left in school; community internet***	Computer labs -individualised learning, laptops, projectors		Schools & parents	Parents engaged & mobilised Some parent contributions for electricity costs, improve ICT lab /school infrastructure	Only 41% of head teachers think their school has necessary facilities to learn Low time on task is main limitation - not enough equipment per child	Unclear whether schools have resources to continue
School level – ***unclear***	SQUID card attendance monitoring		Schools		74% of teachers surveyed believe girls needed at home to	Unclear how continue

Stated Strategy (How)?	Sustain what critical activities?	Resources levered to sustain?	Who?	Evident Drivers?	Evident Barriers?	Likelihood to continue?
					help with home duties remains a key barrier	
School level – ***clubs sustain selves***	Child clubs		Schools	Built on existing school child clubs Discovery deliver child clubs?		Unclear continue via Discovery?
Community level – ***never intended to be sustainable***	Stipends					No

Table E.22: Coca Cola (Nigeria) – Reported effectiveness in sustaining activities

Stated Strategy (How)?	Sustain what critical activities?	Resources levered to sustain?	Who?	Evident Drivers?	Evident Barriers?	Likelihood to continue?
Global Level **– *DFID funding through GEC Transitions***	New project design via Mercy Corps	DFID	DFID	**Additional funding could sustain all activities below**		Depends on project design?
National level **- *Unclear***	Financial literacy curriculum		CBN	Work with Central Bank of Nigeria on financial literacy curriculum roll out across 36 states – incorporated across all govt schools in Kano		Financial literacy in Kano Schools likely to continue
Regional/ State/District level - ***unclear***	Girls clubs /safe spaces		SAG	Work with State Advisory Group (SAG) lead /facilitate schools approval /provide scholarship /promote girl friendly policies		Unlikely activities continue
School Level – ***not stated***	Teacher training		NYSC	Partner (MoU) with National Youth Service Corps (govt, agency) deploy volunteers to schools – act as ENGINE model for safe spaces		Unlikely how training activities continue via volunteers
School level – ***schools***	Girls clubs /safe spaces		Girls	Selected & trained girl leaders for peer-to-peer mentoring & business support 50% schools replicated safe space model ENGINE lead national Technical Working Group on safe spaces		Schools may continue

Stated Strategy (How)?	Sustain what critical activities?	Resources levered to sustain?	Who?	Evident Drivers?	Evident Barriers?	Likelihood to continue?
Community level – ***not stated how platform continue***	Economic platform		Girls	Provided seed grant for business start-ups and expansion /buy equipment Girls trained in micro franchising /vocational skills	Evidence of benefits rather than activities continuing	Unlikely activities continue
Community level – ***Not stated how support continue***	Financial support for savings groups		Girls, NMIC	Groups given tools Exploring becoming registered associations Bank accounts opened for girls Partner with National Identity Management Commission	Evidence of benefits rather than activities continuing	Unlikely activities continue

Table E.23: Discovery (Nigeria) – Reported effectiveness in sustaining activities

Stated Strategy (How)?	Sustain what critical activities?	Resources levered to sustain?	Who?	Evident Drivers?	Evident Barriers?	Likelihood to continue?
Global Level **– Further *DFID funding through GEC Transitions***	New project design	DFID	DFID	**Additional funding could sustain all activities below**		Depends on project design?
National level **– *Strategy alignment/budget commitment***	Replicate project		SUBEB			No evidence
Regional/State/District level - ***build state capacity to sustain new teaching practices and support schools to provide teacher training & coaching, oversight, monitoring***	Teacher training and coaching		SUBEB	Working with staff to improve monitoring & coaching skills Working to establish agreements & protocols for teacher training	Little evidence of awareness of 'concrete, actionable steps in plan'	Unlikely due to turnover
School Level – ***resource teachers take lead role as peers***	Teacher training		Schools		Teachers transfers prevent continuity	Unlikely due to turnover

Stated Strategy (How)?	Sustain what critical activities?	Resources levered to sustain?	Who?	Evident Drivers?	Evident Barriers?	Likelihood to continue?
School level – ***school budget and parental contributions***	Use of technology in class	Some parental contributions supplement funding	Parents School budgets	Some improvements in provision of physical space /facilities	Relying on parent contributions not guarantee sustainability Deterioration of equipment with no funds to maintain or replace	Unlikely due to lack of funding
School level – ***No strategy***	Girls' clubs					No evidence
Community level – ***LCMCs run by community***	Community engagement – Community Action Plans (CAPs)		LCMC	Training community member to identify barriers & develop CAPs 88 schools concrete steps to enact CAPs		Unclear how continue
Community level – ***LCMCs run by community***	Community representation on Learning Centre Management Committees (LCMC)		LCMC	Almost all schools set up LCMC & developing management & sustainability plans	Few clear plans in communities for how activities could be continued	Unclear how continue

Table E.24: Discovery (Ghana) – Reported effectiveness in sustaining activities

Stated Strategy (How?)	Sustain what critical activities?	Resources levered to sustain?	Who?	Evident Drivers?	Evident Barriers?	Likelihood to continue?
Global Level **– Further *DFID funding through GEC-T***	New project design	DFID	DFID	**Additional funding could sustain all activities below**		Depends on project design?
National level ***– Strategy alignment/budget commitment***	Project activities generally		MoE, SMCs	MoE & School Management Committees (SMCs) see value in continuing activities Built govt capacity to sustain /integrate new practices	MoE & SMCs no concrete plans to continue activities	Unlikely to continue because of lack of plans

Stated Strategy (How?)	Sustain what critical activities?	Resources levered to sustain?	Who?	Evident Drivers?	Evident Barriers?	Likelihood to continue?
Regional/State /District level – ***GES oversight***	Teacher training and coaching		GES	Training for GES District Education Officers	Little evidence of awareness of concrete plans	Unlikely to continue
School Level – ***resource teachers in schools***	Teacher training		Schools	Ghana Education Service (GES) mentoring teachers Set up and trained resource teachers to peer support	GES no plans to continue, instead called on schools to advocate Lack of resources in community to fund teacher training High teacher transfer rate	Unlikely due to lack of resources & teacher turnover
School level – ***school budget and community contributions***	Use of technology in class	Community contributions to security	Community	Communities keep equipment secure and contribute to cost of power	Frequent power outages Lack of community resources /funding to improve learning environment Lack of local content Deterioration of equipment with no funds to maintain or replace	Unlikely due to lack of funding /resources
School level	Girls' clubs					No evidence
Community level – ***LCMCs run by community***	Community engagement – Community Action Plans (CAPs)		LCMC	Training community member to identify barriers & develop CAPs - 93 schools concrete steps to enact CAPs	Conflicts & lack of enthusiasm once project ends	Unlikely to continue
Community level – ***LCMCs run by community***	Community representation on Learning Centre Management Committees (LCMC)		LCMC	92% schools (2015) set up LCMCs & developing sustainability plans	No specific plans among communities about how activities could be continued	Unlikely to continue

Table E.25: Discovery (Kenya) – Reported effectiveness in sustaining activities

Stated Strategy (How?)	Sustain what critical activities?	Resources levered to sustain?	Who?	Evident Drivers?	Evident Barriers?	Likelihood to continue?
Global Level **– Further *DFID GEC-T***	New project design	DFID	DFID	**Additional funding could sustain all activities below**		Depends on project design?
National level **– *Strategy alignment/ budget commitment***	Project activities generally		MoE, BoM	MoE & School Management Committees (SMCs) see value in continuing activities Built govt capacity to sustain /integrate new practices	MoE & BoM no concrete plans to continue activities MoE burdened by multiple programmes to monitor	Unlikely to continue because of lack of plans
Regional/State/District level – ***MoE monitoring***	Teacher training and coaching		MoE	Working with MoE staff to improve monitoring & coaching skills	No concrete plans to continue	Unlikely to continue
School Level – ***resource teachers in schools***	Teacher training		Schools	Set up and trained resource teachers to lead & provide peer support Considered valuable especially non-formal schools	MoE no plans to continue, instead called on schools to advocate High teacher transfer rate	Unlikely due to lack of resources & teacher turnover
School level – ***school budget and community contributions***	Use of technology in class	Community contributions	Community	Communities invest in TVs, security, seating,	GOK interested in integrating use of technology generally rather than DP technology specifically Power blackouts a constraint Criticism of lack of local content Deterioration of equipment with no funds to maintain or replace	Unlikely due to lack of funding /resources and competing priorities
School level – ***?***	Girls' clubs					No evidence
Community level – ***LCMCs run***	Community engagement – Community		LCMC	Training community member to identify barriers & develop CAPs - 75 schools	Unclear whether LCMCs will continue and how	Unlikely to continue

Stated Strategy (How?)	Sustain what critical activities?	Resources levered to sustain?	Who?	Evident Drivers?	Evident Barriers?	Likelihood to continue?
by community	Action Plans (CAPs)			concrete steps to enact CAPs		
Community level – ***LCMCs run by community***	Community representation on Learning Centre Management Committees (LCMC)		LCMC	82% schools (2015) set up LCMCs & developing sustainability plans	No specific plans among communities about how activities could be continued	Unlikely to continue

Annex F – List of references

Endline Report – Strategic Partnerships Window

Final Version (September 2017)

Annex F - List of references

Abadzi, H. (2011), Reading Fluency Measurements in EFA FTI Partner Countries: Outcomes and Improvement Prospects, GPE Working Paper Series on Learning, No. 1, Education for All Fast Track Initiative Secretariat, World Bank, Washington DC.

Bundy, D. 2005. “School Health and Nutrition: Policy and Programs.” Food and Nutrition Bulletin 26 (2 Suppl 2): S186–92.

Coffey (2015) ‘Baseline Report – Step Change Window’ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/425360/Step-change-window-full2.pdf

Devries, K. M., et al (2015), “The Good School Toolkit for reducing physical violence from school staff to primary school students: a cluster-randomised controlled trial in Uganda”, Lancet Global Health, 385, e378–386.

DFID (2012), Girls’ Education Challenge, Business Case Version 4; London: DFID

EFA (2015), ‘Global Monitoring Report: Education for All 2000-2015, Achievements and Challenges’, UNESCO

Engle, L. and Bleck, M. (2009) :The Effect of Poverty on Child Development and Educational Outcomes, Annales of the New York Academy of Sciences, vol. 1136, No 1, pp.243-256.

Fund Manager for the GEC (June 2013), The Girls’ Education Challenge – Attendance guidance

Glewwe, P., & Miguel, E. A. (2008). The impact of child health and nutrition on education in less developed countries. In T. P. Schultz & J. Strauss (Eds.), Handbook of development economics (Vol. 4, pp. 3561–3606). Amsterdam, Netherlands: Elsevier. doi:10.1016/S1573-4471(07)04056-9Hedger et al (2010), Sector Budget Support in Practice: Case Study Education Sector in Uganda. ODI: London.

Jukes M, Drake L, Bundy D, 2008, School, Health and Nutrition for All. Levelling the Playing Field, CABI.

Lenhardt, A. Page, E. Sarward, M. and Shepherd, A. (2016). Anti-discrimination measures in education: a comparative policy analysis, Chronic Poverty Advisory Network, United Nations University.

Marcus, R. and Page, E. (2016), An evidence Review of School Environments, Pedagogy, Girls’ Learning and Future Wellbeing Outcomes, UNGEI, www.ungei.org

Sabarwal, S., Evans, D., & Marshak, A. (2014). The Permanent Textbook Hypothesis: School Inputs and Student Outcomes in Sierra Leone. Washington, DC: The World Bank.

Smits, J., Huisman, J. and Kruijff, K. (2008). Home language and education in the developing world. Commissioned study for the Education for All (EFA) Global Monitoring Report 2009. Overcoming inequality: Why governance matters.

Snilstveit et al. (2016), The impact of education programmes on learning and school participation in low- and middle-income countries, Systematic Review Summary, 7, 3ie.

Steer and Smith (2015): “It’s time to Reverse Declining ODA to Education”, Brookings, published online at: https://www.brookings.edu/2015/01/12/its-time-to-reverse-declining-oda-to-education

UNESCO (2014), ‘Teaching and Learning: achieving quality for all’. EFA Global Monitoring Report, Paris: UNESCO

UNESCO Education for All Global Monitoring Report 2013/2014 “Children need to be taught in a language they understand” (http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ED/GMR/pdf/language_factsheet.pdf)

UNICEF (2015) State of the World’s Children 2015. Country Statistical Information. http://data.unicef.org/resources/the-state-of-the-worlds-children-report-2015-statistical-tables/ Accessed 5 October 2016.

UNICEF (2015) http://data.unicef.org/resources/the-state-of-the-worlds-children-report-2015-statistical-tables/ Accessed 5 October 2016

UIS and GEM (2016), ‘Leaving no one behind: How far on the way to universal primary and secondary education? Policy paper 27 /Fact Sheet 37. Paris: Global Education Monitoring Report’.

Nyassy, D.T. (2016) “No teachers’ strike for 4 years says Knut”, Daily Nation.

http://www.nation.co.ke/news/no-teachers-strike-for-four-years--says-Knut/1056-3262512-jr12ey/index.html

USAID (2016) Tusome Early Grade Reading Activity

https://www.usaid.gov/documents/1860/tusome-early-grade-reading-activity

DFID (2016) GEC: Leave no girl behind

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/559123/leave-no-girl-behind.pdf

DFID (2013) GEC Guidance

https://www.gov.uk/girls-education-challenge#girls-education-challenge--the-portfolio-of-projects

World Bank (2011) Human Development Network: Education Notes Uganda

http://siteresources.worldbank.org/EDUCATION/Resources/Education-Notes/EduNotesUganda.pdf

World Policy Centre (2012) “Is education tuition-free and compulsory?”

http://www.worldpolicycenter.org/policies/is-education-tuition-free-and-compulsory/is-primary-education-tuition-free-and-compulsory