Project Evaluation Report

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Notes:

Some annexes listed in the contents page of this document have not been included because of challenges with capturing them as an A4 PDF document or because they are documents intended for programme purposes only. If you would like access to any of these annexes, please enquire about their availability by emailing uk_girls_education_challenge@pwc.com.

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PLAN INTERNATIONAL

Endline Evaluation

Of the MGCubed Project implemented by Plan International Ghana and Plan International UK

December 2021

V7

Prepared by Andres Navarrete, Tariq Omarshah, Mark Thorpe, and Joanna Seth-Smith from **One South**

One South produced this report for Plan International UK as part of the endline evaluation of the MGCubed Project implemented by Plan International Ghana and Plan International UK through funding from the Girls' Education Challenge (GEC).

The endline evaluation was carried out by Andres O. Navarrete, Tariq Omarshah, Joanna Seth-Smith, and Mark Thorpe from One South, LLC. The evaluation used data from a tracked cohort of girls and boys and their households in Ghana since the project began in 2017.

Data collection for this evaluation took place between March and June 2021.

The evaluation was managed and facilitated by Eleanor Caine and Louise Leak from Plan International UK.

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List of Acronyms

CBE	Complementary Basic Education
CENDLOS	Centre For National Distance Learning and Open Schooling
CG	Capitation Grant
COVID-19	Coronavirus Disease 19
CPD	Continuous Professional Development
DC	District Coordinator
DEO	District Education Office
EGMA	Early Grade Mathematics Assessment
EGRA	Early Grade Reading Assessment
F	Female
FCDO	Foreign, Commonwealth, & Development Office (UK)
FM	Fund Manager (GEC Fund)
GBV	Gender-Based Violence
GEC	Girls' Education Challenge
GES	Ghana Education Service
GLA	Ghana Library Authority
GLTV	Ghana Learning Television
HHS	Household Survey
ICT	Information and Communication Technologies
IO	Intermediate Outcome
M	Male
MEL	Monitoring, Evaluation and Learning
MGCubed	Making Ghanaian Girls Great!
MoE	Ministry of Education
NaSiA	National Schools Inspectorate Authority
NaCCA	National Council for Curriculum and Assessment
NGO	Non-Governmental Organization
NTC	National Teaching Council
NTS	National Teachers' Standards
OOS	Out-of-school
OOSC	Out-of-School Children
OOSG	Out-of-School Girl
PFA	Psychological First Aid
PSEAH	Protection from Sexual Exploitation, Abuse, and Harassment
PTA	Parent Teacher Association
RCT	Randomised Control Trial
SD	Standard Deviation
SMC	School Management Committee
SPED	Special Educational Needs
SPIP	School Performance Improvement Plan
SRH	Sexual and Reproductive Health
SRHR	Sexual and Reproductive Health Rights
STEM	Science, Technology, Engineering, and Mathematics
TOT	Trainers of Trainers
TVET	Technical and Vocational Education and Training
UK	United Kingdom of Great Britain and Northern Ireland
UN	United Nations
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNICEF	United Nations Children's Fund
WASH	Water, Sanitation, and Hygiene

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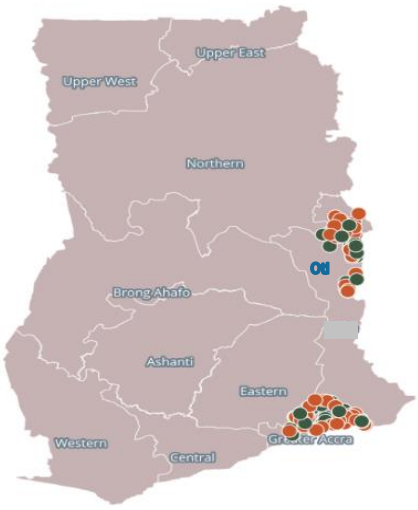
Executive Summary

Making Ghanaian Girls Great! (MGCubed) was a 4-year Girls' Education Challenge (GEC) Project which supported over 14,100 marginalised girls in the Greater Accra and Oti regions.

Figure 1. MGCubed Project Sites in Ghana



The GEC, funded by the UK's Foreign, Commonwealth & Development Office (FCDO), is the largest fund for girls' education in the world and supports millions of the world's most marginalised girls to exercise their right to quality education.

This endline evaluation report summarises the external evaluation of the project's relevance, impact, effectiveness, and sustainability and presents evidence-based recommendations to inform the future programming of similar education projects. The endline evaluation is the final evaluation point, following a midline in March 2019 and a baseline in March 2018. Data for the endline was collected between March and June 2021.

Project Background

The overall aim of the MGCubed project was to *improve the learning outcomes of marginalised girls and to support them to successfully transition through school.*

The project worked to achieve this through its five intermediate outcomes:

1. Incentivise girls to **attend school** more regularly, return to or begin attending school;
2. Improve **teaching quality** in schools as a result of the engagement with and support from MGCubed Studio Teachers and teacher training;
3. Support girls to build transformative non-cognitive **life skills** which allow them to make the most of their education;
4. Incentivise school leaders to introduce **sustainable school-level changes** that support girls' learning and transition and engage District Education Offices (DEOs) to support them, and;
5. Improve **community awareness** and understanding of the benefits of girls' education and transitions.

Findings

Within this executive summary, the key findings from the endline evaluation have been presented according to the project's three core outcomes of learning, transition and sustainability, followed by findings relating to the project's five intermediate outcomes.

Learning

The project supported girls to maintain existing learning levels between schools closing and reopening as a result of COVID-19.

According to end of term grades for English and Mathematics[1], the majority of girls participating in the MGCubed project maintained their learning levels despite COVID related school closures. 62% of girls maintained their English literacy levels between March 2020 (Term 2 of the 2019-2020 academic year) and the first term after schools re-opened (Term 1 of the 2021 academic year). 62% of girls also maintained their Mathematics levels between these periods. While re-enrolment in Ghana has been surprisingly high since schools closed, learning levels declined during school closures country wide[2], standing in contrast to this project achievement.

Both quantitative and qualitative data indicates the project played a role in supporting girls to continue learning during school closures. **Data indicates that watching Ghana Learning Television and having someone in the household to help with learning supported girls to maintain their English and Mathematics levels during school closures.**

Ghana Learning TV (GLTV) is delivered by the Ghanaian government in collaboration with Plan International with the aim of providing lessons to students at home through television. By endline, 63% of girls in project schools had received a decoder through the project which enabled them to access the GLTV channel. Given that 61% of girls reported watching GLTV to help them learn during school closures, and 57% of girls reported spending 1-2 hours each day studying during school closures, this activity supported most project girls to continue engaging in learning.

Girls interviewed in qualitative sessions reported that GLTV motivated them to study and remain engaged in learning activities during school closures. **Watching GLTV during school closures supported girls to have higher mathematics grades when schools re-opened.** Having watched GLTV during school closures resulted in girls scoring an estimated 11% higher in mathematics term grades than girls who did not watch GLTV during school closures[3].

Qualitative data also indicates that MGCubed remedial sessions were particularly valuable in supporting girls to improve their English reading and speaking skills. Girls concluded that remedial

[1] To understand the project contribution towards learning improvements at endline, the evaluation collected historical term grades for the last 6 terms for both English and mathematics from project school records (2018/19 academic year and onward).

[2] *School closures may have wiped out a year of academic progress for pupils in Global South, study warns*. (2021, March 9). University of Cambridge. https://www.cam.ac.uk/research/news/school-closures-may-have-wiped-out-a-year-of-academic-progress-for-pupils-in-global-south-study

Ganju, C. K., Dana Schmidt, and Erin. (2021, September 22). What do we know about the effects of COVID-19 on girls' return to school? *Brookings*. https://www.brookings.edu/blog/education-plus-development/2021/09/22/what-do-we-know-about-the-effects-of-covid-19-on-girls-return-to-school/

[3] According to linear modelling (Model: df= 1, N=395, p.<05; Indicator: B=10.593, S.E = 5.050, p<0.05).

lessons helped them increase their confidence in reading and speaking in English. This was especially important for girls from minority linguistic groups.

Girls who had access to someone who helped them study at home were better supported to maintain or improve their English literacy outcomes during school closures. Girls with someone who directly supported their learning at home improved their English grades by an additional 2.7%[4] between school closures and re-opening, compared to girls who did not have support at home. These findings provide compelling evidence that parental and caregiver support at home and the home learning environment play a role in supporting girls' learning outcomes in project regions, particularly in the absence of schooling. *See recommendation 8.*

MGCubed had a positive impact on girls' literacy and numeracy outcomes between baseline and midline.

The project conducted a randomised control trial between baseline and midline to assess impact on literacy and numeracy outcomes[5]. Term grades for 2018 and 2019 collected retrospectively at endline indicated that the project supported girls to improve their English and mathematics levels between baseline and midline, corroborating findings from the midline evaluation.

Transition

A successful transition is defined as a progression to the next grade level or a re-enrolment in school.

The endline suggests that the project has had a positive impact on girls' ability to transition. A higher proportion of girls successfully transitioned at endline than at midline, suggesting that the project supported girls to successfully transition.

At midline, 94% of girls successfully transitioned, rising to 97% of girls at endline, a statistically significant difference[6]. **The endline also found that repetition rates in MGCubed remained stable between midline and endline, at 4%,** contrasting with national statistics that suggest that Ghana's grade repetition rates increased after schools re-opened.

The endline found that transition rates amongst MGCubed girls are the lowest in grade 6 of primary school and in junior high school (JHS) grade 2. In other grades, more than 98% of girls experienced a successful transition. Transition rates also declined slightly as girls got older, and girls aged 21 had the lowest transition rates at endline, reflecting their status as overage students and the likelihood that they have increased domestic responsibilities.

[4] In addition, girls who had access to someone to support them to continue learning at home, showed higher mean English literacy gains between school closure and re-opening according to term grade results. These girls increased an average of 1.9% in English grades compared to an average decrease of 0.9% amongst girls who do not have someone to help them learn at home. Mean differences are statistically significant according to independent samples t-test results.
[5] This method compared the extent to which individual-changes in learning scores for girls in project schools (treatment) was greater than the individual-level changes of girls in non-project schools (control). The model demonstrated that the project resulted in girls improving their literacy by 1.16% more than improvements experienced by the comparison group. The model for numeracy indicated that the project resulted in girls improving their numeracy score by an additional 0.69% compared to girls in the control group.
[6] According to McNemar chi-square tests $p<.05$

Early marriage, teenage pregnancy, and young motherhood are barriers to girls' successful transition.

When discussing the reasons why girls drop out from school, many stakeholders agreed that pregnancy was the main cause[7]. This is confirmed by quantitative analyses. At endline, 1.2% of girls in the primary school sample were pregnant, as were 2.8% of girls in secondary school. 81% of girls who were previously pregnant successfully transitioned, compared to 97% who were not pregnant[8].

Young mothers also faced additional barriers to successful transitions such as the increased childcare burden and stigma associated with teenage pregnancy. **However, the gap between young mothers' transition rates and the transition rates of girls who were not mothers narrowed between midline and endline.** At midline, 77% of young mothers were able to transition compared to 94% of girls who were not mothers. At endline, the gap was still present, though much narrower, with 86% of young mothers transitioning compared to 94% of girls who were not mothers.

Girls who were married or living with a partner also had a lower rate of successful transition. At endline, 50% married girls (n=2) were able to transition compared to 97% of their non-married peers (n=710). At midline, 75% of married girls were able to transition (n=3). ***See recommendation 9.***

Girls who received a cash transfer from the project were 1.3 times more likely to successfully transition[9].

At endline, 97% of girls who received a cash transfer were able to transition compared to 95% of girls who did not receive cash, and these differences are highly significant[10]. Furthermore, 91% of caregivers of girls transitioning into JHS reported that the cash transfer had a direct impact on their ability to transition. ***See recommendation 11.***

Findings also demonstrated that the more a girl attends school, the more likely she will be to successfully transition, suggesting that improving attendance outcomes is an important mechanism to support successful transitions.

Sustainability

Overall, MGCubed was successful at building sustainable change at the family, community, school, and system levels.

The project created sustainability mechanisms **in schools** by building the skills of teachers, headteachers, and PTA/SMCs to provide quality education and create positive learning environments for girls. School leaders also said they will make use of MGCubed teaching and

[7]. FGD with Facilitators on Barriers to Education; FGD with MGCubed Girls, Oti Region, FGD with Facilitators on Barriers to Education #1
[8] p<.001
[9] (Model: chi-square = 7.553, df= 1, N=595, p.<05; Indicator: B=1.364, S.E = .376, p<0.05).
[10] p<0.001

learning materials to train new staff on MGCubed's methodologies, which will promote the use of the project's approach beyond its conclusion.

In communities, the project promoted attitudinal changes around key girls' education issues. Evidence shows these changes translated into home environments that were more supportive of girls' education with schoolwork prioritised over chores and an equal distribution of chores between boys and girls.

At the **district level**, the project prepared DEO officials to track the progress of schools, meet education outcome targets, and support school leaders and teachers on how to achieve these targets.

At the **national** level, the project's engagement with the MoE and other actors such as the Centre for National Distance Learning and Open Schooling (CENDLOS) and the National Council for Curriculum and Assessment (NaCCA) helped shape the education sector's priorities on distance learning, school curricula and teacher training. MGCubed steered a focus toward content delivery through GLTV, national continuous development programs for in-service teachers through distance learning technology, and the potential use of Wonder Women, Boys Clubs, and Mixed Gender clubs as a viable mainstream extra-curricular activity for nationwide implementation[11].

The project team also shared key findings on MGCubed remedials, including key teacher training, professional development content, and safeguarding and protection across the education sector and provided capacity development for MoE officials across a variety of levels to help them use and adopt the remedial and club materials and approaches. *See recommendation 10.*

School Attendance

The project likely supported girls to improve their attendance rates[12] between schools closing and schools re-opening.

Girls' attendance levels remained stable between February 2019 and February 2020 but increased significantly by February 2021. In February 2019, girls had an average attendance rate of 91%, and in February 2020, girls were attending school an average of 92% of school days[13]. **By February 2021, after schools reopened following COVID-19 related closures, net attendance rates had increased to 95%.** The differences between February 2020 and February 2021 were statistically significant[14], suggesting that attendance rates were higher in project schools after schools re-opened than they were prior to school closures.

Findings indicate that cash transfers, after-school clubs, and GLTV programming supported girls to attend school and that the project likely supported girls in rural areas in particular to close gaps in attendance outcomes in previous years.

[11] KII with Education Sector Official.
[12] Historical attendance data was collected from schools in person and via telephone for girls in the tracked cohort for February 2021, February 2020, and February 2019. The number of days the child attended in the given calendar month was recorded, divided by the number of days the school was open in the given month and multiplied by 100 in order to derive a % of time the child attended school in the given calendar month.
[13] No statistically significant difference in means between February 2019 and February 2020, signalling girls attended school at similar rates between these periods.
[14] ($p<.001$)

Cash transfers provided through the MGCubed project supported girls to attend more regularly. Girls who did not receive cash transfers were twice as likely to have attendance levels of less than 85% than girls who received cash transfers. **Data at endline indicates that girls who participated in MGCubed after-school clubs attended school more frequently than those who did not.** On average, girls who were members of a club had higher net attendance rates (96%) than those who were not a member (91%), which is a statistically significant difference. **Watching GLTV during school closures was associated with having a higher level of attendance in February 2021, after schools re-opened.** Girls who watched GLTV during school closures attended school an average of half a day more than girls who did not.

The endline found that the project contributed to improvements in young mothers' attendance levels between midline and endline. Young mothers and girls who had been pregnant had higher attendance rates at endline than at midline. Whereas at midline, 25% of young mothers had low attendance levels[15], at endline 19% of young mothers exhibited low attendance. Following the midline, the project increased its support to young mothers by expanding its cash transfer component to include young mothers, recognising the increased hardship they were facing due to the pandemic. Young mothers were also specifically targeted by the project's phone-based support during school closures. Evidence from endline suggests that these interventions may have made a positive contribution to young mothers' attendance and learning.

However, gender-specific barriers persisted at endline, which had a negative impact on girls' attendance. Through qualitative data, girls, parents, and caregivers reported several gender-specific barriers to attending school, including teasing and harassment from boys, pregnancy, and parental pressure to marry. Girls reported that boys often teased them at school, which made them feel uncomfortable. Girls demonstrated a widespread perception that there are risks associated with being in mixed-sex settings. *See recommendation 7.*

Not speaking the language of instruction had a significant impact on attendance. When girls understood the language of instruction, they attended school 95% of the time compared to 75% attendance for girls who did not[16]. Interviews attributed this difference to girls feeling less motivated when they feel excluded and having difficulty accessing the curriculum due to linguistic challenges.

Teaching Quality

MGCubed supported teachers to improve their teaching quality between midline and endline.

The project delivered teaching quality improvements across several areas of teaching practice: preparedness for the lesson, confidence and clarity of delivery, promoting equitable learning, and managing classroom behaviours.

A higher proportion of teachers were marked "highly satisfactory" or "outstanding" at delivering quality lessons at endline than at midline. Of teachers who received training from the project[17],

[15] N=4

[16] These differences were significant according to independent sample t-tests t (734)=2.97, p=.03

[17] In the sample, 93% of regular teachers had been trained by the MGCubed project as had 100% of MGCubed facilitators.

66% of MGCubed facilitators and 44% of regular teachers demonstrated "outstanding" application of all 4 teaching practice areas. This compares to 55% of MGCubed facilitators at midline[18].

The project supported more teachers to apply student-centred learning.

73% of MGCubed facilitators and 71% of regular teachers demonstrated satisfactory[19] use of student-centred learning strategies in their lessons (IO2.2)[20]. This compares to 56% of MGCubed facilitators at midline[21].

Teachers consulted as part of the endline indicated that training activities effectively supported them to learn new techniques and apply those techniques in their lessons. Teachers and facilitators reported that observing MGCubed Master Teacher Trainers model pedagogic techniques during broadcasts was useful for developing their skills.

Endline interviews and classroom observations showed that MGCubed training taught teachers to plan their lessons according to the individual needs of learners. Facilitators said that they learned how to match activities to the learning level of the child and pair students with differing abilities[22].

These findings suggest that the continuous professional development and teacher support offered by the MGCubed project likely contributed to improvements in teaching quality across a variety of domains. *See recommendation 2.*

Facilitators identified both advantages and disadvantages of the broadcast lessons. For facilitators, the advantages of broadcast lessons over traditional lesson formats included "*making lessons enjoyable*" and "*structuring the lesson*." Qualitative data indicated that facilitators felt that broadcast lessons had the advantage of exposing learners to different, less monotonous teaching strategies which kept them engaged. On the other hand, facilitators expressed a preference for non-MGCubed lessons in the following areas, which mainly pertain to ownership over the lesson: *"managing behaviour", "offering individual assistance",* and *"catering to the individual needs of students."*

This evidence suggests that a hybrid approach, involving both in-person and remote lesson delivery, would support the provision of high-quality, standardised lesson content to a wide group of learners in need of support, while also enabling lessons to be differentiated to accommodate the needs of individual learners. *See recommendation 3.*

[18] MGCubed Midline Report p. 110.
[19] To calculate this indicator, the evaluation followed the midline calculation and recorded whenever teachers or facilitators were observed to be (1) sharing lesson objectives with pupils, (2) sharing the relevance or real-life application of the lesson content, (3) making good use of mini plenaries (whole class session), or a final plenary (at the end of the lesson), and (4) conducting formal or formative assessment (e.g. self-assessment, peer assessment, group assessment, written assessment). This shows an increase from midline, where 56% of MGCubed facilitators could demonstrate student-centred learning strategies shared in MGCubed training being used in non-MGCubed lessons.
[20] N=37; and N=10 respectively.
[21] MGCubed ML Report p. 117.
[22] FGD with MGCubed Facilitators on Teaching Strategies #1 GA.

Life Skills

The project supported improvements in girls' views of their own personal capacities. At endline, the majority of girls had a very positive perception of their interpersonal skills.

The proportion of girls who (1) felt confident answering questions in class (77% at midline and 96% at endline); (2) were able to describe their thoughts to others when they speak (79% at midline and 97% at endline); (3) believed they could communicate ideas when they are misunderstood (85% at midline to 96% at endline); (4) believed they work well in groups with others (90% at midline and 96% at endline); (5) felt confident asking teachers questions when they do not understand something (83% at midline to 99% at endline); and (6) felt they can organise their peers to do an activity, increased between midline and endline (78% at midline and 93% at endline).

These skills were targeted by MGCubed club activities and suggest significant improvements in girls' interpersonal skills between midline and endline. **Between evaluation periods, the greatest improvements in inter-personal skills were in how confident girls were answering questions in class.**

Qualitative evidence suggests remedial lessons played a role in supporting girls to feel more confident to ask questions in class[23]. Teaching quality improvements, including in the use of student-centred techniques, also likely contributed to these improvements according to interviews with girls and teachers.

Most girls had high academic self-efficacy at endline, and it is likely that after-school clubs supported girls' academic self-efficacy.

Academic self-efficacy is understood as a person's belief that they can successfully achieve an academic goal or level of success[24]. At endline, 88% of girls believed they could succeed in school[25], with a significantly higher proportion in Oti than Greater Accra. Qualitative evidence suggests that after school clubs and remedial lessons supported girls to feel more confident in their academic abilities.

Girls' confidence answering questions in class improved the most between midline and endline. The Girls' Survey demonstrated an increase from 80.5% to 85.1% of girls agreeing or strongly agreeing they were confident answering questions in class, and girls attributed this increase in confidence to the support they received through remedial sessions and after-school clubs.

[23] Surveys demonstrated an increase from 80.5% to 85.1% of girls agreeing or strongly agreeing that they were confident to answer questions in class.
[24] Bandura, 1997; Eccles & Wigfield, 2002; Elias & Loomis, 2002; Gresham, 1988; Linnenbrink & Pintrich, 2002a; Schunk & Pajares, 2002). Academic self-efficacy was measured by asking girls to what extent they agree or disagree with the statement "I believe I can succeed in school". Girls' academic self-efficacy was measured differently at midline. As a result, the evaluation team could not definitely measure change in academic self-efficacy between periods.
[25] Academic self-efficacy was not measured at midline and the evaluation team cannot definitely comment on changes in academic self-efficacy.

Wonder Women Clubs provided female-only spaces for girls to build their confidence and self-advocacy skills.

Qualitative evidence suggests that Wonder Women Clubs provided girls with safe, female-only spaces where they could discuss important issues relating to their life skills and practice having challenging conversations.

Girls also reported that they were more confident in raising concerns at home because of the project. When asked about the most significant changes brought about by the project, many girls linked their participation at the clubs with examples of how they are now better able to speak to family members about things they want to change. ***See recommendation 1.***

Overall, the project's after-school clubs led to changes in attitudes about gender norms and stereotypes and increases in girls' sense of self-worth and efficacy.

As a result of the project's after-school clubs, girls felt they could achieve the same things as boys and understood that household tasks are not solely a girl's domain. Changes in attitudes extended to boys as well, with boys highlighting that the club sessions increased their respect for girls, and that girls could hold the same roles and responsibilities as boys. ***See recommendation 4.***

A minority of girls have high self-esteem at endline. Girls' self-esteem was supported by positive parental attitudes towards girls' education, cash transfers, and good school governance.

Only 30% of girls had high self-esteem at endline[26]. It is likely that school closures and isolation imposed by lockdown had an influence on girls' self-esteem between midline and endline. **Having a parent with positive attitudes towards girls' education, having received a cash transfer from the project, and having a school that is perceived to be well managed were all associated with higher levels of self-esteem at statistically significant levels**[27].

School Governance

The project supported headteachers to make girl-friendly improvements to school management, planning, and child protection practices.

At endline, 96% of caregivers believed that their child's school was managed excellently or well. All surveyed headteachers reported that MGCubed leadership training was useful in contributing to improvements in their schools' management.

Headteachers reported that the project training helped them strengthen child protection mechanisms at their school, for example, by helping them to establish confidential systems for

[26] Self-esteem was not measured at midline in a way comparable to how it was measured at endline, so changes in self-esteem are difficult to assess definitely. More girls in Oti had higher levels of self-esteem than in Greater Accra.
[27] 32% of girls who received a cash transfer had high self-esteem compared to 21% of girls who did not receive one[27]. 34% of girls whose parents supported girls' educational rights had high self-esteem compared to 8% of girls who had high self-esteem but whose parents did not have a positive attitude towards girls' education.

reporting abuse and by working together with gender coordinators to address school-level barriers to girls' education. Headteachers said that the teaching and learning materials inherited from the project proved extremely useful.

The project supported District Education Offices (DEOs) to monitor teaching quality and deliver quality education for girls.

DEO officers such as School Improvement Support Officers (formerly known as Circuit Supervisors) and Girls' Education Officers regularly visit schools to monitor teacher attendance, teacher performance, and student attendance. These practices were strengthened by MGCubed training. At endline, 99% of headteachers stated that a member of the DEO office came to the school in the past term to monitor activities.

According to responses from DEO officers, important lessons gained from MGCubed training included:

- ✓ An improved understanding of the expectations of their role and what they can accomplish through it
- ✓ How to monitor teachers' performance and attendance; in particular, using lesson observations
- ✓ How to monitor students' attendance and performance at school, including on literacy, numeracy, and BECE examination results as well as the number of children who drop-out or return to school after dropping out
- ✓ An improved understanding of gender equality and how to promote it in schools, including common challenges faced by girls in their district and how to specifically support girls
- ✓ How to advocate for girls' educational needs and monitor how girls experience teaching and learning through their lesson observations
- ✓ Conflict resolution
- ✓ How to report child protection cases and take necessary action

Provision for children with disabilities could be strengthened within MGCubed schools.

Despite MGCubed training on inclusive education, approximately half of MGCubed schools had specific plans in place for supporting children with disabilities. MGCubed facilitators highlighted that most school activities were designed for persons without disabilities and that children with disabilities, particularly those with mobility impairments, were left out. Children with disabilities highlighted inaccessible infrastructure in communities and schools. Girls with physical impairments, particularly girls who used wheelchairs, mentioned that it was difficult to move around the school. *See recommendation 6.*

The project supported a reduction in the use of corporal punishment as a form of discipline in MGCubed schools.

However, corporal punishment remains prevalent in project schools. **48% of tracked girls at endline reported that they had observed the use of physical punishment by teachers in the month prior. This compares with 72% of girls at midline.**

This is despite a Ghana Education Services directive prohibiting corporal punishment in schools. Qualitative findings indicate that girls withhold themselves from fully participating in lessons because of corporal punishment.

Qualitative evidence strongly suggests that corporal punishment was predominantly used by non-MGCubed teachers and not MGCubed teachers[28]. Girls and boys reported that teachers never used corporal punishment in MGCubed lessons, but other teachers did use corporal punishment in their regular lessons. MGCubed facilitators reported that the project's training helped them manage the classroom without using a cane. **This suggests that improving teachers' skills in managing classroom behaviours was a key mechanism for reducing corporal punishment in schools.** *See recommendation 5.*

Community Attitudes and Perceptions

The project has supported parents and caregivers to improve their attitudes towards girls' education. Parents intend to continue investing in their girls' education.

84% of parents and caregivers had positive attitudes towards girls' education (84% of female caregivers, and 82% of male caregivers)[29]. 88% of girls also reported that their parents/caregivers supported their education[30]. Almost all parents and caregivers indicated the intent to support girls' education even when funds are limited.

In qualitative sessions, parents and caregivers reported that MGCubed training taught them about gender stereotypes and how these stereotypes affected the role of women and men in society and at home[31]. **Many caregivers cited how engagements with the project had supported them to change their attitudes, including how they see gender roles and girls' roles in the household, particularly in the distribution of household chores.**

Children with disabilities still had negative experiences participating in activities with other children (usually outside of school).

Qualitative data indicated that children with disabilities were often stigmatised by their peers and wider communities, and that this discouraged them from participating in school or community-based activities. Caregivers of children with disabilities also reported that they often prevented them from participating in events in order to protect them from negative attitudes and behaviours.

[28] FGD with MGCubed Girls, Oti Region#3.
[29] According to the attitudinal scale used, this was measured through a scale comprised of 11 items with parents scoring a score of 4 or greater categorised as having positive attitudes. Additional details on this measurement approach including the results of internal consistency and validity testing are discussed in section 2.2.3. *HS Q151 "Even when funds are limited. it is worth investing in the education of [GIRL]"; HS Q152 "A family has a son and a daughter but can only afford to send one of them to school. It would make more sense for them to send their son to school"; HS Q153 "Parents are responsible for the education of their children"; HS Q154 "If necessary, parents should be able to keep their children at home during school hours to work or help in the household"; HS Q155 "The more education a girl has the more she will be able to find good work"; HS Q156 "It is more important for a woman to be a good wife and mother than to be educated"; HS Q157 "Even if my daughter got married, I would still encourage her to continue with her education"; HS Q158 "A girl is just as likely to use her education as a boy"; HS Q159 "Sometimes a girl has to help with chores rather than doing homework"; HS Q160 "The education of girls is just as important as the education of boys"; HS Q161 "In general, a boy is more likely to use his education when he leaves school than a girl"; HS Q162 "The skills that pupils are learning now in the school are relevant and useful."*
[30] N=656. This was measured through the Parental Support Scale (11-items) using the Girls' Survey.
[31] FGD with Caregivers on Teaching Quality, GA

Most parents and caregivers are now more aware of the importance of prioritising schoolwork over housework and are distributing house tasks more equally among girls and boys.

At endline, 85% of parents and caregivers from MGCubed schools prioritised girls spending time on homework over household chores (82% M, 86% F)[32]. Parents and caregivers report that MGCubed community training supported them to reflect on how they assigned tasks to their children at home and that they now consider splitting the same tasks equally between boys and girls[33].

Value for Money

Overall, the MGCubed project is considered to be good VfM.

The project delivered a set of interventions that had good VfM. This is evidenced by the impact of project interventions on the learning and transitions of marginalised girls, including remedial lessons, after-school clubs, a cash-transfer programme, and school leadership trainings.

Despite initially high expenditures, the yearly costs of the project reduced over time.

Many of the project's outcomes are likely to be sustained, especially those that focused on changes in attitudes, knowledge, and skills. The project made additional investments so that those inheriting the project's technology can continue activities after the project's conclusion. This will strengthen the sustainability of the project and, therefore, its VfM in the long run.

Overall, the project spent £5,991,773 on 25,547 children (14,132 girls and 11,415 boys), over the course of 5 years. The project spent a total of £235 per child over 5 years, or £47 per child every year.

MGCubed delivered complementary teaching, after-curricular activities, and trainings at a fraction of the cost of government boarding schools (which cost £209 per child per year), and with significant gains in learning and transitions. It is also important to note that without pandemic-associated costs, the cost per child per year would have been lower, as there were additional costs associated with project's adaption to COVID-19, such as the GLTV (including TV/decoder distribution), PPEs, WASH facilities, and back-to-school campaigns.

The project's costs diminished over time, while increasing its total coverage, demonstrating good efficiency.

The project made **efficiency** gains over time and increased programme coverage as it absorbed a new cohort of students entering primary school every year. MGCubed required a strong initial investment, but yearly costs significantly reduced over time[34].

[32] N=740; N=514; N=114 respectively (differences not significant). These were parents and caregivers who disagreed or strongly disagreed with the statement in Q159 *"Sometimes girls should help around the house rather than doing homework"*.
[33] Cf. FGD w caregivers teaching etc 2; FGD with Caregivers on COVID-19 and School Management Oti.
[34] See Figure 43.

Investments made into technology assets for schools were made early in the programme and these assets were used for a variety of activities, including delivering after-school clubs, remedial lessons, and continuous professional development to teachers in rural schools. The fact many activities utilised this technology speaks of an efficient allocation of resources and good VfM.

MGCubed's partnership with the MoE to deliver educational content nationwide through GLTV demonstrated excellent VfM and extended the project's reach.

A key achievement of the project was to support the MoE with the development of GLTV curricular content during school closures. Given that the project had already made the appropriate investments in studios through a partnership with NaCCA, the project delivered educational content to thousands of students nationwide with minimal additional investment.

From October 2020 onwards, MGCubed also trained facilitators to support and monitor learning at home[35]. In qualitative sessions, many girls mentioned that GLTV and learning packs helped them stay up to date with their studies, which impacted improvements in attendance and learning. These investments ensured that all girls could continue learning at home, regardless of technological access, and increased the project's effectiveness and VfM during COVID-19.

MGCubed was successful in adapting its activities to contextual changes, such as COVID-19.

The project addressed both supply-side and demand-side barriers to learning and transitions and made additional investments whenever necessary. The project extended its cash transfers for girls and to narrow the technological gap and promote access to broadcast materials during school closures, the project distributed over 2,650 satellite decoders to girls and boys with disabilities to facilitate access to GLTV broadcasts[36]. The project also distributed a total of 7,760[37] learning packs to girls and boys, including children with disabilities and young mothers.

Recommendations

Plan International and other education sector stakeholders in Ghana and the project regions should consider the following recommendations based on evaluation findings:

1. Continue to support interpersonal and key life skills through after-school clubs, given that these outcomes contribute to improvements in wider quality education gains for adolescent girls in project areas.

The evaluation provided significant quantitative evidence that resilience and academic self-efficacy are mutually reinforcing, and that academic self-efficacy supports self-esteem, literacy, numeracy, and attendance outcomes. Interpersonal skills were shown to support learning and transition outcomes. Leadership skills were demonstrated to support literacy outcomes. These

[35] MGCubed Quarterly Report (Q15).
[36] Project Staff, Inception meeting.
[37] 4,656 girls, 3,104 boys, 19 children with disabilities (13 girls and 6 boys), and 56 young mothers.

findings indicate that targeting academic self-efficacy, self-esteem, leadership, and interpersonal skills among adolescent girls will likely result in wider quality education gains.

The evaluation also found that after-school clubs were effective at supporting girls to improve their self-efficacy, ability to self-advocate, and challenge gender stereotypes. Girls emphasised the benefits of accessing remedial time after school in supporting them to feel confident and improve their literacy and numeracy schools. These and other activities should be considered in future project designs.

2. Continue to promote student-centred learning techniques to support girls' academic self-efficacy, participation, and learning. in project areas.

There is some evidence that the project successfully supported both facilitators and regular teachers to adopt student-centred techniques and participatory pedagogical approaches. As seen in the lesson observations conducted at endline, project training on these approaches was particularly successful in promoting practices adoption.

It is also likely that the employment of student-centred techniques supported girls to feel more confident participating in class given there was a noteworthy improvement to girls' feeling confident answering questions in class.

3. Review benefits of broadcast and regular lessons and consider use of hybrid delivery where broadcast lessons can be differentiated to different ability levels.

While broadcast lessons were effective at exposing children to different teaching strategies and keeping children motivated through a participatory approach, this did not work for all children. There were some reports of children only passively engaging with the video lessons. However, using the distance learning approach for remedial lessons enabled the project to deliver standardised, high quality lesson content to a wide group of learners in need of learning support

The technological infrastructure established in schools is an asset that could enable synergistic gains from both broadcast and regular lesson delivery.

Future projects should more closely consider a hybrid model of delivery. For example, altering the sequence of lessons done by broadcast and in-person and more closely testing hybrid effectiveness with curriculum specialists, teachers, and children could yield improvements.

Lessons under this model should be adaptable to account for differences in pacing per context, and teachers should be equipped to make these adaptations. Feedback from qualitative research also suggests that the project could benefit from strengthening the extent to which a broadcast lesson can be differentiated according to student ability levels.

Future projects should also strengthen technological infrastructure in schools to support delivery of quality teaching. Stakeholders reported challenges with technological maintenance and reliability. Additional technical training should be provided to schools to ensure these issues can be addressed in the future. Investments in additional technology in schools would also support access to distance learning.

4. Continue to target boys through mixed activities and Boys' Clubs to support sustained changes to gender norms in project areas.

Evidence from endline suggests Boys' Clubs supported boys to change their perceptions of the rights of girls and supported girls to attain those rights. Mixed clubs also provided settings for girls and boys to engage in healthy and safe peer relationships where they can speak about differences or norm changes.

Club activities with boys worked to challenge negative conceptualisations of masculinity, interrogate conceptions of male and female gender norms, and discuss how to build healthy relationships between boys and girls. To ensure changes achieved by the project are sustained, it is necessary to engage both boys and men in future activities to shift harmful gender norms and practices.

5. Review teacher training on corporal punishment and consider additional approaches to reduce corporal punishment in schools in project areas.

While there was a reduction in the rate of corporal punishment reported by girls in project schools between midline and endline, a large proportion of girls reported witnessing their teacher administer corporal punishment in the last month (48% of girls in project areas).

The MGCubed project was designed to primarily engage Head Teachers and 3 facilitators in each project school. Facilitators were provided with intensive CPD through face-to-face and online training and mentorship. Regular teachers in project schools did not receive the same level of supports from the project.

Findings on corporal punishment suggest a whole school and community approach would be beneficial to address this barrier and ensure a change in teachers' norms and behaviours around discipline. Continuous Professional Development directed at teachers should more broadly address discipline practices and safeguarding considerations considering these findings. Plan has responded to this recommendation by revisiting project schools and conducting additional safeguarding training with teaching staff.

To fully address this barrier, future project designs should promote changes in teacher practices and the whole school culture, better equip girls to report cases of corporal punishment, strengthen district officials' ability to monitor the use of corporal punishment and strengthen the documentation of cases of corporal punishment administered in schools.

6. Review strategy to support inclusive education and non-discrimination of children with disabilities in project areas and consider wider messaging on this through continuous professional development provided to teachers.

Children and other project stakeholders report that children with disabilities face significant stigma in schools and communities and are often excluded from participating in school and community activities. Children with disabilities also reported harassment from their teachers in project schools in some cases, although reports are that these teachers are not MGCubed facilitators. In addition,

quantitative evidence indicates that parents of children with disabilities were less likely to support them to join the after-school clubs, likely due to parents and caregivers' fears that their children will be stigmatised.

Future projects should review strategies to support non-discrimination and inclusion in schools and communities and consider more widely addressing this through continuous professional development provided by teachers. As outlined, MGCubed primarily worked with Head Teachers and 3 facilitators in each project school and based on these findings a deeper and whole school approach is needed to fully support the inclusion of children with disabilities. Inclusive practices could be cultivated by working with all relevant stakeholders including teachers, schools, children without disabilities, children with disabilities and parents and caregivers to identify specific initiatives to reduce discrimination more widely.

7. Continue to address harassment faced by girls in project schools and communities.

There is significant evidence that after-school clubs supported girls and boys to learn about their rights, sexual abuse, and the risks of early marriage. There is also significant evidence that school leadership training delivered to PTAs, SMCs, and headteachers on safeguarding was relevant and valued.

However, several girls reported harassment by boys, suggesting that harassment remains a barrier in project schools. While most girls feel safe at school, some reported being teased by boys or being touched or verbally harassed. Future actors should strengthen awareness and accessibility of reporting mechanisms and review whether support is sufficiently promoting changes in norms.

8. Support parents and caregivers to make the home environment conducive to learning and consider wider distribution of home learning activity repository.

Several quantitative analyses and qualitative findings indicate that girls who had access to help from someone at home better maintained or improved their learning outcomes between schools closing and re-opening. This evidences that girls' home learning environments influenced learning outcomes, particularly during school closures. Future projects targeting girls' education outcomes in project areas should incorporate activities with parents and caregivers to continue sensitizing them on how to provide a conducive home learning environment. Continued work on gender norms and on school engagement and participation in learning would further these goals. The project can also consider how it can more widely distribute the existing repository of home lessons and learning activities created during COVID-19.

9. Continue to promote SRH knowledge, attitudes and practices and continue to support young mothers and pregnant girls in project areas.

Significant evidence from the evaluation suggests that young mothers and pregnant girls face additional barriers to quality education outcomes including learning, attendance, and transition.

Project supports for young mothers introduced in response to midline findings, likely contributed to improvements in literacy outcomes between midline and endline. Future interventions should consider how to continue supporting these groups of young women, given the prevalence of barriers reported by parents, caregivers, girls, headteachers, teachers, and other stakeholders.

The project supported most girls to raise levels of SRH knowledge, measured by SRH knowledge tests. However, 1 in 5 girls did not know different ways pregnancy can be prevented, or that their first intercourse can result in pregnancy. This suggests that activities promoting healthy SRH knowledge, attitudes, and practices in project areas will remain necessary for adolescent girls.

10. Support CENDLOS with identifying funding opportunities to cover maintenance costs of the studio-based technology and future production of educational programming.

CENDLOS is willing and committed to continuing to operate the studios in the future. MGCubed will continue to provide technical advice to CENDLOS for one year. However, CENDLOS will need to identify additional funding sources to cover the costs of maintenance of the studios. By supporting CENDLOS to identify future funding opportunities, learners and teachers and other actors within the education system will continue to benefit from the investments made in establishing the studios as well as the existing technical knowledge of operating the EdTech components of the MGCubed project.

11. Continue to utilise cash transfers alongside a wider package of interventions to address economic barriers to girls' education and support attendance, transition, and learning in project areas.

Quantitative and qualitative evidence suggests that cash transfers, in concert with wider project activities, are highly effective at supporting adolescent girls to confront barriers preventing their attendance and transition in school. Endline evidence confirmed that economic and financial barriers affected girls' learning and cash transfers played a role in supporting girls living in households facing economic hardship to experience improvements in attendance and transition. The evaluation also found that attendance and transition in school support literacy and numeracy learning.

The success of cash transfers was supported by other activities targeting girls' motivation to attend school, including improvements in the teaching and learning environment and through the life skill curriculum delivered to girls in afterschool clubs.

Project staff report that cash transfers cannot be implemented more widely by the MoE in a sustainable way for a larger population of girls. However, findings from the evaluation suggest that they can be used in a targeted manner to support the most marginalised girls to readdress economic barriers to attendance and transition. Future projects should continue to utilise cash transfers in concert with other interventions such as after school clubs in order to promote synergistic gains in these key outcomes.

1. Introduction

The Girls' Education Challenge Fund (GEC), launched by the UK's Foreign, Commonwealth & Development Office (FCDO), supports millions of the world's poorest girls to improve their lives through education.

The Making Ghanaian Girls Great! project, known as the MGCubed Project, is a 4-year Girls' Education Challenge project funded by UK Aid and supporting over 14,100 girls and boys, including children with disabilities, in two regions of Ghana.

The project builds on the first phase of the GEC which ran from 2013 to 2017 and supported children from Primary 3 to 6. In this phase, the project took on new participants in Primary 3 and followed phase 1 participants into Junior High School (JHS).

The project aimed to address learning barriers through the provision of quality educational content using solar-powered and satellite-enabled distance learning infrastructure. The innovative infrastructure enabled the delivery of interactive learning sessions to students, teachers, headteachers, communities, and government officials. The project's overall aim was to improve learning outcomes for marginalised children, support their successful transition through school, and contribute to sustained improvements in the Ghanaian education system.

This Endline Evaluation Report summarizes the findings and recommendations at the end of the MGCubed project in Ghana. For this evaluation, the lead partner, Plan International UK, and the implementing partner, Plan International Ghana, sought to evaluate the process, impact, effectiveness, and sustainability of the project and present findings to key project stakeholders.

Section 1 introduces the report. Section 2 describes the scope of the evaluation and its methodology. Section 3 presents the project's background, theory of change, and context in the two regions where it was implemented. Section 4 discusses the project's contribution to key outcomes. Section 5 discusses the Value-for-Money (VfM) of the project, and Section 6 summarizes these discussions into conclusions and recommendations.

2. Background of the Evaluation

2.1 Scope

This evaluation will be used by the lead and implementing partners to inform future programming and demonstrate the empirical results of the project to the Fund Manager, the governments of the UK and Ghana, partners, and the wider education sector.

The evaluation assesses the project's contributions towards its core outcomes of learning, transition, and sustainability, and tests the assumptions underpinning the project's theory of change to explain how and why the project contributed to desired results.

The evaluation answers the following program-level research questions:

- **Relevance & Coherence –** To what extent were the objectives and design of the project including the underlying theory of change, valid? Did they respond to the needs, priorities, and policies of intended project participants, partner organizations (e.g. schools), and the Government of Ghana?
- **Impact –** What contribution did the project make to the **learning and transition** of marginalised girls and children with disabilities? How and why was this contribution achieved?
- **VfM** – Did the project demonstrate a good Value-for-Money approach?
- **Effectiveness** – What worked and what did not work to increase the **learning and transition** of marginalised girls and children with disabilities as defined by the project?
- **Sustainability** – How sustainable were the activities and changes achieved by the project? Is there evidence that the sustainability strategy will be realized?

These questions were considered within the context of schools re-opening during the COVID-19 pandemic. The approaches used were guided by a central "do no-harm" principle. The evaluation relied on methods that would not cause harm to participants who may be facing various constraints soon after schools re-opened. This meant the evaluation did not rely on experimental approaches to explore project impact. All evaluation tools were reviewed by safeguarding specialists to ensure they were accessible and promoted the protection of children. Any safeguarding concerns that were raised through the research have been reported through relevant mechanisms to protect research participants. For a complete list of research questions, please see Annex 1.

2.2 Methodology

2.2.1 Sampling

2.2.2 Evaluation Approach & Research Tools

The endline evaluation adopted a mixed-methods approach under the framework of contribution analysis[38] to understand how the project contributed[39] to desired outcomes[40].

This evaluation relied on multiple sources of both qualitative and quantitative data to demonstrate results and to generate learning for similar projects in the future. In line with contribution analysis, this report does not intend to provide definitive proof of impact, but rather, to offer enough evidence and a line of reasoning from which one can draw a plausible conclusion with some level of confidence that the project has made an important contribution to the documented results.

The evaluation considered and implemented the four evaluation principles identified by the GEC Fund Manager[41] to guide its design and was supported by the continued feedback of the Evaluation Steering Committee, including members of Plan International UK and Plan International Ghana. The Steering Committee regularly consulted with the GEC-T Fund Manager Evaluation Officer.

The original evaluation relied on a Randomised Control Trial to understand project impact, and this was used to demonstrate impact on key outcomes between baseline and midline. At endline, however, a meaningful comparison group could not be established because (1) it was not clear how the pandemic might have affected different regions and (2) there were concerns that subjecting children to learning assessments immediately after returning to school could induce test anxiety and cause them harm, particularly in groups not directly benefiting from the project.

The endline and midline datasets were merged horizontally, following a cohort tracking design. This allowed the exploration of individual and aggregate level differences among sub-groups using multiple sources of data and statistical analyses[42].

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[38] Mayne, J. (2001). Addressing attribution through contribution analysis: using performance measures sensibly. The Canadian journal of program evaluation, 16(1), 1. Namely: (1) it supports the identification of project mechanisms that work; (2) it ascertains how plausible it is that the intervention may achieve its intended impact when there is no evidence on that specific intervention and when, due to time, resource, or ethical limitations, doing experimental research is not feasible; and (3) it creates a counterfactual through the use of counterfactual history and the social psychological 'theory of reasoned behavior.
Leeuw, F. L. (2012). Linking theory-based evaluation and contribution analysis: Three problems and a few solutions. *Evaluation*, 18(3), 348-363; Leeuw, 2003

[39] This approach allows us to infer the causality of MGCubed interventions by identifying causal pathways that would clearly link MGCubed to improved outcomes and then to verify such pathways through multiple lines of evidence.

[40] MGCubed (2019) GEC-T Midline Report

[41] (1) Made use of a counterfactual scenario to establish the project's additionality by asking participants what would have happened without the project; (2) made use of mixed-methods evidence to triangulate, complement, and challenge findings; (3) followed an individual-level longitudinal design; and (4) assessed the theory of change of the project through an evaluation of intermediate outcomes and their relationships to outcomes.

[42] Analyses included group and individual comparisons as well as time comparisons (through paired and independent sample t-tests), association tests (through chi-square tests), and predictive tests (through linear and logistic regression

The evaluation made use of a mixed methods research design based on several research tools. This enabled the study to fully triangulate, complement, expand on, and challenge findings from either quantitative or qualitative research. Research tools have been annexed to this report. These tools were designed by the evaluation team and signed off by Plan UK and the FM.

Table 1. Summary of Evidence Sources

Method	Evidence Source	Description and Use
Quantitative	Household Survey (HHS)	A comprehensive Household Survey (HHS) was conducted with heads of households and caregivers. It's aimed to measure families' socio-economic status, educational status, living conditions, vulnerability, attitudes towards education, the child's exposure to learning opportunities provided by the project and official education providers, and other project dimensions. Questions about the head of the household were also included. The household survey was closely reviewed to ensure it measured core assumptions of the project's theory of change, including components related to parental and community attitudes conducive to accessing school and learning.
	Girls' Survey (GS)	The Girls' Survey measured girls' attitudes towards school, their perception and feeling about teaching quality, reading habits, psycho-social domains, school safety and facility use, experiences of a stimulating home learning environment and life skills. This included measures of self-esteem, self-efficacy, resilience, and leadership.
	In-School Assessments	In-school assessments are non-standardized forms of assessment that take place in at the end of every term (3 times per year). Results for English and mathematics were gathered from school records.
	Attendance and Re-Enrolment	While all sampled girls were expected to be out-of-school for a large period of 2020 due to the pandemic, project partners wished to know what percentage of children returned to school re-opening in January 2021 compared to pre-COVID-19 attendance levels. Therefore, school attendance was measured to study the quality of the transition back to school. Attendance was defined as the difference in net attendance rates (NAR). Historical attendance data was obtained[43] from school registers for every February from 2018-2021. Individual-level data on (re)*enrolment* was obtained from two items in the HHS, namely (1) "What was (girl's name) doing last year?" and (2) "What is (girl's name) doing this year?" triangulated with NARs and midline data to confirm whether the child has re-enrolled in school, and if so, still attends school.
	Monitoring Data	We pivoted all monitoring output data available including a reference to any analysis conducted by the project and triangulated it with our own data. This included the project's workplans and results frameworks.
	Teacher Survey	The Teacher Survey captured MGCubed facilitator and teacher attitudes towards and knowledge of improved instructional practices, including specific components of the project.
	Headteacher Survey	This survey was used to assess school governance outcomes and school governance stakeholders' commitment to intervention components. The survey served as one of the sources of evidence for assessing the project's contribution to teaching, sustainability, and related log-frame outcomes.
	Lesson Observations	Lesson observations were conducted to assess the extent to which MGCubed facilitators and teachers maintained instructional practices, including project approaches, in both remedial and regular lessons after they returned to school.
	DEO Survey	A survey was conducted with members of the District Education Offices of Greater Accra and Oti where the project was implemented. The survey investigated whether DEOs would continue using MGCubed monitoring strategies.

analyses). We reported whenever significant test results were found at the 1% ($p<.001$) or 5% levels ($p.<05$). Having met the minimum sample size, this evaluation allows for the demonstration of results and development of recommendations through observations that are both representative project sites and empirically sound. We also tested the reliability and construct-validity of all psychometric scales used using inter-item reliability (through Cronbach's alpha) and construct validity (through factor analysis).

[43] Attendance records made available by school authorities during school visits or via phone.

Method	Evidence Source	Description and Use
Qualitative & Participatory	Performance Story Workshop	This was a highly participatory workshop with project staff, used to collect their views on the barriers witnessed during implementation, outcomes of project activities (beyond the log frame), and positive and negative influencing factors affecting output achievement. It informed tool development and the project's initial impact narrative.
	Key-Informant Interviews	Key-informant interviews (KIIs) followed a purposive sampling approach with key project participants. Informants helped to contextualize the intervention, investigate individual experiences and perspectives, and assess the theory of change. Other KIIs followed a snowball sampling approach and helped to identify success and failure stories as well as the conditions where impact did or did not occur. Some KIIs were specifically designed for children, such as life map exercises.
	Focus Group Discussions (FGD)	FGDs were used to study a range of opinions and dynamics between young girls and boys, teachers, families, and members of the community.
	Validation Workshop	A two-day validation workshop with stakeholders was organized to confirm all parts of the performance story and gather additional data and feedback for the report. The workshop was participatory and invited stakeholders to challenge and complement findings. This ensured that stakeholders accepted the narrative and were made aware of recommendations for future programming.

2.2.2.1 Quantitative

Reference Period. The endline evaluation corresponds to the final evaluation point of three periods: baseline (March 2018), midline (March 2019), and endline (March to June 2021).

Sampling Strategy and Stratification. At baseline, the evaluation team collected data from all 72 schools involved in the project with the intention of tracking the same sample of girls longitudinally at future evaluation points. At endline, the evaluation sampled girls from midline, following the same tracked cohort of girls in the two regions, namely Oti and Greater Accra. To keep design effect biases as low as possible, the study sampled girls from all project schools, used the smallest feasible cluster size, used a constant cluster size rather than a variable one, and sought to increase geographic dispersion as much as possible.

Sample sizes were calculated with the objective of drawing generalizations about girls and households targeted by the project at the aggregate level and for each of the two regions. The sample size reached has a confidence level of 95% and a margin of error of 5%. It was calculated for a population size of 9,109 girls engaged by the project.

According to sample size calculations, the minimum sample size for these parameters is 369. To produce results that are representative of the two regions, the study doubled the sample size by a factor of two[44]. This yielded a minimum sample size of 738 girls. The evaluation reached a sample size of 740 girls. A total of 524 girls were tracked between midline and endline periods (5% attrition)[45].

[44] Turner (2003) Sampling Strategies in *Handbook on Designing of Household Sample Surveys. United Nations Secretariat.* Available at: https://unstats.un.org/unsd/demographic/sources/surveys/Handbook23June05.pdf

[45] Tracked Cohort. At midline, no new girls in Primary 3 and 4 were sampled, so a booster sample was taken from Primary 5 and 6 at endline to be able to disaggregate findings by these grade-levels. This is because the project's interventions occur in upper primary school, including in JHS1. Therefore, from the overall sample, we tracked 524 girls since the midline (71%) and sampled 216 new cases (29%). Of the newly sampled cases, 86% were from a booster sample of

The following table shows that the sample was achieved at adequate proportions for all grade-levels and both regions.

41% of the sample was taken from primary schools and 59% from secondary schools.

Figure 2. Sample Achieved by Grade Level and Region

Grade at Endline	Greater Accra		Oti		All	
	n	%	n	%	n	%
Out-of-School	3	0.8%	3	0.8%	6	0.8%
Primary 4	1	0.3%	0	0.0%	1	0.1%
Primary 5	75	20.3%	71	19.2%	146	19.7%
Primary 6	76	20.5%	75	20.3%	151	20.4%
JHS1	70	18.9%	75	20.3%	145	19.6%
JHS2	72	19.5%	71	19.2%	143	19.3%
JHS3	73	19.7%	75	20.3%	148	20.0%
All	**370**	**100.0%**	**370**	**100.0%**	**740**	**100.0%**

The evaluation also drew from evidence collected through assessments with other project stakeholders. Representative sizes for each of these stakeholder groups were calculated using the same parameters discussed above.

Table 2. Sample Sizes for Other Instruments

Evidence Source	Description and Use
Household Survey (HHS)	740
Girls' Survey (CS)	740
Attendance and Re-enrolment	740
MGCubed Facilitators Survey	144 (from a total of 216 facilitators)
Survey with School Authorities (headteachers and SMC members)	150
Lesson Observations	80
DEO Survey	46

2.2.2.2 Qualitative Sampling

Qualitatively, the evaluation team sampled participants according to both purposeful and snowball sampling techniques. A total of 90 qualitative sessions were conducted.

All qualitative sessions were recorded by the facilitator and then translated and transcribed into English. All transcripts were read and coded by the research team following a descriptive coding technique. Qualitative analysis covered the relevant themes in line with evaluation research

Primary 5 and Primary 6 girls that was taken to complement the original cohort sample that moved onto secondary school. 24% of new cases were replacements in target grade-levels taken in some schools to ensure a constant cluster size between schools and an equal sample size across grade-levels.

questions in order to draw and synthesize evidence that responds to these questions. Findings derived from the qualitative analysis were then triangulated with other evidence sources.

2.2.3 Indicator Measurements

This section summarizes the key indicator measurements used in the study.

2.2.3.1 Teaching Quality

To create a mean score for each teaching quality dimension, selected items from the lesson observation were given categorical values[46].

Teachers who consistently demonstrated desired behaviours were classified as "highly satisfactory" or "outstanding" in that dimension. This was calculated by taking a mean score of all behavioural items in each of the teaching quality dimensions. Teachers who scored higher than 0.5 across all four dimensions[47] were classified as "highly satisfactory" or "outstanding." To measure overall adoption, the study reports the proportion of teachers that demonstrated highly satisfactory or outstanding abilities in all four dimensions.

Table 3. Teaching Quality Dimensions

TQ Dimension	Scale Measurements
Managing the Classroom	LO 73 M - Did the teacher demonstrate effective classroom management (e.g., efficiently manages materials, transition(s) between activities, class start and finish)? LO 84 M - Did the teacher demonstrate good time management?
Preparedness for the Lesson	LO 4 P - Teacher shared lesson objectives with pupils. LO 79 P - Did the teacher use pair work? LO 80 P - Did the teacher use group work? LO 81 P - The lesson shows evidence of good planning and preparation.
Promoting Equitable Learning	LO 15 E - Teacher called on or actively tried to involve a student who was not participating. LO 16 E - The teacher makes eye contact with all of the students while presenting the lesson. LO 17 E - GIRLS have equal access to desks, learning materials, etc. (e.g., girls share the same number of books, desks as boys). LO 18 E - Boys and girls are mixed together in the seating arrangement. LO 19 E - Teacher provided positive, encouraging feedback to BOYS (e.g. "good answer", "nice try", "you're close"). LO 20 E - Teacher provided positive, encouraging feedback to GIRLS (e.g. "good answer", "nice try", "you're close"). LO 26 E - Does the teacher ensure materials and resources are distributed equally among all students (e.g. desks, textbooks, exercise books)? LO 71 E - Did the teacher promote mutual respect amongst the class, for example, by challenging any bullying, insults, or disrespect occurring among students?
Confidence and Clarity of Delivery	LO 6 C - The teacher encouraged discussion among students about a given topic (discussion method). LO 8 C - Does the teacher share the relevance or real-life application of the lesson content (at any point during the lesson)? LO 10 C - The teacher appears comfortable and knowledgeable with the material. LO 11 C - The teacher reads well. LO 14 C - Learners appear to understand what the teacher is saying. LO 58 C - Teacher encouraged students to help each other (e.g. come to the board to demonstrate something or explain to classmate). LO 59 C - Teacher asked open-ended questions that encouraged thinking. LO 60 C - The teacher asked students questions during the lesson. LO 61 C - The teacher gave the students time to respond to questions.

[46] All scales used had a Cronbach alpha > 0.7, suggesting an appropriate level of reliability.
[47] See Table 3.

TQ Dimension	Scale Measurements
	LO 62 C - Teacher uses at least one MGCubed methodology such as thumbs up/down, RAG rating, gallery walk, or think pair share. LO 63 C - The teacher used role playing. LO 66 C - Did the teacher make good use of mini plenaries (whole class session), or a final plenary (at the end of the lesson)?

2.2.3.2 Life Skills

Self-esteem (also known as self-worth) refers to the extent to which a person likes, accepts, or approves of themselves, or how much one value themselves. Self-esteem always involves a degree of evaluation, and a person may have either a positive or a negative view of themselves[48]. Self-esteem is closely associated with well-being and several other adaptive outcomes for children, adolescents, and adults in diverse cultures[49].

Self-efficacy refers to an individual's belief in their capacity to execute behaviours necessary to attain specific performance outcomes. In the context of the MGCubed project, self-efficacy is understood as a girl's belief in her capacity to succeed in school.

To calculate the percentage of girls with personal and interpersonal skills, the study employed the Girls' Survey and asked girls whether they agreed or disagreed with different sets of items. Items were averaged into an overall score, and girls with scores higher than or equal to four (≥4) were coded as having a high-level of skill (or self-perceptions of having those skills). This cut-off corresponded to the point of agreement or strong agreement in the scale. Evaluation items were found in the GEC-T life skills template and midline data and were to compare changes in responses from midline to endline.

The evaluation team used internationally validated scales[50] to evaluate self-esteem and self-efficacy. For self-esteem, the evaluation relies on an adapted version of the Rosenberg Self-Esteem Scale[51]. For self-efficacy, the evaluation employs the Perceived Competence for Learning Scale[52]. According to these scales, a mean score is created with these items[53]. Girls with mean scores higher or equal to four (≥4) were coded as having high self-esteem or high academic self-efficacy.

[48] Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in the Public Interest*, 4(1), 1-44

[49] Pyszczynski, T., Greenberg, J., Solomon, S., Arndt, J., & Schimel, J. (2004). Why do people need self-esteem? A theoretical and empirical review. *Psychological bulletin*, 130(3), 435-468

[50] Self-esteem and self-efficacy were not measured through validated scales at midline and therefore cannot be compared to the previous evaluation period.

[51] Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press (shortened 6-item version for use with samples who are under 11 years old).

[52] Williams, Freedman, & Deci, 1998.

[53] See Table 4.

Table 4. Personal and Interpersonal Skills Scale Items

	Life Skill	Items
Personal Skills	**GEC Personal Skill Items** *GEC Life Skills Template & ML Data*	1. *"I want to do well in school."* 2. *"I would like to continue studying/attending school after this year."* 3. *"I can put a plan in place and stick with it."* 4. *"I can stay focused on a goal despite things getting in the way."*
	Self-Esteem *Rosenberg Self-Esteem Scale*	1. *"On the whole, I am satisfied with myself."* 2. *"At times I think I am no good at all."* 3. *"I feel I have a number of good qualities."* 4. *"I am able to do things as well as most other people."* 5. *"I feel I do not have much to be proud of."* 6. *"I certainly feel useless at times."* 7. *"I feel that I am a person of worth, at least on an equal level with others."* 8. *"I wish I could have more respect for myself."* 9. *"All in all, I am inclined to feel that I am a failure."* 10. *"I take a positive attitude toward myself."*
	Self-Efficacy *Perceived Competence for Learning Scale*	1. *"I feel confident in my ability to learn."* 2. *"I feel capable of learning the material in school."* 3. *"I am able to achieve my goals in school."*
Interpersonal Skills	**GEC Inter-Personal Skills Items** *GEC Life Skills Template & ML Data*	1. *"I feel confident to read in front of others."* 2. *"I feel confident to do mathematics in front of others."* 3. *"I feel confident answering questions in class."* 4. *"I can describe my thoughts to others when I speak."* 5. *"If someone does not understand me, I try to find a different way of saying what is on my mind."* 6. *"I can work well in a group with other people."* 7. *"When I have the opportunity, I can organize my peers or friends to do an activity."* 8. *"I ask the teacher if I don't understand something."*
SRH Knowledge	**Illustrative Questionnaire for Interview-Surveys with Young People** *World Health Organization*	*This survey measures SRH knowledge through 5-items. The number of girls with scores of 100%, 80%, and 60% was counted.* 1. *"A woman can get pregnant from the very first time that she has sexual intercourse."* 2. *"A woman is most likely to get pregnant if she has sexual intercourse halfway between her periods."* 3. *"A condom can be used to prevent pregnancy."* 4. *"HIV/AIDS can be transmitted with a mosquito bite."* 5. *"A woman has a right to say 'no' to unwanted sex."*

2.2.3.3 Parental Attitudes

In order to measure whether caregivers held positive attitudes towards girls' education, the evaluation team created an attitudinal scale called the Parental Support to Girls' Education scale. The scale was comprised of 12 items containing both positively and negatively phrased items aimed at capturing parental attitudes towards girls' education. Questions addressed parental regard for girls' education when funds are limited and girls' educational rights and aspirations, as well as how involved caregivers should be in the education of their daughters. Items were averaged

to obtain a mean score[54]. The proportion of respondents who scored higher or equal to four (≥4) were then used to report the indicator[55].

Table 5. Parental Support Scales

Parental Support Scale (HHS)	Parental Support Scale (Girls' Survey)
HS Q151 - "Even when funds are limited, it is worth investing in the education of [GIRL]." *HS Q152 - "A family has a son and a daughter but can only afford to send one of them to school. It would make more sense for them to send their son to school."* *HS Q153 - "Parents are responsible for the education of their children."* *HS Q154 - "If necessary, parents should be able to keep their children at home during school hours to work or help in the household."* *HS Q155 - "The more education a girl has, the more she will be able to find good work."* *HS Q156 - "It is more important for a woman to be a good wife and mother than to be educated."* *HS Q157 - "Even if my daughter got married, I would still encourage her to continue with her education."* *HS Q158 - "A girl is just as likely to use her education as a boy."* *HS Q159 - "Sometimes a girl has to help with chores rather than doing homework."* *HS Q160 - "The education of girls is just as important as the education of boys."* *HS Q161 - "In general, a boy is more likely to use his education when he leaves school than a girl."* *HS Q162 - "The skills that pupils are learning now in the school are relevant and useful"*	*GS Q100 – "My parent/caregiver makes sure that I have all the materials I need for school (books, pens, support for internet access, uniform, etc.)."* *GS Q101 – "My parent/caregiver makes sure that I can get to school (transport)."* *GS Q102 – "My parent/caregiver makes sure that I am not hungry at school."* *GS Q103 – "My parent/caregiver asks about my day when I return from school."* *GS Q104 – "My parent/caregiver helps me with my schoolwork."* *GS Q105 – "My parent/caregiver allows me time to study at home."* *GS Q106 – "My parent/caregiver provides me a space at home where I do my schoolwork."* *GS Q107 – "My parent/caregiver participates in meetings and activities at school."* *GS Q108 – "My parent/caregiver has met with my teacher(s) to discuss my progress at school."* *GS Q109 – "My parent/caregiver supports me to go to school even when the money is limited."* *GS Q110 – "My parent/caregiver supports me to learn in emergency situations such as when school is closed."*

2.2.4 Limitations

The evaluation team would like to acknowledge several limitations to the study:

1. The sample was stratified and drawn from project schools and sites that are predominantly rural. Therefore, results do not represent the overall population of Ghana or in any project region. Rather, results are representative of target project populations in areas where the project was active. Interpretations from this data can only be made for MGCubed project participants and relevant stakeholders such as their caregivers, school leaders, and district authorities that engage with the project.

[54] The Parental Support towards Girls' Education scale is a construct-valid and reliable scale. Principal Component Analysis (PCA) revealed the presence of two components with eigen values exceeding 1, explaining 21% and 40% of the variance respectively. The rotated Varimax solution showed strong loadings and all variables loading substantially in the first and second component. As expected, negative items loaded in the first component and positive items loaded in the second. The interpretation is very consistent with the intended need of the benchmark, which aims to capture *"parental attitudes towards girls' education"* as a single social construct. Therefore, the PCA supports the construct validity of the scale. Moreover, internal consistency analysis show that these measures can be aggregated through mean scores or percentage proportions without adding random errors (the scale has a Cronbach alpha > 0.7).

[55] 4 is the score given 'agree' and 5 to 'strongly agree' when the item is a positive item. See Table 5.

2. Findings within project areas are not necessarily representative or generalizable to out of school girls given that all girls tracked by the evaluation were in project schools. This was a result of initial biases in the sample taken at baseline.

6. The midline design did not sample girls in Primary 3 and Primary 4, and therefore, most girls that could be longitudinally tracked were in secondary school. To enable the disaggregation of historical learning and transition data by grade-level, the evaluation team collected a booster sample of around 190 girls in Primary 5 and 6.

7. To prevent children from feeling additional stress and anxiety induced by literacy and numeracy assessments upon return to school after the pandemic[56], school-level assessment data served as a proxy for learning. This measure was considered more ethical and safer for children than learning assessments in the context. However, school level term grade data is likely not comparable between years due to teacher and assessment standard differences. The strengths of conclusions made using grade data over multiple years should therefore be cross-referenced with other evidence sources.

8. Due to concerns about including a comparison group of children who did not receive any project interventions and had experienced recent disruption due to protracted school closures and other COVID-19 response measures, the study did not use a control group[57].

   The midline evaluation relied on a quasi-experimental difference-in-difference approach to assess project impact between baseline and midline. At endline, the evaluation relied on a holistic approach that used multiple evidence sources to assess and respond to evaluation questions.

9. According to the midline report, "*OOSG girls were not involved in baseline data collection*"[58] suggesting that the data might be more representative of girls who are generally in school. To complement this, the evaluation collected historical transition data from all girls by asking them what they were doing in each program year. Key-informant interviews were also conducted with out-of-school girls. This enabled the estimation of drop-out rates for all evaluation periods and the inclusion of out-of-school girls' perspectives in the study.

10. An inherent limitation of several sources of quantitative data is that it relies on retrospective self-reported data. Therefore, there is the possibility that participants had difficulties recalling important information or that they provided socially desirable responses to sensitive items, leading to respondent bias. Whenever possible, quantitative findings were triangulated and complemented with qualitative evidence.

11. The endline follows a midline evaluation that was conducted by a different external evaluator. As such, several indicators and survey items changed between midline and

[56] KII with Evaluation Advisor at Plan UK.
[57] Terms of Reference, MGCubed Evaluation; Additionally, a meaningful comparison group could not be established because different locations would have been differently affected by the pandemic, which was an exogenous shock that was not present during the baseline sampling. As such, it could not be factored in sampling selection, thereby introducing a bias in the sample at endline. As communities were differently affected by the pandemic, the progress of the counterfactual would not have been the same as that of the treatment group over time without the intervention (parallel-trend assumption). It is, therefore, questionable whether the control group chosen at baseline is still truly like the treatment group, all things equal. The inability to construct a true counterfactual at endline raises the question of whether the parallel-trend assumption of the RCT or DiD methods would still hold.
[58] MGCubed ML Report.

endline periods because some midline calculations and indicator definitions did not produce valid or reliable measures. Decisions on indicator measurement were made in close consultation with the project. Whenever possible, the endline evaluation team recreated indicators to measure changes between periods using common indicators from the midline data. However, in cases where these measures were not valid or reliable, additional scales or items were constructed to capture meaningful performance indicators based on the original intentions of the measurement framework.

3. Project Background

3.1 Project Context

3.1.1 Overviews

Ghana has an estimated population of 29.5 million inhabitants as of 2018, with 22.8% under the age of 14 years old[59]. An estimated 45% of the population lives in rural areas[60]. Ghana ranks 140 on the Human Development Index[61], with an inequality index (Gini coefficient) of 0.40 in 2013[62] and life expectancy at birth of 62.7 years in 2018[63]. Ghana is classified as a lower middle-income country (MIC) with a GNI per capita of $1,490 in 2017[64]. The country relies heavily on primary commodities including cocoa, gold, and oil. However, 20% of its GDP is derived from the agricultural sector, which employs more than half of the work force.

Ghana's constitution establishes that all persons have the universal right to education and that basic education is free and compulsory. It also stresses that secondary education in all forms, including technical and vocational training, and higher education shall be made accessible to all[65].

In Ghana, the education system is on a 6-3-3-4 schedule, which means it is divided into six years of primary education, three years of junior secondary education (known as Junior High School or JHS), three years of Senior High School (SHS), and four years of tertiary education. Primary school and JHS comprise "basic education." Upon passing the Basic Education Certificate Examination (BECE) at the end of JHS, students' progress onto 3 more years of SHS or may opt for vocational or technical training. From then on, students may enrol into various forms of tertiary education, including a 4-year bachelor's degree or shorter professional or technical training.

Education is compulsory for children ages 4–14. The Ministry of Education reports that there are 22,289 primary schools in Ghana, 14,664 of which are public and 7,625 private[66]. The estimated national primary-aged population is 4,192,846 children[67]. In 2017, the government spent 4.51% of GDP on the education sector, accounting for 20.17% of total government expenditure[68].

[59] Ghana Statistical Services (2018).
[60] UNESCO Country Data Ghana (2018) available at: http://uis.unesco.org/country/GH
[61] Human Development Indicators Ghana (2018) accessible at: http://hdr.undp.org/en/countries/profiles/GHA
[62] UNICEF (2016). Ghana Poverty and Inequality Analysis accessible at: https://www.unicef.org/ghana/Ghana_Poverty_and_Inequality_Analysis_FINAL_Match_2016(1).pdf
[63] Op. Cit. Human Development Indicators Ghana
[64] World Bank (2017) GNI per capita (Atlas Method) available at: https://data.worldbank.org/indicator/ny.gnp.pcap.cd
[65] Article 17, Constitution of the Republic of Ghana 1992.
[66] Ministry of Education of Ghana, Medium Term Expenditure Framework (2017) available at: https://www.mofep.gov.gh/sites/default/files/pbb-estimates/2017/2017-PBB-MOE.pdf
[67] UNESCO Country Data Ghana (2018) available at: http://uis.unesco.org/country/GH
[68] *Ibid.*

The academic year runs from August to May and includes 40 weeks of teaching in primary school and 45 weeks in secondary school. However, the COVID-19 pandemic affected the 2021 academic calendar.

3.1.2 Effect of the COVID-19 Pandemic on Education Delivery

Ghanaian schools closed in March 2020 due to the outbreak of the COVID-19 pandemic and remained closed for most grade levels until December 2020. A new academic year started on January 18, 2021 and was scheduled to run through to December 2021.

Adjustments were made to the curriculum and only Form 2 SHS students and JHS 2 students were able to return to school during the period from October 5 to December 14, 2020[69] to complete their academic year. In addition, JHS3 and SHS3 students returned in June (until the end of September 2020) to complete their studies and sit their final national exams. All other students remained at home.

These disruptions required a shift in project activities, concentrated on minimizing the impact of the pandemic children's access to learning opportunities. The project was adjusted to maximize distance learning opportunities and eventually supporting students' return to school in 2021. The Medium-Term Response Plan (MTRP) developed by Plan International in August 2020 summarizes the different scenarios of implementation considered by the project as the COVID-19 pandemic unfolded.

During school closures, the MGCubed project relied on broadcasting infrastructure to support the development of a high-quality distance learning program delivered through pre-recorded national TV broadcasts through Ghana Learning Television (GLTV). The project team worked with GES to produce lessons in English, math, science, and social studies which were broadcast to millions of children nationwide on GLTV. Plan International supported the development of broadcast content for learners from KG to SHS3, and GES uploaded content online through the Ghana Library Authority App.

These adaptations required a deeper cooperation with the national government given that broadcast is a government-provided service. According to the MTRP, Plan International was the only NGO in Ghana asked to contribute to the distance-learning 'national initiative' led by the Ministries of Education and Communication[70].

3.1.3 Education Governance

The MoE is responsible for the administration and management of public education in Ghana and is supported to do so by several divisions and agencies. Ghana's education system adopts a decentralized model where the Minister of Education delegates responsibilities and management of basic and secondary education schools to District Assemblies as stipulated in the Education Act of 2008[71]. The Ministry of Education's agencies include: the Ghana Education Service (GES), The National Board for Professional and Technician Examinations (NABPTEX), National Council for

[69] Period of 10 weeks.
[70] MGCubed Midline Report.
[71] Education Act, 2013.

Tertiary Education (NCTE), National Accreditation Board (NAB), Students Loan Trust Fund, Ghana Library Authority (GLA), and the Ghana Book Development Council (GBDC).

Within the Ministry of Education, GES is responsible for the coordination and implementation of national education policies for pre-tertiary education. More widely, GES is supported by three autonomous agencies: The National Teaching Council (NTC), the National Council for Curriculum and Assessment (NaCCA), and the National Schools Inspectorate Authority (NaSIA). The NTC sets national standards for teachers in Ghana. The NaCCA is responsible for developing, validating, and evaluating the national curriculum.

Other important actors influencing the policy process include the Special Educational Needs (SPED) Units responsible for inclusive education approaches and differentiated learning, the GES Guidance & Counselling Unit for extracurricular activities, and the Centre for National Distance Learning and Open Schooling (CENDLOS) focused on distance learning and recording curriculum content.

At the divisional, district, and local levels, the Ministry relies on the support of District Education Offices (DEOs).

At the school-level, headteachers are the main authority and are responsible for administering, planning, and running the school. Ghana's 2005 Capitation Grant (CG) stated that all basic schools are required to develop and implement a School Performance Improvement Plan (SPIP) that identifies priorities for improving school performance. The SPIP serves as a blueprint for specific activities, timeframes, and persons responsible for implementation. Headteachers in public, basic schools are important stakeholders in the SPIP.

3.1.3.1 Strategic Objectives of the Education Sector in Ghana

The MoE's strategic goal is to provide equitable access to high quality child-friendly universal basic education by improving opportunities for all children in the first education cycle at kindergarten, primary, and JHS levels.

The MGCubed project's intermediate outcomes align with the National Education Strategic Plan 2016-2030, demonstrating excellent coherence with education sector objectives.

Ghana's Education Strategic Plan 2018-2030 is focused on four key themes: access and equity, quality and relevance, efficiency and effectiveness, and sustainability[72]. The specific policy objectives are:

1. Increased equitable access to and participation in quality basic education
2. Improved quality of teaching and learning in basic education
3. Strengthened competency-based science, mathematics, and ICT education at the basic education level

[72] Ministry of Education Ghana (2018) Education Strategic Plan 2018-2030.

4. Strengthened basic education management and accountability systems for education service delivery

5. Increased teacher professional development

In terms of **girls' education**, Ghana's main policies include the 2002 National Vision for Girls' Education published by the GES Girls' Education Unit (GEU). The policy focuses on increasing enrolment, retention, and learning of girls, particularly in science, technology, and mathematics. Other actors include the Girl Education Unit Strategy for the Girl Education Unit from GES and Girls' Education Network which consists of public and civic organizations.

According to the MGCubed's sustainability plan, the project along with other education stakeholders, supported the development of education policy in a number of ways[73]:

a. **2019:** Revision of kindergarten through P6 curriculum, with a much stronger focus on literacy, numeracy, and remedial provision where needed

b. **2018-20:** Shift in teacher training, recognizing the importance of ongoing professional development and allowing for in-service training and practice to become part of teachers' regular schedules. NGOs who previously focused on advocating for this approach are now often called on as service providers for specific aspects of teacher development

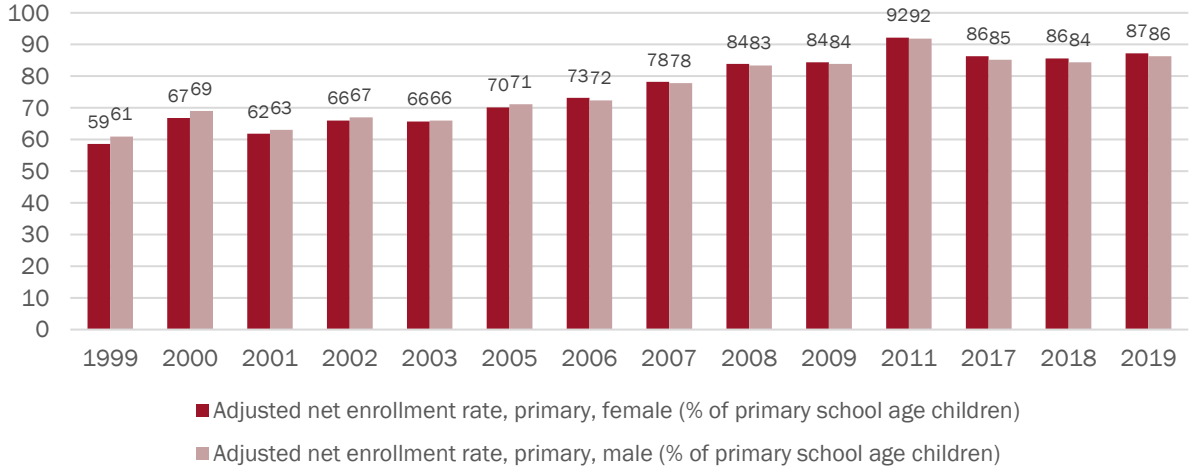
c. **2020:** Recognition of the possibilities and potential of remote teaching and learning, driven by large-scale school closures during the coronavirus pandemic. Ghana Learning TV is considered to have been largely beneficial and is likely to continue in some form after schools re-open

3.1.4 Education Outcomes

Net enrolment rates for primary school have increased over time and in similar proportions for both girls and boys[74]. Boys had higher rates of enrolment up until 2006, when the trend reversed. As of 2019, girls had a net enrolment rate of 87%, compared to 86% for boys[75].

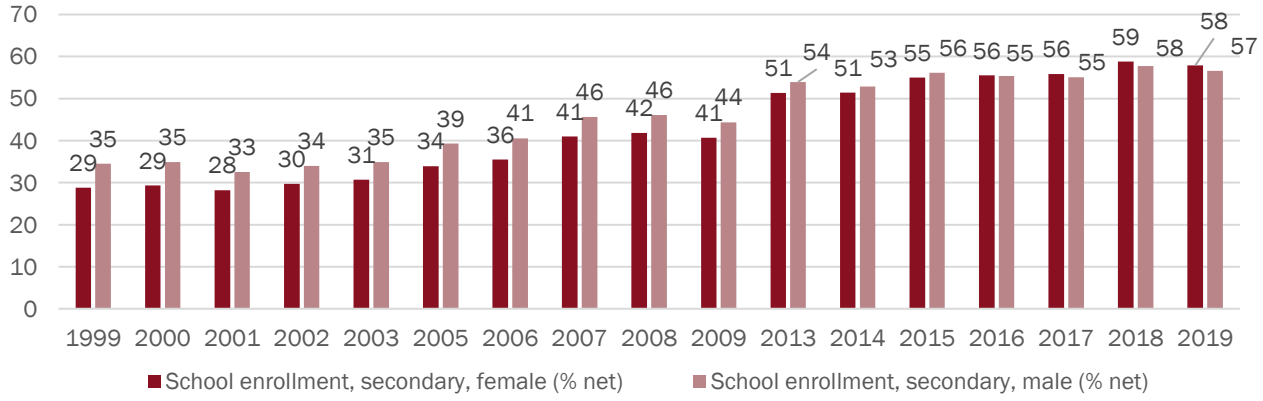
[73] MGCubed Sustainability Plan: Findings and Recommendations (unpublished).
[74] *Ibid.*
[75] See Figure 3.

Figure 3. Net Enrolment Rates for Primary School by Sex (% enrolled)



In secondary school, net enrolment rates have also increased over time for both boys and girls, though there is still a large portion of girls and boys who are not enrolled in school. Currently, about 58% of boys and 57% of girls are enrolled in secondary school. Boys had higher enrolment rates up until 2016, when the trend reversed slightly in favour of girls. Ghana achieved enrolment gender parity in 2019[76].

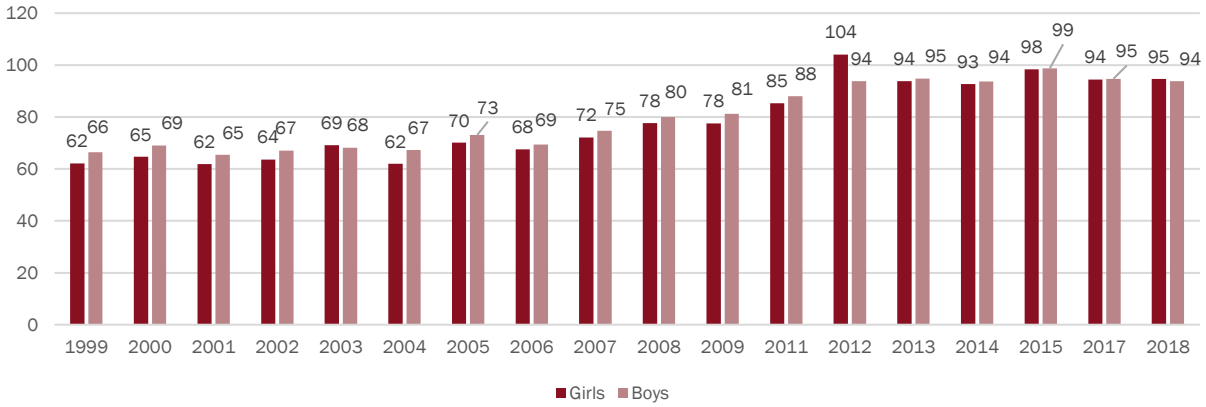
Figure 4. Net Enrolment Rates for Secondary School by Sex (% enrolled)



In terms of primary completion rates[77], the latest figures available were from 2018 and showed that the primary completion rate was 95% for girls and 94% for boys[78].

[76] See Figure 4.
[77] See Figure 5.
[78] MGCubed Sustainability Plan: Findings and Recommendations (unpublished). It is possible for primary completion rates to have values above 100%, which can be a symptom of late entry, grade repetition, or of an enrolment push at some point in the past.

Figure 5. Primary Completion Rate by Gender (% of relevant age group)



Ghanaian statistics show that, while more girls complete primary school than secondary school, girls drop out from school across all stages of education. In 2019, 8% of adolescent girls and 13% of adolescent boys were not enrolled in lower secondary school. In primary school, 0.4% girls of and 1.2% of boys were out of school[79].

[79] Net enrolment rate is the ratio of children of official school age who are enrolled in school to the population of the corresponding official school age. C.f. UNESCO Institute for Statistics (http://uis.unesco.org/). Data as of February 2020.

3.2 Who is marginalised and why?

The GEC framework of educational marginalization helps GEC projects to identify the main social identities in implementation areas and consider ways to include all identities in their programmatic strategy[80]. It is assumed that girls with different social identities can experience the project in different ways, and, therefore, GEC projects should consider different needs in their design and implementation.

According to this framework, social identities result from the intersection of different contextual and universal characteristics. For example, a person's primary language is a contextual characteristic while their disability status is a universal characteristic.

This framework helps project implementers and evaluators to identify **who** is marginalised and **where** they are. Outcomes of the intervention were disaggregated by these intersections/sub-groups. The evaluation team ensured that each group was represented in qualitative sampling with quotas.

Following the same framework, barriers were understood as the reasons **why** girls and boys cannot exercise their rights to quality education. According to the framework, these occur at the system, community, and school levels. Multiple levels of marginalization are possible. A girl with different characteristics may also experience multiple barriers, each carrying a different weight. Barriers are considered within each outcome domain and discussed in the report.

3.2.1 The Who and Where

Under the GEC phase 1, the project focused on supporting girls to continue on their educational journeys in selected schools exclusively in P3 to P6. In this current phase (2017-2021), the project's main participants were followed into secondary school and ranged from Primary 3 to JHS1.

The project also targeted **out-of-school girls (OOSG)** by encouraging them to re-enrol in school or enrol for the first time. Since midline, the project gave particular attention to **girls who were pregnant** and worked with teachers and school leaders to ensure that the girls' specific needs were met on their return to school.

Girls who were systematically excluded because they do not speak the language of instruction were provided with language assistants during lessons. This was the case for girls from the **Likpakpa**, **Kotokoli**, and **Guan** language groups.

The project also worked with 27 children with disabilities, including both girls and boys. The project identified children with disabilities (16 girls and 12 boys) at the start of the project in 2017, focusing solely on physical disabilities. After the midline, another 25 girls and 30 boys were identified as having a physical disability.

[80] UKAID (2018) *Understanding and Addressing Educational Marginalization*, Part 1: A New Conceptual Framework for Educational Marginalization, p.8.

The chapters of this report consider when outcomes were significantly lower for certain individuals and what characteristics they had. Reasons for these differences were explored through both qualitative and quantitative analyses[81]. To understand if activities were generally inclusive of all persons regardless of characteristics, the evaluation disaggregated activity participation data and outcome data by main groups and presented findings when sub-groups seemed to be excluded from the general impact contribution[82].

To find out the extent to which sub-groups are represented in the sample, the evaluation relied on the HHS, Girls' Survey, and midline data to identify girls according to different marginalization criteria. This allowed evaluators to disaggregate data and run analyses that compared outcomes for groups[83].

Table 6. Sample Composition by Sub-Group

Characteristics	Count	Column N %
Girl has a disability[84]	32	4.4%
Difficulties seeing	10	1%
Difficulties hearing	4	0.5%
Difficulties with mobility	6	0.8%
Difficulties concentrating	13	2%
Difficulties self-caring	8	1%
Difficulties communicating	6	0.8%
Was at some point OOS during the project	25	3%
Was pregnant at some point during the project	21	3%
Pregnant at the time of interview	7	0.9%
Young mother	17	2%
Married girls	4	0.5%
Girl is from a special linguistic group (Likpakpa, Kotokoli, or Guan)	74	10%
Likpakpa	10	1%
Kotokoli	56	8%
Guan	8	1%
Rural HH	601	81%
Peri-urban HH	107	15%
Urban HH	32	4%
Single orphan	264	11%
Double orphan	25	1%
School is 30 min or more walking distance from school	128	17%
Households with more than 3 children per adult	83	11%
Total Sample	**740**	**100%**

The percentages of these groups are not representative of actual populations because the sample was taken in schools. Therefore, the sample could have excluded persons who, due to reasons

[81] See Table 6.
[82] Results that were significant during statistical testing at the 1% or 5% level.
[83] See Table 6.
[84] This means girls with at least one disability or scoring 3 or more in the short set of Washington Group Questions to measure disability. Given that girls can have more than one disability, individual counts of persons by disability group do not add to the total of girls with a disability.

associated with a universal or contextual characteristic, could not attend school, and, therefore, had a lower chance of participating in the study.

Rather than making assertions about sub-groups, the evaluation team used this data to disaggregate outcomes and highlight when any of these groups have lower or higher outcomes than the general group. This enables an understanding of both the project's limits and inclusive contributions.

In the endline report, main outcomes and indicators are disaggregated and visualized per target region[85]. The representative sample size was doubled, and the sample was evenly split between regions to allow for generalizations about each region. 50% of the sample came from each region[86]. Therefore, main indicator results for both regions and overall results are visualized to allow for comparisons that could be helpful to education authorities and implementers in these regions.

Project participants were usually found in schools that are rural (74%) or peri-urban (22%) and in a few schools that are urban (4%). About 18% of schools were led by women headteachers and about 83% of headteachers have at least a bachelor's degree. Almost all schools have a Parent Teacher Association and School Management Committee.

In terms of resources available to students, 94% of headteachers reported enough seats for their students, 64% reported that they do not have textbooks their students can use, and 99% said that a chalkboard was available in each classroom.

Electricity is available most of the time in 64% of schools. However, headteachers in rural areas were also found to be disproportionally affected by a lack of adequate infrastructure. 59% of headteachers in rural areas reported they had electricity available most of the time, compared to 100% of headteachers in urban areas and 75% of headteachers in peri-urban areas[87].

In terms of Water, Sanitation, and Hygiene (WASH), 57% of schools had piped water access 51% had a source of drinking water, and 72% had handwashing facilities with drinking water[88] according to headteachers. 86% of headteachers also reported that their schools have soap near handwashing facilities.

In terms of sanitary facilities for girls and children with disabilities, 60% of the schools had toilet units that are lockable from the inside and 17% had stations where girls can wash their sanitary pads. 28% of schools had made adaptations for children with disabilities and 7% of headteachers reported that their school had a toilet that was accessible to children with disabilities. 97% of girls surveyed mentioned that they used handwashing facilities at their schools[89]. 87% of girls mentioned that they used the toilet facilities at the school[90]. Of those that do not use handwashing facilities[91], 54% said this was because the facilities were non-hygienic. Less common responses

[85] Oti and Greater Accra.
[86] N=370 (Greater Accra); and N= 370 (Oti)
[87] N=31; N=3; N=12 respectively.
[88] Though not frequently near boys' or girls' toilets.
[89] N=719
[90] N=642
[91] N=98 (13%)

included that the bathroom was broken (9%), did not exist (9%), doors did not lock (4%), was simply not possible to access (9%), and was not acceptable for use (3%)[92].

Differences across regions were found in the percentage of schools that had a feeding program and whether schools had separate toilet facilities for boys and girls[93]. The majority of schools that did have a nutrition program were found in Greater Accra. The majority of schools with separate toilets for boys and girls were found in Oti. The following table shows these results:

Table 7. MGCubed School Characteristics

School Characteristics	Region					
	Greater Accra		Oti		Total	
	n	%	n	%	n	%
School is rural	17	57%	36	86%	53	74%
School is peri-urban	11	37%	5	12%	16	22%
School is urban	2	7%	1	2%	3	4%
% Schools with female headteachers	6	20%	7	17%	13	18%
Schools' headteacher has at least a bachelor's degree	27	90%	33	79%	60	83%
School has enough seats for students	29	97%	39	93%	68	94%
School has no textbooks	19	63%	27	64%	46	64%
School has a chalkboard or whiteboard	29	97%	42	100%	71	99%
School has a PTA	30	100%	41	98%	71	99%
School has a SMC	30	100%	39	93%	69	96%
School has a school feeding program	23	77%	17	41%	40	56%
School has an electricity source available most of the time	21	70%	25	60%	46	64%
School has piped water access	19	63%	22	52%	41	57%
School has separate toilets for girls and boys	18	62%	39	93%	57	80%
School has an accessible toilet	1	3%	4	10%	5	7%
Girls' toilets are fully covered by walls for privacy	25	100%	37	88%	62	93%
Boys' toilets are fully covered by walls for privacy	25	100%	35	83%	60	90%
School has toilet units lockable from the inside	16	64%	24	57%	40	60%
School has handwashing facilities with working water	21	70%	30	73%	51	72%
School has handwashing facilities near girls' toilets	12	40%	20	50%	32	46%
School has handwashing facilities near boys' toilets	10	35%	20	48%	30	42%
School has soap available near handwashing facilities	24	92%	26	81%	50	86%
School has a place where girls can wash their sanitary wear	6	20%	6	14%	12	17%
School has a source of drinking water	15	50%	22	52%	37	51%
School made adaptations for children with disabilities	11	38%	9	21%	20	28%

[92] N=53; N=9; N=9; N=4; N=9, respectively
[93] See Table 7.

3.2.2 The Why

The project was designed to address the barriers that have a direct impact on enrolment, retention, attendance, and learning outcomes for girls in later years. The project considered both demand-side and supply-side barriers to quality education.

Demand side barriers include low attendance, low academic achievement, lack of parental support, early marriage, pregnancy, and finance. These restrictions are assumed to prevent girls from accessing education and to negatively impact girls' confidence, motivation, and breadth of agency within social, familial, and educational realms[94].

Table 8. Prevalence of Barriers

Characteristics	Count	Column N %
Girl works in family business/farm	196	7%
Spends more than 1 hour a day on household chores	367	50%
Girl has very low attendance to school	83	11%
Girl's family experiences hardship	160	22%
Girl has low academic self-efficacy	16	2%
Girl does not have homework support from caregivers	392	15%
Caregivers do not support girls' education	84	11%
Girl does not have 60% correct SRH knowledge	554	75%
Girl has low self-esteem (<0.3)	45	6%
Girl works or is employed	17	0.6%
Girls witnessed corporal punishment in schools	339	48%
Total Sample	**740**	**100%**

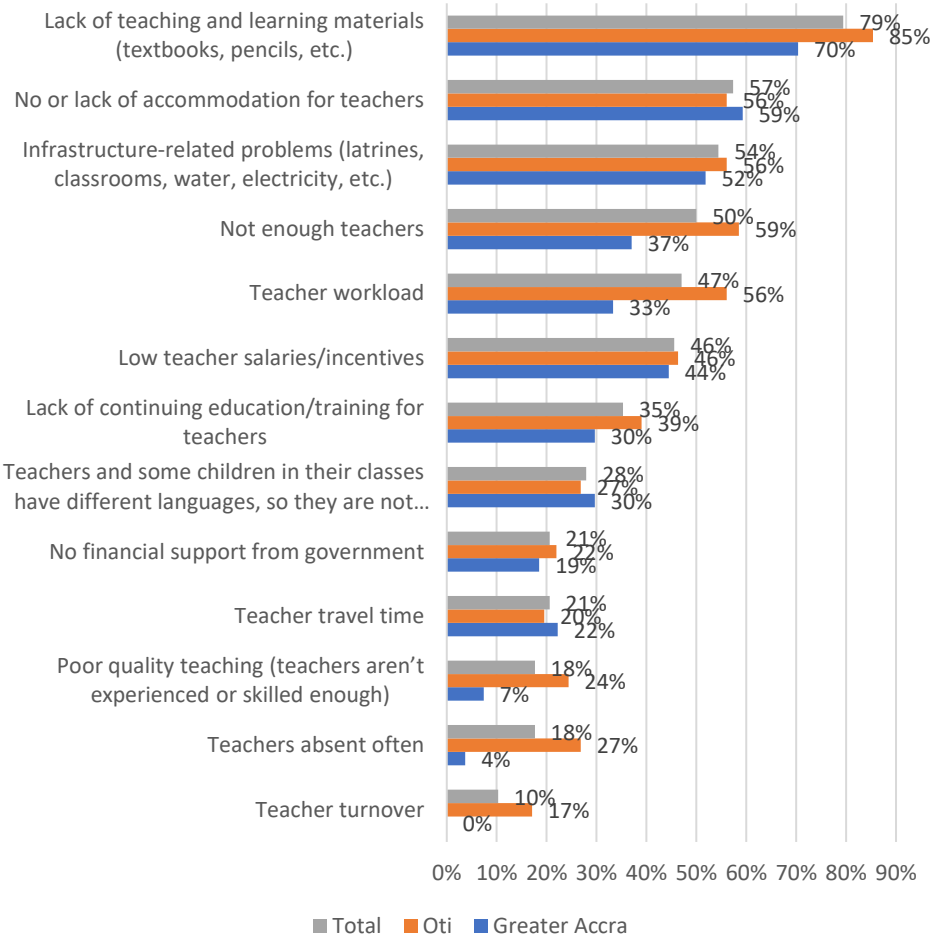
Supply-side barriers include a lack of quality teaching and inclusive learning environment for girls[95]. Pre-implementation gender-related barriers to learning identified by the project team were being pregnant and/or being a young mother, and – at a wider level – being female.

During interviews, headteachers revealed many barriers, some of which were specifically addressed by the project's focus on teaching quality. Headteachers identified the lack of teaching and learning materials as a prevalent barrier to learning in schools, with 64% reporting having no textbooks for children. This may be seen by headteachers as a bigger barrier than the project's ethos on participatory learning would indicate, but this statistic indicates that students suffer from general lack of.

Other frequently mentioned barriers included a lack of accommodation for teachers, and infrastructure-related problems (such as latrines, classrooms, water, electricity, etc.). Of the frequently mentioned barriers targeted by the project, the lack of materials and training[96] for teachers are two important barriers addressed by the project. Headteachers also highlighted regional differences in educational barriers[97], with Oti experiencing greater shortages of teachers and resources than Greater Accra.

[94] Midline variables changed between evaluation periods after reviews. See Table 8.
[95] MEL Framework.
[96] With a focus on teachers' skill development.
[97] See Figure 6.

Figure 6. Most Important Barriers to Teaching Quality According to Headteachers (by Region)



Endline data confirmed that there was a shortage of qualified teachers project regions and that the overall level of experience and qualifications among was low. According to the Teacher's Survey, only 29% of respondents said they had a Bachelor of Education while 54% said they had a diploma in Basic Education. Therefore, improving teachers' skills through MGCubed training constituted a relevant intervention.

Pre-implementation social exclusion related barriers included lower economic status, disabilities, and primarily speaking Guan or Likpakpa[98]. Evaluators identified groups such as girls who were from low-income households or those with disabilities as facing more barriers to education in comparison to girls without these characteristics[99].

Endline evidence confirmed that economic and financial barriers affected girls' learning. Interviews with project staff suggested that financial barriers cause girls to stay at home and perform labour and household tasks. 27% of girls in project areas work for family farms or businesses, and 22% of households are estimated to be facing heightened degrees of economic hardship[100]. Average mathematics grades of girls who live in households facing economic hardship decreased from the

[98] See Learning 3.1.1 for further detail.
[99] GEC MEL Framework – Making Ghanaian Girls Great! (MGCubed), (2019).
[100] Calculated through a 4-point hardship scale.

start to the end of that academic year compared to an average increase in mathematics grades among their peers.

When household income was low, parents and caregivers prioritized other objectives over girls' education. For example, parents can encourage girls to marry as a way of overcoming financial difficulties that prevent them from going to school[101]. Parents and caregivers also said there was a perception that boys share their success with the household, but girls will benefit their husband's household[102]. Parents and caregivers also discussed that children in single parent households are less likely to attend school because of the loss of income[103].

Some boys and girls worked to complement household income and missed school as a result. Girls and boys systematically miss school because of work[104]. According to qualitative data, boys usually stop going to school to make "*quick money*"[105] for themselves, or to find day jobs[106], such as working fishing[107] or construction[108]. According to MGCubed facilitators, girls go to work in trading activities[109], and this is often the case for girls who do not live with foster rather than biological parents[110].

Facilitators explained that working girls and boys are already tired before coming to school and find it difficult to engage with the lesson content as a result[111]. Findings in the Transition Chapter highlighted that girls who worked, even if for the family business or farm, tended to be less successful at transitioning in school.

Children with disabilities were stigmatized by other children when participating in activities outside of school, and their caregivers prevented them from participating in certain social events as a result. Many girls with disabilities mentioned in interviews that they had negative experiences when relating to other classmates, especially outside school, suggesting that other children stigmatize them because of their disability.

A girl with a disability shared: *"Outside class, I am not allowed to mingle with a classmate because they end up ridiculing me*." Another girl with a disability said she has come to accept her condition and does not "*bother to participate*[112]."

Caregivers of girls with disabilities mentioned that they are reluctant to let their girls participate in activities where other children are involved because they are often left out and bullied for their differences: "*She's always looking forward to interacting with her friends at school as in play with them, but the kids would usually exclude her from their activities. I have even advised her not to go around them and try to play with them, because they always make her feel she is not part of them and even in some instances bully her*[113]."

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[101] FGD with Caregivers on teaching quality, Remedial Lessons and Life Skills, Oti Region#2
[102] *Ibid.*
[103] FGD with caregivers on teaching quality, Remedial Lesson and Life Skills, Oti Region#1
[104] FGD with Facilitators on Barriers to Education
[105] FGD with Facilitators on Barriers to Education
[106] FGD with MGCubed Girls, Oti Region, #1
[107] FGD with Facilitators on Barriers to Education
[108] FGD with Facilitators on Barriers to Education
[109] FGD with Facilitators on Barriers to Education
[110] FGD with Facilitators on Barriers to Education
[111] FGD with Facilitators on Barriers to Education
[112] KII with a girl with disability
[113] KII with a caregiver of a girl with disability-Oti region

10% of girls with disabilities did not feel that they had support from their caregiver to join after-school clubs compared to 1% of non-disabled girls. This does not mean that caregivers have an apprehension about MGCubed after-school clubs, rather, parents and caregivers of girls with disabilities are wary of their child's rejection during social activities.

Half of the girls sampled spent significant time completing household chores. This was associated with low parental support for girls' education. While there were numerous factors that might have influenced the level of support parents and caregivers express for girls' education, these attitudes can influence the way parents and caregivers behave towards girls at home. For example, 43% of girls who had parental support at home spent 1 or more hours doing household chores, compared to 58% of girls who did not have parental support at home.

This is likely one of the key reasons why boys outperform girls in-school. Girls do not have equal time for learning and studying as boys, and when they are in school, girls are often tired or have poorer attendance due to their responsibility for household chores and supporting their caregivers with farming and selling items at local markets. This finding was confirmed by qualitative evidence, with girls mentioning they had little time to rest or complete their homework because they have a high chore burden at home.[114]

On average, caregivers reported that their daughter spends 63 minutes doing house chores on a school day. Duties included caring for younger or older family members, doing housework, fetching water, helping with agricultural work, or helping with a family business or work outside at home.

Quantitative findings showed that:

- Having a disability was associated with experiencing hardship[115] and having to work in the family business or farm[116]. Having a disability was also associated with having low self-esteem[117] and having low academic self-efficacy[118].
- Being out-of-school was associated with experiencing hardship[119], having to work in the family business or farm[120], and having caregivers that do not have supportive attitudes towards girls' education[121]. Being out-of-school was also associated with having low self-esteem[122] and having low academic self-efficacy[123].
- Being pregnant[124] or a young mother[125] was associated with having caregivers that do not support girls' education.

[114] FGD With in-school girls on Covid 19 and school closure.
[115] $p<0.05$
[116] $p<0.001$
[117] $p<0.001$
[118] $p<0.05$
[119] $p<0.05$
[120] $p<0.05$
[121] $p<0.001$
[122] $p<0.05$
[123] $p<0.001$
[124] $p<0.001$
[125] $p<0.001$

- Being from a language minority was associated with living more than 30 minutes by foot from school[126], experiencing hardship[127], having to work in the family business or farm[128], and having caregivers that did not have positive attitudes towards girls' education[129].

- Girls with disabilities were twice as likely to be put to work for the family business or farm. 53% of girls with disabilities worked on the family farm compared to 25% of girls without a disability. The majority of had difficulties seeing, concentrating or self-caring.

Through the performance story workshop, the evaluators gathered MGCubed management and implementation staff's views on barriers addressed by the project and how these barriers changed pre-implementation, post-implementation, and after COVID-19[130].

Table 9. Summary Barriers According to Project Implementers Throughout the Project

Level	Pre-Implementation	Post-Implementation	Post-Covid
School	• Shortage of trained teachers was linked to poor teaching quality • Teacher absenteeism • Lack of learning resources and infrastructure • Lack of strong school leadership • Unwillingness of teachers and headteachers to support the project **The second category included barriers directly related to students:** • Lack of crucial school supplies for students • Low self-esteem and confidence of girls both in school and in the community • Low levels of transitioning for girls • Lack of basic computing knowledge • Lack of interaction between girls and boys during breaktime • Student absenteeism • Difficulty addressing the learning needs of all children	**Issues relating to the technology:** • Connectivity issues • Poor sound and image quality • Instruction language • Other demands on students' time (especially girls and young mothers) • Stigma toward children with disabilities • School leaders excluding community input when drafting plans to improve learning outcomes	• Availability of appropriate PPE • Difficulty of some schools to become COVID-19 safe (risking the spread of COVID-19) • Teachers not adequately prepared to deal with post-COVID teaching • Fear of being in a crowd • Loss of potential learning gains • Teacher ability to handle workload • Outside actors' limited access to schools during closures • Difficulties assessing learning when children are not in school • Time needed for students to catch up on lessons • Lack of teacher commitment • Increased limitations on reporting SG pathways as children lost direct contact with the MGCubed facilitators due to school closures • Reduced class sizes • Low attendance

[126] $p<0.05$
[127] $p<0.05$
[128] $p<0.001$
[129] $p<0.05$
[130] These will be addressed more specifically in each of the chapters of the report. See Table 9.

Level	Pre-Implementation	Post-Implementation	Post-Covid
Community	• Low-income households, in extremely challenging circumstances, prioritizing one child's learning above another, or pragmatically focusing on ensuring that their child has a future planned (planning for a girl's marriage and family as a form of perceived stability) • Lack of understanding about issues affecting children with disabilities • Lack of functioning of School Management Committees (SMCs) and Parent Teacher Associations (PTAs)	• Poor road network preventing children from accessing schools • Cases of known theft of MGCubed equipment from schools • Lack of enabling actions (from the community) to include children in schools, even though there is much greater awareness about the importance of doing so. • Other demands on children's time (especially girls and young mothers) • Stigma toward children with disabilities	• Impossibility of reaching all project participants • Impossibility of assessing degree of support children are getting for their learning and from whom • Pregnancy and dropout • Economic slowdown due to the impact of COVID-19 • Limited access to distance learning education products (TV, decoders, or radios) • Lack of financial resources to learn at home or return to school • Lack of commitment by some parents to support pupils, especially girls, with school needs • Parents overburdening girls during school closure • Increase in teenage pregnancy (children reporting about their friends) • Lack of awareness of IECs in some languages (could not be translated into languages which are only spoken and not written) • Communities and caregiver misconceptions about COVID-19 and wariness of returning to school for fear of infection • Lack of parental support for return to school because of needing help for trading/farming • Greater safeguarding risks (especially girls, however, this is hard to track) • Lack of support/training for parents/caregivers support/training to help children learn at home • Teachers and facilitators leaving school communities to return to their home communities • Children entering income generating activities and not returning to school • Girls being married or co-habiting with men who may stop them from going back to school • Caregivers relocating
System	• Syllabus/curriculum issues • Poor posting of teachers • Lack of training and resources for District Education Offices (DEOs) to monitor student centred lesson delivery • Inability of headteachers to support teachers' continuous professional development • Rigid school timetable fixed by the Ministry of Education (MoE) limiting the time for project intervention	• Lack of resources and training for DEOs (also cited as a barrier at pre-implementation on a system level) • Teacher fatigue • Low level of involvement from district level stakeholders	• Devising a distance learning program that reaches all children (most of it is dependent on households/children having access to technology) • Challenges measuring the national reach of GLTV because the project has not had access to GLTV channel viewing statistics and therefore it is not clear how many children or households may have watched the lessons (unclear if this data exists) • Inability of GES/GHS to deal with widespread COVID outbreak in schools • Inability of the government to supply all schools with COVID-safe equipment • Lack of support for teachers from the government during COVID (financially and in terms of maintaining their skills) • Failure of GES teachers to support at-home learning in a systematic manner • Lack of access and training for GES teachers for supporting remote learning • Persistence of some coronavirus restrictions in schools • Absence of DEO plans to support the re-enrolment of most vulnerable learners after school closure • Delay in delivery of PPE to school by GES • Lack of funding from GES to sensitize caregivers on the importance of home learning • Lack of CPD opportunities for teachers during school closures • Use of paper templates for GES monitoring (makes data analysis and identification of vulnerable cases difficult) • Difficulty of schools in enforcing safe re-opening according to guidelines of MoE

These barriers and their relationships to outcomes are explored in more detail in the chapters of the report.

3.3 Project Summary

Summary of Performance Story. The GEC-T defines educational marginalization as "*both an outcome and a process through which individuals or groups are systematically denied their right to acquire academic or social capabilities through education resulting in their exclusion from social institutions, civic processes, and economies.*[131]" The MGCubed project aimed to support girls to fulfil their right to quality education and actively participate in society. Interventions focused on **sustainable** improvements in girls' **learning**[132] and in their **transition** to the next stage of education.

Project Summary. The MGCubed project supported 14,132 girls and 11,435 boys across 72 basic schools[133] in the Greater Accra and Oti Regions of Ghana. Before the GEC transitions window (GEC-T), the first phase of the MGCubed project was implemented by the Varkey Foundation under GEC1, which ran from August 2013 to April 2017 and supported primary pupils in Primary 2 to 5. Later on, through the GEC-T funding window, the project was extended to run from May 2017 to September 2021. The Varkey Foundation implemented the project until October 2019, when it was transitioned to Plan International UK. The project has since been implemented by Plan International Ghana.

3.3.1 Theory of Change

Rationale. The general assumption of MGCubed's Theory of Change (TOC) is that transitions to secondary school are the key to marginalised girls furthering their education and subsequently living healthy, fulfilled lives with the ability to sustain themselves materially and socially. To ensure this transition occurs and is sustained, key actors involved in a girl's educational journey need the capacity, opportunity, and motivation to support this process[134]. Sharing learning and knowledge derived from the project with key stakeholders involved in girls' education in an important mechanism for equipping actors to reach these goals[135].

Main Outcomes. The project's objective was to make contributions towards three main outcomes, namely (1) improving **learning** in project's schools, (2) supporting girls to successfully **transition** within and to secondary school, and (3) contributing to **sustained improvements** in the Ghanaian education system.

Intermediate Outcomes. This is possible when the project achieves five intermediate outcomes, namely:

[131] GEC-T (2018) Thematic Review: Educational Marginalisation Part 1
[132] Literacy and numeracy.
[133] Basic schools are primary schools and JHSs (first three years of high school).
[134] MEL Framework
[135] KII with project staff

Figure 7. MGCubed at a Glance

1. Marginalised girls are incentivized to **attend school more regularly**, and OOSG are incentivized to return to/begin attending school

2. **Teaching quality is improved** as a result of engagement with and support from MGCubed Studio Teachers and teacher training

3. **Marginalised girls build transformative non-cognitive skills** which allow them to make the most of their education

4. **School leaders are incentivized and able to introduce sustainable school-level changes** that support girls' learning and transition, supported by the DEO

5. **Community members show increased awareness and understanding** of the benefits of girls' education and transition

Main Assumptions. This logic assumes that, by improving both the quantity and quality of education provision in literacy and numeracy and by enhancing girls' personal and inter-personal skills, girls' attendance and learning outcomes will improve. With better learning outcomes, girls will then have a greater chance of transitioning into secondary education, the completion of which will help girls to participate in social processes and overcome barriers to education[136]. These processes should be supported by positive learning environments both in school, through improved management and sustained district-level support, and at home, through improved attitudes towards girls' education and parental support[137].

3.3.2 Activities and Outputs

Outputs. To accomplish intermediate outcomes, the project delivered the following outputs before and after the outbreak of the COVID-19 pandemic:

1. Gave learners access to educational literacy and numeracy content through high-quality remote instruction[138]

[136] MEL Framework, p.8
[137] KII with Project Staff
[138] Output 1.

2. Upgraded the pedagogy of MGCubed facilitators[139] and teachers through studio-based training on subject knowledge, subject pedagogy, and home learning[140]. After COVID-19, the project also provided basic training on Psychological First Aid (PFA), stress management, and wellbeing for the MGCubed facilitators and GES teachers

3. Trained and supported MGCubed facilitators to organize interactive after-school clubs and remedial lessons designed to address wider barriers to learning and to build the necessary life skills to transition into the next stage of the educational journey[141]

4. Prior to COVID-19, provided cash transfers to girls transitioning from Primary 6 to JHS1 to help them overcome financial barriers to transitioning[142] and trained DEOs on how to monitor their use. As part of the project's COVID-19 response, the distribution of cash transfers was expanded to include other grades and particularly vulnerable sub-groups including young mothers, pregnant girls, and children with disabilities

5. Worked the with GES and the NaCCA to broadcast primary and secondary school lessons nationwide though GLTV and keep students learning during school closures and afterwards. Distributed TV sets, satellite-decoders, and home learning packs to households, to make sure all students had access to learning opportunities during closures

6. Used local radios and information centres to disseminate back-to-school announcements once schools re-opened in January 2021.

7. Provided leadership training to headteachers, PTA members, and SMC members on strategies to support girls' education.

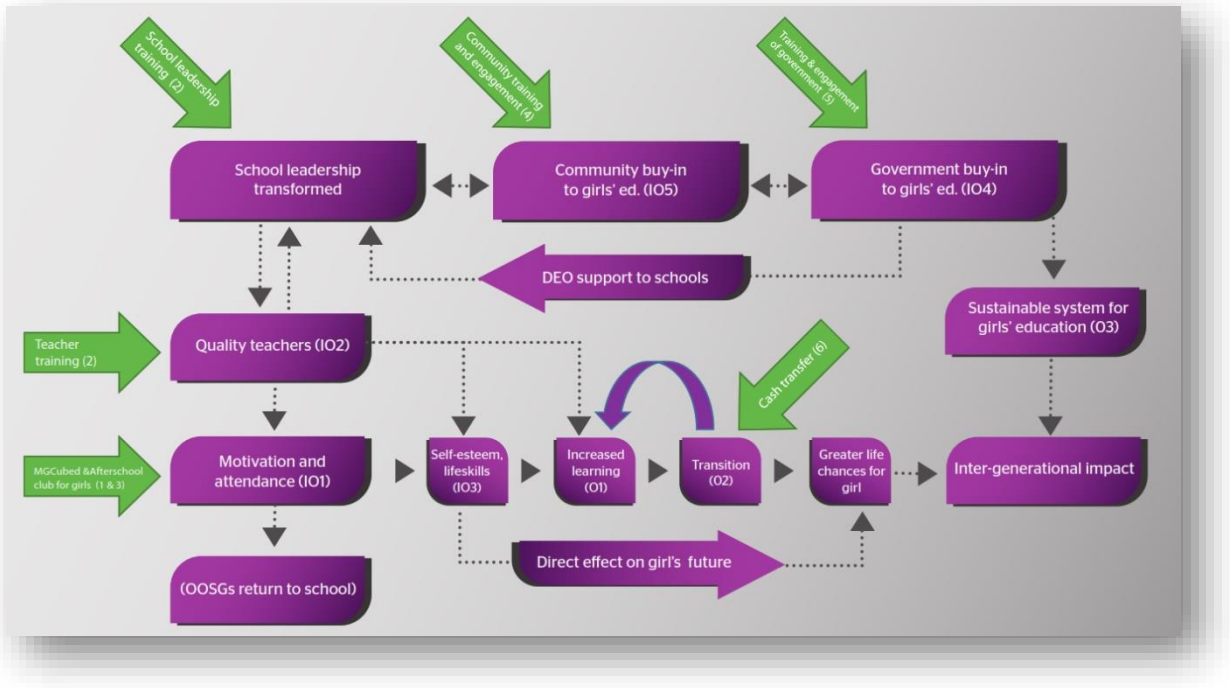
8. Trained communities on why girls' education is important and how to support it, including training on relevant topics that included school governance, child protection, and safeguarding to PTA and SMC members[143]

9. Gave studio-based leadership training to DEOs to monitor teacher performance and provide support

10. Worked with the MoE at the national level to integrate key project components into government structures to further promote girls' education and equity policies. For example, advocated for the use of distance learning for students and teacher professional development as well as for the use of after-school clubs as a model for extra-curricular activities

[139] MGCubed facilitators are Ghana Education Service teachers working in MGCubed schools, who teach according to the regular timetable during the school day. These facilitators are engaged as part of the project to facilitate the online remedial lessons that are delivered by the Master Teacher Trainers and broadcast in classrooms after the end of the school day. Facilitators are present in the classrooms during these broadcast lessons and support the students to follow content and engage in tasks. There are three facilitators per school (216 in total) - one for the basic level remedial class (P3 & P4), one for the intermediate remedial class (P5 & P6), and one for the advanced remedial class (JHS 1). Regular teachers as the other Ghana Education Service teachers teaching in MGCubed schools who did not receive training to become MGCubed facilitators.
[140] Including trainer recruitment and training, content, and design of teaching and learning materials. Output 2.
[141] Output 3.
[142] Output 6.
[143] Output 4.

Figure 8. MGCubed's Theory of Change[144]



3.3.2.1 The Distance Learning Model

The MGCubed project delivers educational content to children through satellite-enabled distance learning technology in all 72 project schools.

Master Teacher Trainers (MTTs)[145] deliver the MGCubed lessons from the studios in Accra, which are broadcast into classrooms using classroom-based technology. MTTs are highly skilled and experienced teaching professionals who also deliver teacher training content to MGCubed facilitators and classroom teachers and mentor some lower-performing facilitators. MTTs also facilitate the after-school clubs – Wonder Women, Boys Boys, and Mixed Clubs – that are broadcast into classrooms and facilitated by MGCubed facilitators. In addition, MTTs provide face-to-face training once a year for MGCubed facilitators and deliver online training to all teachers in the project schools once a term.

MGCubed facilitators are GES teachers, who teach according to the regular timetable during the school day. These facilitators facilitate online remedial lessons and after-school clubs delivered by the MTTs that are broadcast into classrooms after the end of the school day. They are present in the classrooms during these broadcast lessons and support the students to follow content and engage in tasks.

There are 3 facilitators per school (216 in total) - one for the basic level remedial class (P3 & P4), one for the intermediate remedial class (P5 & P6) and one for the advanced remedial class (JHS 1). The facilitators for primary school have been engaged since GEC-1, but the advanced facilitators

[144] MGCubed MEL Framework. p.13
[145] Sometimes also referred to as Studio Teachers.

only became part of MGCubed for GEC-T. Facilitators also manage the after-school club sessions which are broadcast into classrooms. They receive a stipend from the project for this extra work.

Facilitators receive regular training from MGCubed to support their professional development and lower-performing facilitators are mentored by MTTs. Facilitators are also involved in certain aspects of project delivery and monitoring. For example, they were engaged in conducting learning conversations over the phone to support children during school closures.

Every term, MGCubed also trained **regular teachers**, who are other GES teachers in MGCubed schools. They do not receive the same level of professional development support as MGCubed facilitators. For the teachers who teach English or mathematics in P3-P6, classes are delivered by the MTTs and broadcast into their classrooms during the ordinary school day. These lessons are known as MGCubed 'by-grade' lessons.

4. Main Outcome Findings

4.1 Learning

To understand the project's contribution toward learning improvements at endline, evaluators collected term grades for the last 6 terms for both English and mathematics from records in project schools.

Due to ethical concerns that literacy and numeracy assessments would increase the burden on girls so soon after schools re-opened, the project team and FM decided not to collect learning assessment data. Therefore, the evaluation chose term grades as a proxy to understand learning changes in the absence of learning assessments.

The collected grade data covered the last full 6 full terms; 5 terms preceded COVID-10 school closures and 1 term succeeded school re-openings[146]. Grades are expressed in percentage points with the highest grade being 100%.

Grade level data was collected for the following terms at the individual level for girls in the evaluation sample[147]:

- Terms 1 -3 of the 2018-2019 academic year[148]
- Terms 1-2 of the 2019-2020 academic year[149]
- Term 1 of the 2021 Academic Year[150]

Due to ethical concerns, the FM and project team decided to not collect grade level data for a control group. At endline, a meaningful comparison group could not be established because it would have placed an unnecessary burden on control schools to provide this data soon after school re-openings in addition existing changes that were required for health and safety.

This limits the extent to which changes in term grade level data can be attributed to the project directly. However, the study explored the effects of different activities on term grade changes to understand whether activities supported these outcomes.

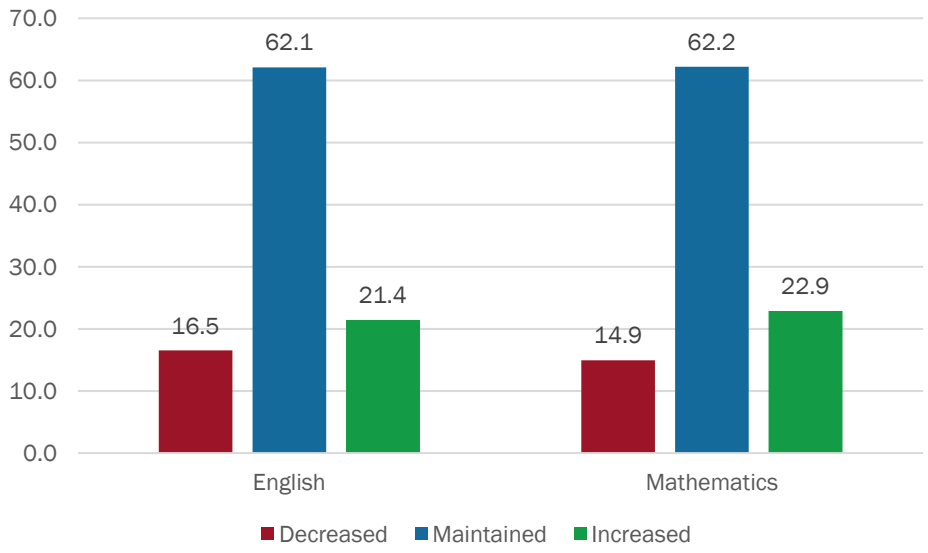
[146] Exams sat March 2021.
[147] Additional data was collected for these girls at the individual level through the household survey, the girls survey, and the attendance tool
[148] T1 Sep-Dec; T2 Jan- Apr; T3 Apr-Jul (year 3 of the project, corresponding to the midline).
[149] T1 Sep-Dec; T2 Jan-Apr (year 4 of the intervention).
[150] Began in January 2021, following school closures. T1 Jan-Apr (year 5 of the project, corresponding to the endline).

Girls were presumed to have had the same teacher for the same subject within the same academic year. While the content covered between terms differs, term grade results are a common measure, typically interpreted through a school report card and widely used to provide an indication of student progress in school.

The project supported girls to largely maintain existing learning levels throughout school closures.

62% of girls maintained their English literacy levels between Term 2 of the 2019-2020 academic year and Term 1 of the 2021 academic year. 62% of girls also maintained their mathematics levels between these periods. There are no statistically significant differences between mean mathematics or English term grades for girls between academic year 2019-2021 and the first term of the 2021 academic year[151], indicating mean levels of these outcomes between the two periods did not change[152].

Figure 9. Term Grade Changes by Subject between School Closures and Re-opening



The project team enacted several supports to ensure girls were able to continue learning during school closures. These included the provision of decoders so girls could access GLTV, among a wide range of adaptations discussed throughout this report.

The provision of decoders and GLTV supported most girls to continue learning during school closures.

By endline, 63% of girls in project schools had received a decoder through the project. 61% of girls reported watching GLTV to help them learn during school closures, and 57% of girls reported spending 1-2 hours each day studying during school closures[153], suggesting that decoder provision was a highly successful intervention.

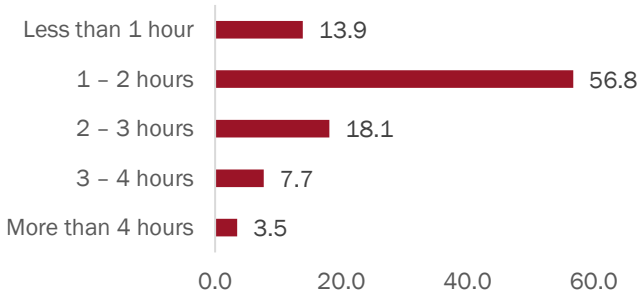
[151] Paired samples t-test insignificant indicating no difference in means between periods.
[152] See Figure 9.
[153] See Figure 10.

Watching GLTV during school closures supported girls to have higher mathematics grades when schools re-opened.

Watching GLTV resulted in girls scoring an estimated 11% higher on their next end-of-term mathematics grade than girls who did not watch GLTV in project schools[154].

Although there are some limitations on the extent to which internal grade data is directly comparable between school closures and school re-openings, these findings indicate that project activities supporting GLTV may have had an effect in supporting numeracy outcomes.

Figure 10. On average, how much time a day did you spend learning or studying during school closures? (% girls)



Findings from MGCubed internal monitoring suggest that girls' perceptions of their learning levels shifted over time as they had more exposure to learning support at home.

In data collected early in the pandemic[155], 46% of MGCubed girls felt they were progressing in their learning, while 41% felt they were not. In data collected between soon after schools reopened[156], 61% of girls reported that their numeracy was improving and 58% reported that their literacy was improving.

While re-enrolment after schools opened in Ghana was surprisingly high, learning levels did decline during school closures, standing in stark contrast to changes in learning levels among girls targeted by this project, further indicating the project's likely contribution to these outcomes[157].

The project supported girls to improve their English and mathematics levels between baseline and midline.

Comparisons of mean grades indicate that girls performed better in Term 3 than Term 1 of the 2019-2020 academic year in both mathematics and English at statistically significant levels[158]. On

[154] Model: df= 1, N=395, p.<05; Indicator: B=10.593, S.E = 5.050, p<0.05.
[155] May-Aug 2020.
[156] Mar-Apr 2021.
[157] *School closures may have wiped out a year of academic progress for pupils in Global South, study warns*. (2021, March 9). University of Cambridge. https://www.cam.ac.uk/research/news/school-closures-may-have-wiped-out-a-year-of-academic-progress-for-pupils-in-global-south-study
Ganju, C. K., Dana Schmidt, and Erin. (2021, September 22). What do we know about the effects of COVID-19 on girls' return to school? *Brookings*. https://www.brookings.edu/blog/education-plus-development/2021/09/22/what-do-we-know-about-the-effects-of-covid-19-on-girls-return-to-school/

[158] English p<0.05; Mathematics ;<0.05, n=595; paired samples t-tests indicate that mean differences between term 1 and term 3 for mathematics grade and between term 1 and term 3 for English are statistically significant.

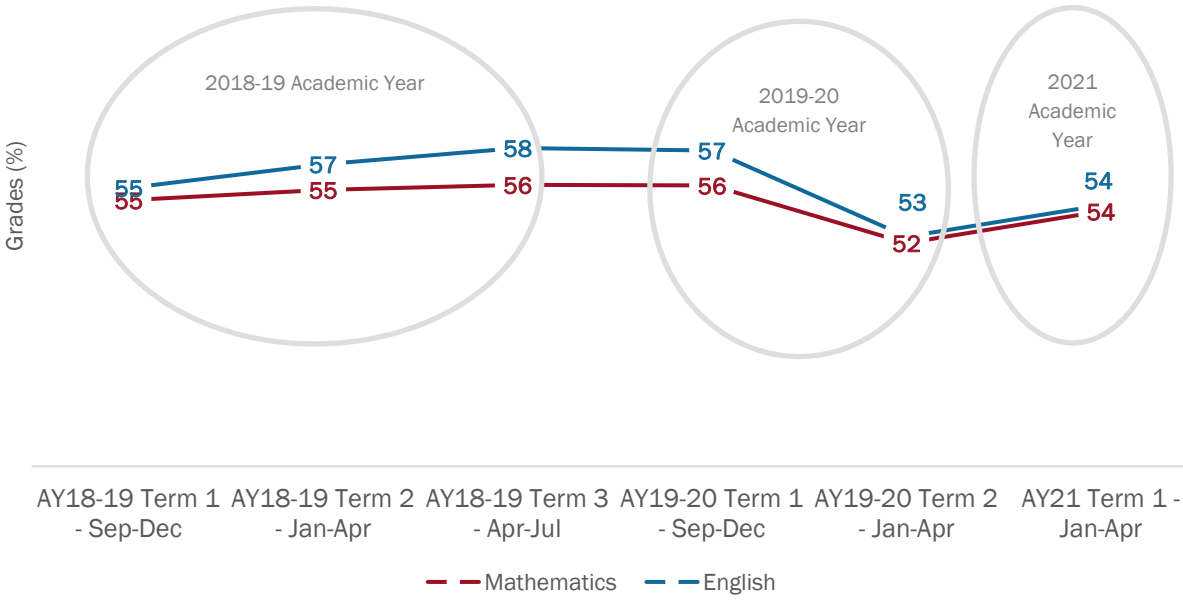
average, English grades in Term 3 were 2.4% higher than English grades in Term 1 for girls in project schools. Mathematics grades in term 3 were, on average, 1.0% higher than mathematics grades in term 1. This evidence corroborates findings from midline.

Results after midline and before schools' closures are mixed with indications that *some* girls experienced decreases in learning levels, although decreases were not statistically significant. However, there is evidence that the project may have supported girls to maintain their existing English literacy and mathematics levels between school closures and re-openings.

The project impacted girls' literacy and numeracy outcomes between baseline and midline.

The project team conducted a randomised control trial between baseline and midline to assess impact on literacy and numeracy outcomes[159]. The model demonstrated that the project resulted in girls improving their literacy by 1.16% more than improvements experienced by the control group[160]. The model for numeracy indicated that the project resulted in girls improving their numeracy score by an additional 0.69% compared to girls in the control group[161].

Figure 11. Mean term grades by subject in project areas



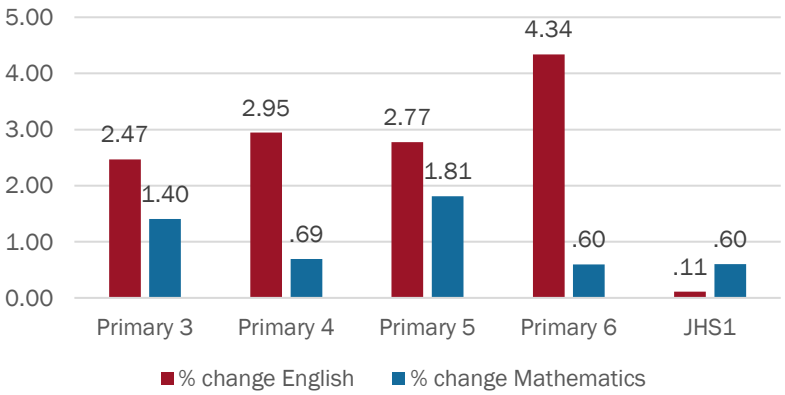
A review of school report card grade data for the 2018-2019 academic year indicates that girls in most grade levels improved their English and Mathematics term grades between Term 1 and Term 3 of that year.

[159] This method compared the extent to which individual changes in learning scores for girls in project schools (treatment) was greater than the individual-level changes of girls in non-project schools (control).
[160] MGCubed Midline Report p.8
[161] *Ibid.*

For English literacy, the greatest average change across grade levels was at endline among girls in Primary 6. On average, girls in this grade level improved their English literacy score by 4.34% between Term 1 and Term 3 of the 2018-2019 academic year, when they were in Grade 4[162].

For numeracy, the greatest mean change across grade levels was for girls in Primary 5 at midline who improved their mathematics grades by an average of 1.81% between Term 1 and Term 2 of the 2018-2019 academic year.

Figure 12. Mean Change in Term Grades from T1 to T3 AY18-19



There were no significant changes between changes in English or mathematics between Term 1 and Term 2 of the 2019-2020 academic year[163].

Several factors influenced girls' learning outcomes.

Remedial lessons shifted girls' attention to learning at home.

In qualitative sessions, caregivers reported that the project's remedial lessons provided an opportunity for children to spend their free time on learning rather than spending time at home idly: *"They always have a lesson to do or an assignment to complete. If not for that, they will just enter town and come home any time they like. The program has helped the kids to stay focused and study. After school, instead of going to play, they are engaged with the remedial lessons, and this is helping a lot"*[164].

Remedial lessons and clubs that taught English increased girls' confidence to speak the language.

In FGDs, girls shared that they appreciated learning phonetics and how to pronounce words in English properly. Girls also reported that they felt comfortable speaking and making mistakes because the facilitator took time to correct them, and others would not laugh at them.

[162] Barring grade a minority of grade repeaters. See Figure 12.
[163] Paired samples t-tests examining changes in mathematics and English grades between Term 1 and Term 2 of the 2019-2020 academic year were not significant, indicating that although there are slight, visible decreases, grades between Term 1 and Term 2 are largely similar.
[164] FGD Caregivers on COVID 19 and School Management -OTI Region

Because of this supporting environment, girls concluded that remedial lessons helped them increase their confidence in reading and speaking in English. This was especially important for girls from minority linguistic groups such as Likpakpa, Kotokoli, and Guan[165].

Girls who had someone help them study at home were better supported to maintain or improve their English literacy outcomes during school closures.

Having someone who directly supported girls' at-home learning resulted in improved English grades between schools closing and re-opening by an additional 2.71%[166].

Girls who had access to someone who supported their at-home learning also had, on average, higher English literacy gains between school closures and re-openings. This evidence suggests that having access to a helper has a positive impact on girls' learning, regardless of whether the help is actually used.

Girls with access to at-home learning support had an average increase of 1.9% in English grades compared to an average decrease of 0.9% amongst girls who do not[167].

These findings provide compelling evidence that the home learning environment and parental/caregiver play a role in supporting girls' learning outcomes.

The project supported young mothers to sustain their learning levels.

Although English and mathematics scores remained relatively stable for young mothers, young mothers, on average, experienced greater improvements than non-mothers between periods[168].

Young motherhood was a statistically significant predictor of improvements in English literacy between Term 1 and Term 3 of the 2018-2019 academic year[169] and between term 1 and term 2 of the 2019-2020 academic year[170].

On average, young mothers increased their English literacy grades by 2.07% compared to 1.47% for non-mothers in the 2018-2019 academic year.

In the academic year 2019-2020, the difference was even starker with young mothers increasing their English literacy grades by an average of 12% compared to an average *decrease* of 1.3% among non-mothers.

Following midline, when young mothers were found to have significantly lower learning outcomes than other girls, the project team aimed to increase support for young mothers and conducted additional MEL activities to understand the specific barriers they face.

[165] KII with special linguistic group -Oti region
[166] Statistically significant predictor according to linear modeling ($p<0.05$).
[167] Mean differences are statistically significant according to independent samples t-test results.
[168]When aggregating term scores by year, we find that young mothers (n=17) had a mean mathematics score of 62.7% in 2018-19, 66.0% in 2019-20 and 62.2% in 2021. Young mothers' English scores remained relatively stable over time at 62.7% in Year 3, 61.7% in Year 4, and 58.3% in Year 5 while in absolute terms these percentages are different, these differences are not significant according to paired sample t-tests, suggesting that the scores are similar across time.
[169] $p<.05$; Beta=6.581; R square=.009 df(1)
[170] $p<.05$; Beta=13.32; R square=.015; df(1)

In response to these findings and as part of the project's COVID-19 response, the cash transfer component was expanded to include young mothers in recognition of the increased hardship they faced from the pandemic.

Young mothers were also specifically targeted by the project's 'learning conversations' during school closures, and MTTs provided phone-based support to young mothers on a regular basis.

Interviews with young mothers suggest that after school clubs supported their academic self-efficacy. As one young mother explained, *"At first, I was not getting what I was being taught, but now that [I have attended the club], I have a better understanding*[171]."

Another young mother reported that MGCubed provided her with a decoder to keep learning during school closures. Without the decoder, the girl shared that she *"would have been incredibly sad and would not have come to school*[172]."

These findings suggest that the project's focus on young mothers successfully supported them to maintain and improve their learning outcomes prior to and following the pandemic.

Evidence also indicates that pregnant girls experienced improvements in their academic self-efficacy between midterm and baseline, with 80% of girls who had been pregnant exhibiting reduced anxiety regarding completing mathematics in front of their peers[173].

Across linguistic minority groups, Kotokoli speakers had lower English grades than their peers in every academic year at statistically significant levels, suggesting that they face additional barriers to learning in all periods.

No statistically significant differences were found between Likpakpa speakers and their peers in any period, suggesting that Kotokoli speakers may require more targeted supports and programming in future programming working in project areas.

[171] KII Young Mother Oti Region @2
[172] KII with Young Mother Oti Region @1
[173] n=4, p<0.5

Figure 13. Average English Grades in each Academic Year (%) for Linguistic Minority Groups

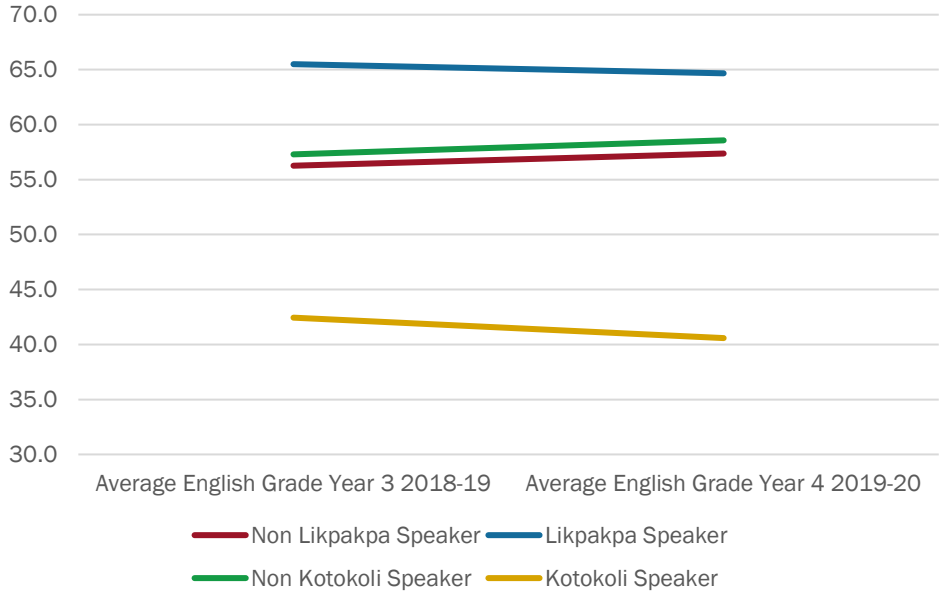
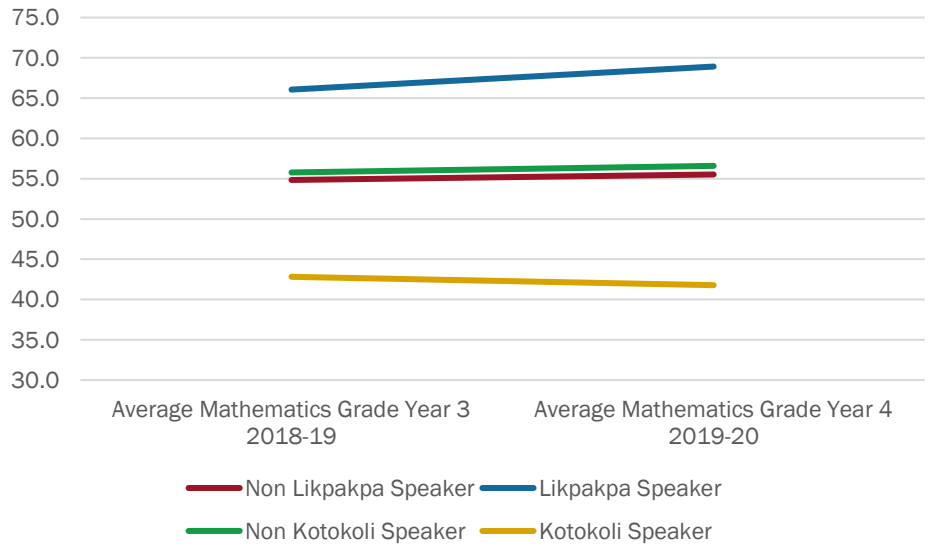


Figure 14. Average Mathematics Grades in each Academic Year (%) for Linguistic Minority Groups



Girls with disabilities increased their average English scores between 2018-19 and 2019-20 academic years, and their mathematics scores between 2019-20 and 2021.

In the 2018-19 academic year, girls with disabilities had an average English score of 66.3%. This average score rose to 69.5% in the 2019-20 academic year, a statistically significant improvement[174].

[174] n=29; t(28)=-2.3, p(2-tail)<.05

Girls with disabilities also significantly increased their mathematics score from 70.5% in 2019-20 to 75.6% in 2021. These differences are also significant[175].

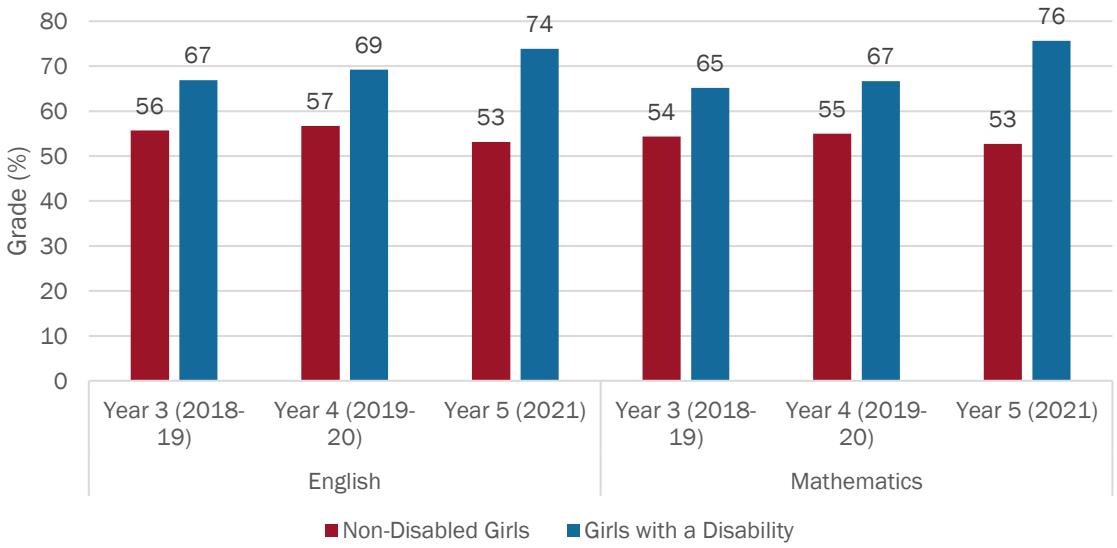
Girls with disabilities also scored higher than girls without disabilities in both English and mathematics.

Girls with disabilities scored higher than girls without disabilities across the three academic years[176].

While this report has discussed several barriers faced by girls with disabilities, this finding suggests that those who have been able to remain in school achieved higher learning levels than other girls in the periods tracked. This may be explained by the fact that girls with disabilities who have persisted over several years in school may have particularly high levels of resilience.

Significant evidence from the evaluation indicates that persistent social norms encourage parents to keep children with disabilities hidden and out of school and that children with disabilities face stigma in schools and communities.

Figure 15. Aggregate Learning Scores for Girls with and without Disabilities (%)



Higher school attendance predicted higher literacy levels for girls at both midline and endline.

Higher attendance levels predicted higher literacy scores at both endline[177] and midline[178]. This finding validated the assumption that attending school more frequently supports learning

[175] Paired-sample t-tests; n=22; t(21)=-5.04, p(2-tail)<.05
[176] N=702 for non-disabled girls and N=32 for disabled girls.
[177] Model: df= 1, N=380, p<.001; Indicator: B=8.54, S.E = .089, p<.001.
[178] Model: df= 1, N=380, p<.001; Indicator: B=0.608, S.E = .064, p<.001.

When schools were well managed, girls had better literacy scores.

Being in a school which was perceived to be well-run resulted in girls having 14% higher literacy scores[179]. This validated the central assumption of the project's theory of change that supporting school leaders to implement girl-specific practices supports improvements in girls' learning.

Having high SRH knowledge was associated with having learning levels[180].

Having high SRH knowledge was a statistically significant predictor of girls' literacy scores and numeracy levels. This may be because girls with low SRH knowledge are more likely to face barriers to learning in school.

High school attendance improved school management were the most powerful predictors of increased literacy outcomes.

Attending school frequently and attending a school deemed to be well-managed were the strongest determinants of improvements in a girls' literacy levels. This suggests that intermediate outcomes had direct and visible effects on girls' learning levels.

4.2 Transitions

Transition is the second key outcome of GEC-T projects and focuses on a girl's journey as she progresses through school. According to the project's definition, a girl is considered to have experienced a successful transition if she:

1. Experienced an in-school grade progression in primary school or in JHS
2. Experienced a successful transition from primary school to JHS (Grade 6 to JHS 1)
3. Was an out-of-school and re-enrolled in school

Unsuccessful transitions occur when girls repeat a grade level, drop-out of school, or fail to re-enrol in school.

To measure girls' successful transitions, girls' education progressions were recorded through the HHS and Girls' Survey by asking participants what they or their child did each year from 2018 to 2021. Responses across multiple surveys were triangulated to correct inconsistencies[181].

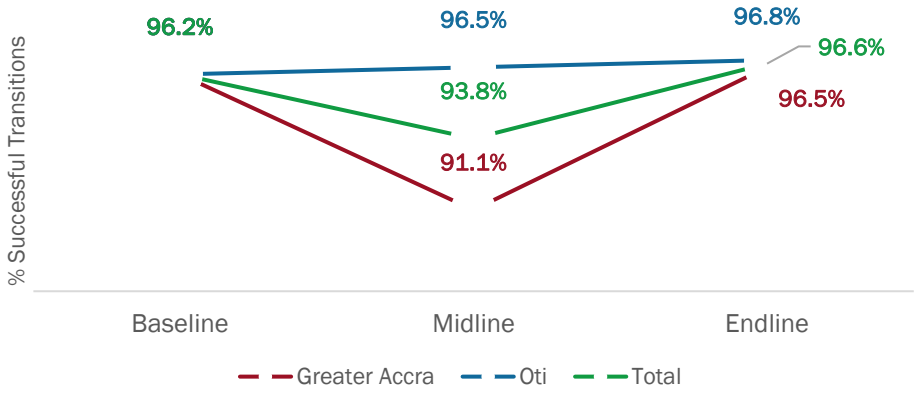
Girls received a score of 1 if they transitioned successfully and 0 if they did not. From this data, evaluators derived the percentage of successful transitions.

[179] Model: df= 1, N=165, p<.05; Indicator: B=14.177, S.E = 6.872, p<.001
[180] Model: df= 1, N=395, p<.001; Indicator: B=5.62, S.E = 10237, p<.001) and (Model: df= 1, N=395, p<.001; Indicator: B=6.197, S.E = 1.0237, p<.001.
[181] Stemming from participants' inability to recall specific information accurately.

The project supported girls to transition successfully.

At midline, the overall transition rate was 94%, and at endline, it was 97%[182]. This contrasts to national statistics that suggest that Ghana's grade repetition rates increased after schools re-opened. The divergence further signals that the project supported girls' transitions[183].

Figure 16. Percentage of Girls who Transitioned Successfully



There were no significant differences between transition rates from baseline to midline, suggesting that transition levels did not change in this early period of the project.

From baseline to midline, the drop in transition rate was higher in Greater Accra than it was in Oti, though the rate recovered just as much by the endline period.

At midline, 94% of girls with a known transition status had successfully transitioned since baseline. Girls who participated in the project had an average transition rate 5.54% points above the control group.

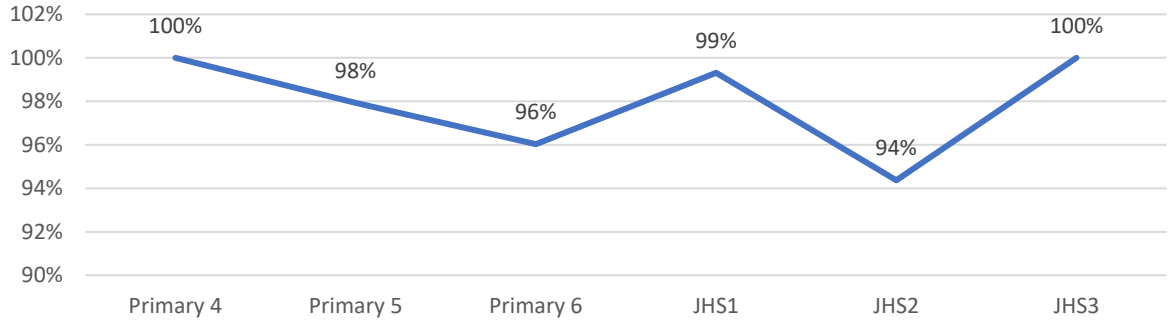
This is a similar result to that which the study obtained at endline[184].

Transition rates were the lowest in Grade 6 of primary school (96%) and in JHS 2 (94%).

In other grades the proportion of girls who successfully transitioned was higher than 98%.

[182] These differences were significant according to McNemar chi-square tests ($p<.05$). See Figure 16.
[183] https://www.cgdev.org/blog/what-happened-dropout-rates-after-covid-19-school-closures-ghana
[184] A different methodology was used at midline to compare the aggregate transition rate of the baseline and midline cohorts. The baseline rate was constructed through a "*combination of surveys, administrative and community level data*"[184], rather than historical survey data as done for the endline.

Figure 17. Percentage of Girls who Transitioned Successfully, by Grade Level (endline rates)

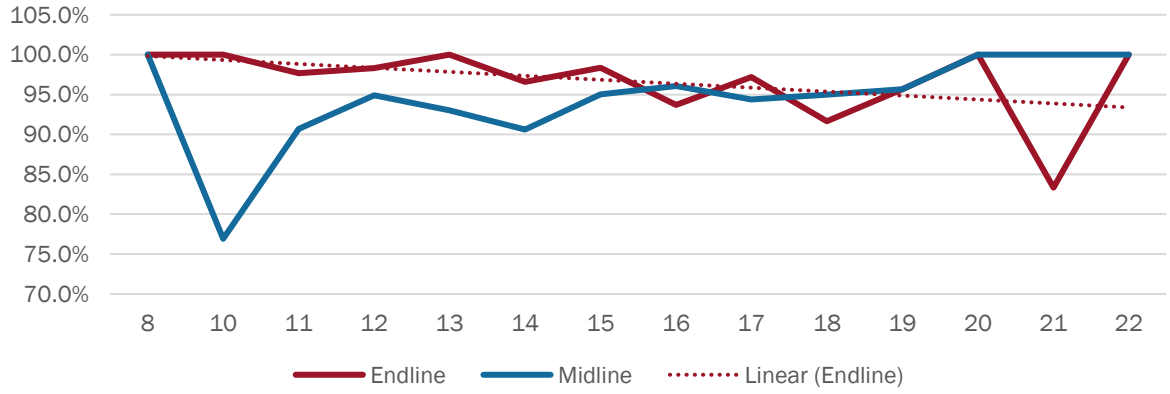


Transition rates slightly declined as girls' ages increased.

At midline, 10-year-olds girls were the least successful at transitioning compared to their peers. Only 77% of 10-year-olds successfully transitioned to the next grade. At endline, the gap was closed and 100% of these girls were able to successfully transition.

Girls aged 21 had the lowest transition rate at endline by a significant margin. Older girls are sometimes over the average age for their grade or more likely to have additional domestic or familial responsibilities, which may account for the lower transition rates amongst this age group.

Figure 18. Percentage of Girls with Successful Transitions by Age Group



Repetition rates increased from 3% to 4% from baseline to midline and remained at 4% at endline.

There were no significant differences between regions.

These repetition rates were higher than the national rates, which was 1.9% for boys and 1.7% for girls. However, national statistics represent the national average rather than the average results in project regions specifically.

The low repetition rates in project areas at endline contrast evidence that Ghana's national repetition rate increased after schools re-opened[185]. This difference signals that the project supported girls to successfully transition, particularly between midline and endline.

Drop-out rates increased from 1% to 2% from baseline to midline.

Girls who were previously in school but had dropped out[186] were considered drop-out cases.

There were no significant differences in drop-out rates between project regions. From baseline to midline in Greater Accra, drop-out rates increased from 1% at baseline to 4% at midline. At endline, drop-out, Accra's drop-out rate fell to 0%, however, this result is not reliable because the endline sample included only in-school girls.

Pregnancy is a primary cause of dropping out.

When discussing the reasons girls drop out of school, many stakeholders agreed that "*pregnancy is a number one cause*[187]." Quantitative findings validated qualitative reports of the barriers associated with early pregnancy.

Sector officials claimed that "*teenage pregnancy in schools [were] declining*," however, many project stakeholders cited pregnancy key cause of girls dropping out of school[188]. Stakeholders reported that pregnant girls in Ghana often face financial challenges due to additional pressures of medical costs as well as the shame associated with early pregnancy in many communities and families.

In qualitative interview sessions, girls shared that the burden of pregnancy usually falls entirely on young mothers: "*Boys run away when they find out that the girls are pregnant. They leave the burden on the girls*.[189]"

81% of girls who had ever been pregnant had significantly lower transition rates than their peers at midline[190]. At endline, the same gap persisted with 81% girls who had been pregnant successfully transitioning compared 97% of their peers[191].

At endline, the rate of teenage pregnancy was higher in secondary schools than in primary schools, but a small proportion of pregnancies occurred while girls were in primary school.

At endline, 1.2% of girls in the primary school sample were pregnant, compared to 2.8% of girls in secondary school. Rates in project schools appear considerably lower than the national percentage of girls aged 15-19 who have had children or are currently pregnant (16% as of 2019), however,

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[185] *What Happened to Dropout Rates after COVID-19 School Closures in Ghana?* (2021, July 6). Center For Global Development. https://www.cgdev.org/blog/what-happened-dropout-rates-after-covid-19-school-closures-ghana

[186] According to responses on the HHS for each period.

[187] *Sex work* refers to the exchange of sex for money or in-kind favours. It is referenced in various ways e.g. "*seek financial support from these area boys*", or "*they have to go and have some favours from these fishermen. They lure them with those things and have sex with them, which ends up in pregnancy*." C.f. FGD with Facilitators on Barriers to Education; FGD with MGCubed Girls, Oti Region, FGD with Facilitators on Barriers to Education #1

[188] Cf. FGD with Facilitators on Barriers to Education; KII with Ghana Sector Education Official

[189] FGD with MGCubed Girls Oti Region

[190] With 94%, p<.001

[191] p<.001

the evaluation's sample was taken from schools while young mothers and pregnant girls tend to be found out-of-school. Therefore, the rate of teenage pregnancy in project regions was much higher.

Young mothers and married girls faced additional barriers to successful transitions.

At midline, 77% of young mothers were able to transition compared to 94% of girls who were not mothers. At endline, the gap was still present, though much narrower, with 86% of young mothers transitioning compared to 94% of girls who were not mothers.

Girls who were married or co-habiting with a partner also had fewer successful transitions. At endline, 50% girls who were married were able to transition compared to 97% of their non-married peers. At midline, 75% of married girls transitioned.

Early marriage is widely accepted as a barrier to girls' transition. Interviews with several project stakeholders, including parents, caregivers, teachers, headteachers, boys, and girls often cited early marriage as a prevalent barrier. Some girls reported that some girls faced pressure from their parents to marry, which sometimes caused girls to drop-out of school.

MGCubed cash transfers supported secondary school girls to transition into JHS.

Most secondary girls believed that cash transfers helped them transition into JHS.

92% of caregivers for girls who received a cash transfer report that the cash transfer helped or will help their daughter enrol in JHS. 92% of caregivers for girls already in JHS stated that the cash transfer supported them to stay in school and 87% mentioned it improved their child's attendance.

This finding suggests that the cash transfer intervention had a direct contribution towards improving girls' likelihood of transitioning between primary and JHS.

Cash transfers supported girls to transition within school.

97% of girls who received a cash transfer were able to transition to the next grade within their school compared to 95% of girls who did not receive cash. These differences were highly significant[192].

At midline, differences between transitions of girls who did and did not receive cash transfers were also significant. 96% of girls who received cash successfully transitioned compared to 89% of girls who did not.

This finding suggests that the cash transfer intervention had a direct contribution towards improving girls' likelihood of transitioning within schools.

The finding is corroborated by caregivers. 92% of caregivers mentioned the cash transfer helped them enrol their daughter in school and 91% of caregivers of girls transitioning into JHS said the

[192] $p<.001$

transfer had an impact on their ability to transition. 88% of caregivers also mentioned that the cash transfer helped their daughter attend school more regularly.

Attendance and cash transfers were the most significant predictors of successful transitions.

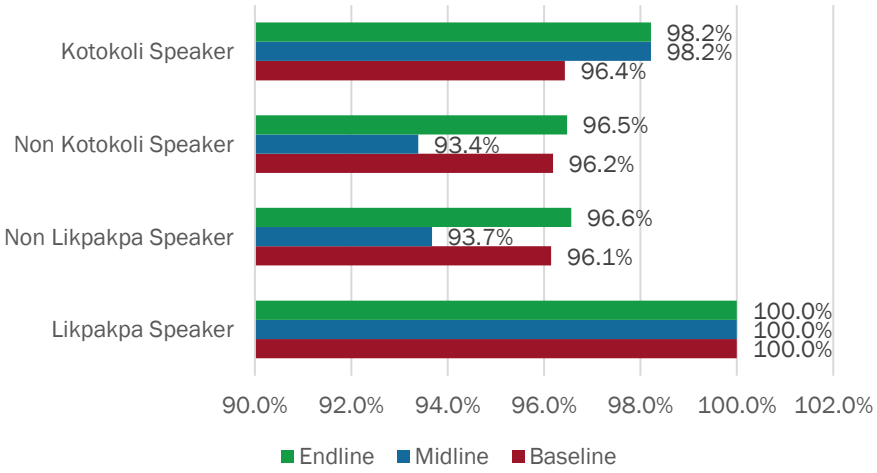
To assess which of the intermediate outcomes' pathways was the most likely to have contributed to successful transitions, evaluators conducted additional statistical testing[193] which found that:

1. **The more a girl attends school, the more likely she will be to successfully transition[194]**
2. **Girls from the tracked cohort who received a cash transfer were 1.3 times more likely to transition successfully**. This means that cash transfers made a direct and significant contributions towards improved transitions[195]

This evidence suggests that the project directly and positively impacted girls' transitions by supporting girls to attend school[196] and providing cash transfers.

There are no associations between successful or unsuccessful transitions and membership a linguistic group. This suggests that girls who are members of linguistic minority groups have similar transition outcomes to their peers.

Figure 19. Percentage of Girls in Linguistic Minority Groups who Successfully Transitioned



[193] Binary logistic regression analyses where we tested whether different combination of outcomes significantly successful transitions at endline
[194] Et attendance rates predicted successful transitions at endline. Model: df= 1, N=395, p.<05; Indicator: B=10.593, S.E = 5.050, p<0.05
[195] Model: chi-square = 7.553, df= 1, N=595, p.<05; Indicator: B=1.364, S.E = .376, p<0.05
[196] This will be explored further in the Attendance chapter.

4.3 Sustainability

This chapter evaluates whether the project contributed to sustainability of educational improvements. Evaluation findings relate to the project's sustainability plan, priority areas for sustainability investments, and suggested adaptations to the theory of change based on opportunities and lessons derived from project implementation.

Teachers and schools to continue using MGCubed's teaching and learning methodology.

The MGCubed project implemented sustainability mechanisms at the schools by fostering long-lasting skills in teachers and school leaders, as well as supporting school-level changes to girls' education.

The project trained facilitators in-person every term on a wide array of topics: psychological first aid, inclusion, subject knowledge, student-centred techniques, mathematical conceptual understanding, phonics, etc. In addition, the project team identified facilitators who needed extra support. Starting in 2020, MTTs conducted additional mentoring phone calls with those facilitators. The project also trained school leaders, including headteachers and executive members of PTAs and SMCs on the MGCubed approach.

Findings from intermediate outcomes show that MGCubed facilitators, headteachers and DEOs considered training on MGCubed approaches to be useful and implemented them in the classroom, with and without classroom-based technology. This is especially the case for child-centred classroom activities that both regular teachers and MGCubed facilitators use in their classroom.

- ✓ *94% of headteachers reported that they encouraged student-centred and gender-sensitive education at their school.*
- ✓ *86% of facilitators felt they could prepare their own lessons without MTTs.*
- ✓ *55% of headteachers reported that their school's SPIP had specific targets relating to girls' successful transitions into secondary school.*

MGCubed provided training and guidance materials[197] that explain how to design and deliver MGCubed remedial lessons and after school clubs. These training packets will remain in schools beyond the scope of the project. Headteachers said these resources have been extremely useful, and headteachers utilized MGCubed materials in their own teacher trainings and will continue to do so.

- ✓ *Headteachers said that TLMs supported them to train teachers are important assets that they will keep after the project ends[198].*

[197] In the form of 72 resource packets.
[198] KII with Head Teacher 1 and 2

The project delivered Training of Trainers (ToT) to teachers who will work with the DEO to cascade knowledge of MGCubed's methodology of after-school clubs and remedial lessons without the use of the technology to other teachers in their schools. The trainers are MGCubed facilitators with years of experience. Through ToTs, the GES can enable teaching staff to make use of classroom-based technology and/or methodologies after the project ends.

The project prepared most facilitators to independently solve technical issues.

In terms of the preparedness of schools to independently solve technical issues, headteachers reported that they remained dependent on project staff to solve technical issues relating to the classroom equipment. However, facilitators demonstrated more confidence that they could address technical issues.

- ✓ *92% of facilitators felt confident in their ability to solve technical issues thanks to technical training. Of the problems they were unable to fix, 41% of facilitators said they did not have sufficient knowledge, 52% required a new equipment to solve the problem, and 7% attributed problems to network connectivity.*

To improve sustainability of classroom equipment, the GES should allocate a sufficient budget for repairing and replacing. The GES should also designate technical support personnel to aid teachers.

Nearly all schools have child protection mechanisms in place.

MGCubed raised awareness among school communities[199] on safeguarding and child protection, which are essential measures for ensuring child safety and ability to access quality learning in schools.

- ✓ *At endline, 99% of Headteachers stated that their schools had child protection mechanisms in place[200].*

The majority of parents and caregivers from MGCubed schools will continue to prioritize girls' education, even in emergency situations.

The project aimed to achieve sustainable change in communities by improving caregivers' understanding of the value of girls' education and how to support girls.

During endline qualitative sessions, a majority of caregivers shared positive attitudes towards girls' education and linked their changes in perspective to the MGCubed project. Parents and caregivers said that MGCubed's community trainings helped them better understand the gender stereotypes and the value of education. Drawing connections between gender stereotypes and views of women and men's roles in society[201], encouraged parents and caregivers to make changes at home to support their girls.

[199] Including with pupils, teachers, headteachers, caregivers, and GES officers.
[200] N=71
[201] FGD with Caregivers on Teaching Quality, GA

Parents introduced changes such as prioritizing schoolwork over housework and distributing house tasks more equally among girls and boys[202]. This change has potential to have a be long-lasting and positive impact on girls' learning and transition.

- ✓ *89% of parents and caregivers prioritized the continued education of their children, even in emergency situations by endline (89% F, 92% M)[203].*
- ✓ *97% of parents and caregivers agreed that investing in their girls' education is worthwhile, even when funds are (97%F; 99%M)[204].*

Boys Clubs had a similar effect for boys, who said that they did not do chores at home before the project. After MGCubed's intervention, boys shared that they started contributing to chores at home because of similar reasons offered by parents and caregivers[205].

Facilitators explained in interviews that the project brought parents, community members, and teachers together and provided a common view on how to support the education and well-being of girls and boys[206].

All DEO Circuit Supervisors and Girls' Education Officers reported that they will continue to use MGCubed monitoring strategies or tools after the project ends.

MGCubed trained DEO officials on monitoring school lessons and sessions. Training was designed to help DEO officers better support school leaders in delivering quality education for girls, boys, and children with disabilities. Together with project staff, DEOs monitored remedial lessons and club sessions.

According to DEO officials, monitoring training helped them build their capacity to monitor lessons and report on student-centred learning and gender-sensitive approaches.

- ✓ *At endline, 100% of DEO officials said that they will continue to use MGCubed monitoring strategies or tools after the project ends[207].*

DEO officials mentioned key areas where training from MGCubed has been particularly useful, the most important of which were methodologies for monitoring and lesson observations. By improving their monitoring and lesson observation skills, DEO officials said they were able to support schools that needed it the most and ensure that their district met targets and did not "*lag behind*."

---

[202] Cf. FGD w caregivers teaching etc 2; FGD with Caregivers on COVID-19 and School Management Oti.
[203] Differences are not significant according to chi-square tests.
[204] N=581, N=138 respectively.
[205] FGD with Boys in Oti
In qualitative findings, parents and caregivers said that the project helped them better understand the value of education, and they made an increased effort to send their child to school, however, there are some parents who still do not see the value of schooling.
In some circumstances, parents encouraged girls to marry as a way of overcoming financial difficulties that prevent them from going to school[206]. Parents and caregivers also said there was a perception that boys will share their success with their household, but girls will benefit their husband's household. Parents and caregivers also discussed that children in single parent households are less likely to attend school because of loss of income.
[206] FGD with MGCubed facilitators, Oti region.
[207] N=48

DEO officials also said that training helped them redefine their own role in the provision of education services as co-educators and helped them build relevant skills that are directly applicable to this role. According to DEO officials, training improved their pedagogical knowledge, informed their perception of child protection, safeguarding issues, and reporting mechanisms, and helped them improve their conflict resolution skills[208].

By working with DEO officials, MGCubed helped institutionalize a system that supports teachers beyond the scope of the project. DEO officials can keep track of the performance of schools, diagnose when issues appear, and provide support if needed. This provides for an excellent mechanism for sustainability.

At the national-level, MGCubed shaped the education sector's priorities on distance learning, school curricula, and teacher training.

At the national level, the project's engagement with the MoE and other actors such as the Centre for National Distance Learning and Open Schooling (CENDLOS) and the National Council for Curriculum and Assessment (NaCCA) helped shape education agendas. MGCubed steered a focus toward content delivery through GLTV, national continuous development programs for in-service teachers through distance learning technology, and the potential use of Wonder Women, Boys Clubs, and Mixed Gender clubs as a viable mainstream extra-curricular activity for nationwide implementation[209].

The project team also shared key findings on MGCubed remedials, including key teacher training, professional development content, and safeguarding and protection across the education sector and provided capacity development for MoE officials across a variety of levels to help them use and adopt the remedial and club materials and approaches.

GES representatives and other stakeholders of the education sector showed interest in adapting MGCubed's model to support teaching and learning in the country as well as other objectives such as in-service teacher training. This interest is demonstrated through the ongoing collaboration between MGCubed and the MoE through its Partnership Agreement, which was based on a *"cordial relationship, collaboration, networking, and consensus building"*[210]. World Bank's Altered Education Outcomes Fund which specified the inclusion of a tech-based approach as a way to mitigate future interruptions to schooling.

School closures in March 2020 due to COVID-19 increased the government's interest using technology to provide lessons and mitigate the potential loss of learning. This resulted in the creation of Ghana Learning TV (GLTV) from the joint work between GES and Plan International Ghana. MGCubed also provided regular technical advice to GES on producing the radio content for Ghana Learning Radio (GLR). The Ghana Library Authority distributed MGCubed's content online through its own app[211].

National GES officials said that this collaboration with the MGCubed project redefined the way they think about distance learning.

[208] Findings drawn from open-item responses in the DEO Survey.
[209] KII with Education Sector Official.
[210] KII with National-Level Stakeholder - 3
[211] KII with Project Staff

The project team identified the following accomplishments[212]:

- ✓ *In 2019, MGCubed supported the revision of school curriculum from kindergarten through P6, with much a stronger focus on literacy, numeracy, and remedial lessons.*
- ✓ *From 2018-20, the project promoted a shift in teacher training, recognizing the importance of ongoing professional development and allowing for in-service training and practice to become part of teachers' regular schedules. NGOs who previously focused on advocating for this approach are now often called on as service providers for teacher development.*
- ✓ *In 2020, driven by the large-scale COVID school closures, the MoE and other members of the education sector relied on MGCubed's satellite-based distance learning technology and worked with the project to deliver distance learning to thousands of children in Ghana. Officials consider GLTV to have been largely beneficial and will likely continue to use it. GES officials explained that during school closures, GLTV was the only way students kept learning.[213]*
- ✓ *MGCubed shared key lessons with NaCCA on what influenced content design, as well as key aspects of the numeracy and literacy remedial courses delivered by MGCubed and GES in mathematics and English.*
- ✓ *MGCubed shared key aspects of the teacher training courses with NaCCA, GES, stakeholders, and professional teaching bodies for their own use.*

National-level stakeholders identified the project's after-school club methodology as particularly well-aligned with the priorities of Ghana's education sector. Officials from the education sector said that the project's work on gender and concepts of masculinity through Boys clubs and mixed gender sessions provided an interesting model for extracurricular activities. Officials suggested that educators can use these models to tackle gender inequalities in their schools and communities.

According to officials, MGCubed after-school clubs have the potential to improve gender relationships from very early on in a child's development and are an interesting methodology to replicate[214]. Stakeholders were interested in how MGCubed after-school clubs focused on the relationships between genders and developed a sense of solidarity between boys and girls while elevating their life aspirations[215].

[212] MGCubed Sustainability Plan.
[213] *Ibid.*
[214] KII with National-Level Stakeholder - 1
[215] KII with national-level stakeholder -2

The project's plan for handing over distance learning technology exemplifies sustainability.

The Centre For National Distance Learning and Open Schooling (CENDLOS) and the GES worked closely with MGCubed and have sufficient expertise to continue using the project's technology to support education in Ghana.

At the project's conclusion, MGCubed will transfer classroom-based assets to GES, which will administer this equipment at the district-level. Project staff trained another GES trainers on the technology's maintenance. In interviews, GES staff stated that they felt well prepared to handle the transition and maintain equipment[216].

The responsibility of managing studios and continues to fund this infrastructure will be transferred to CENDLOS. According to KIIs with project staff, MGCubed will continue to provide technical advice to CENDLOS on the management of assets until one year after the technology is transferred, but CENDLOS will proceed independently after this.

CENDLOS is prepared to take advantage of this technology because it directly relates to their line of work[217]. CENDLOS indicated that they have plans in place to receive the equipment and ensure its protection and safety, the availability of personnel and other staff, and the provision of training on operating equipment[218].

CENDLOS officials are confident that they will be able to secure additional funding from the MoE or from other sources to cover maintenance costs of the studio-based technology. Whether CENDLOS will be able to secure additional funding or not might also be a driving or hindering factor in the continuation distance-learning technology. However, CENDLOS has sufficient knowledge and has demonstrated wiliness to sustain the infrastructure.

Given that the MoE and by other third-party organizations recognize the potential of the distance learning model[219], CENDLOS' work is likely to be funded.

Overall, the MGCubed was successful at building sustainability in change at the family, community, school, and system levels.

Based on the evidence above, the project created sustainability mechanisms **in schools** by building the skills of teachers, headteachers, and PTA/SMCs to provide quality education and create positive learning environments for girls.

Leadership training motivated school leaders to plan for girls' education through SPIPs. The number of schools where corporal punishment was used decreased overtime, showing that the project's training on child protection contributed to safer schools.

School leaders also said they will make use of MGCubed teaching and learning materials to train new staff on MGCubed's methodologies, which will promote the use of the project's approach

[216] KII with Education Official, GES.
[217] KII with Education Official, CENDLOS.
[218] KII with Education Official, CENDLOS.
[219] C.f. KII with Education Officials, 1 and 2

beyond its conclusion. School staff are also prepared to solve the majority of technical issues when they arise and to manage the classroom-based technology.

In communities, the project promoted attitudinal changes around key girls' education issues. Evidence shows these changes translated into home environments that were more supportive of girls' education with school work prioritized over chores and an equal distribution of chores between boys and girls.

While cash transfers will not continue after the project, parents and caregivers demonstrated increased commitment to ensuring girls can attend school and perform well even when resources are limited.

At the **district level**, the project prepared DEO officials to track the progress of schools, meet education outcome targets, and support school leaders and teachers on how to achieve these targets.

At the **national level**, the project contributed to shaping key education agendas that support the sustainability of learning and transition outcomes. This includes the project's approach to distance learning lesson delivery through GLTV and continuous professional development programs on methodologies and distance teaching for in-service teachers.

These outcomes signal the project's success at building sustainability at the family, community, school, and system levels.

5. Intermediate Outcome Findings

5.1 Attendance and Enrolment

To support girls' attendance and return to school, the project:

- ✓ Provided cash transfers to girls transitioning from Primary 6 to JHS1 to help them overcome financial barriers to transition. As part of the project's Covid-19 response, the distribution of cash transfers was expanded to include other grades and particularly vulnerable sub-groups including young mothers, pregnant girls, and children with disabilities. A total of 6,578 cash transfers were distributed over the course of the project[220]
- ✓ Recruited language assistants for the Kotokoli, Guan, and Likpakpa languages to promote accessibility of after school clubs and remedial classes which encourage children to attend school
- ✓ Delivered educational content to thousands of children nationwide by utilizing distance learning technology and GLTV to keep children interested and engaged during school closures
- ✓ Trained headteachers and provided personal protective equipment (PPE) to support children and teachers to safely return to school
- ✓ Engaged DEOs to directly monitor girls' attendance levels
- ✓ Engaged and sensitized community stakeholders and parents on the importance of returning to school

As several MGCubed activities were delivered in schools, the project relied on regular attendance to maximize benefits to children from the intervention. By attending school, girls and boys were able to participate in MGCubed activities, including remedial lessons and after-school clubs.

The project likely supported girls to improve their attendance rates between after schools re-opened.

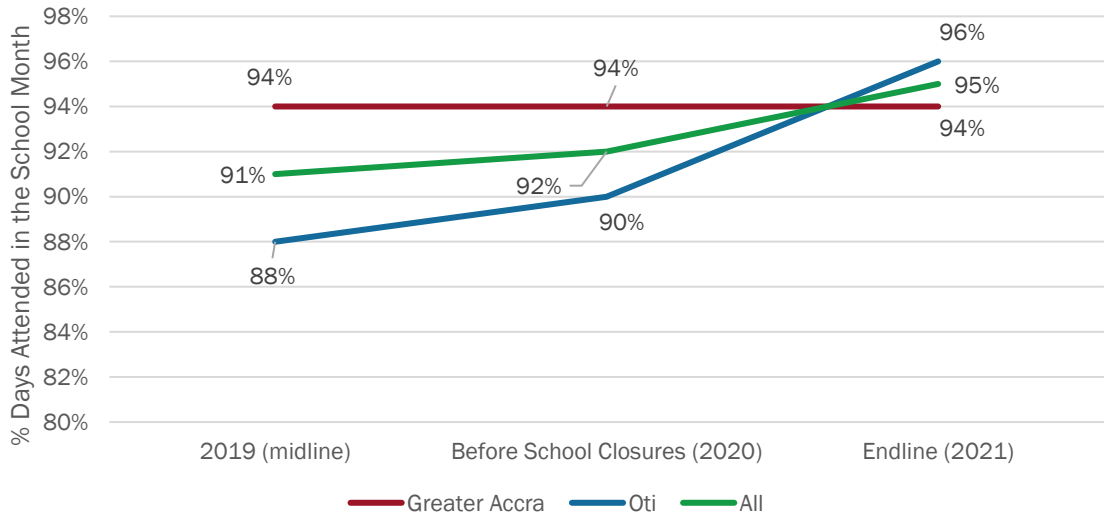
Girls' attendance levels remained stable between February 2019 and February 2020 but increased significantly by February 2021[221]. In February 2019, girls attended an average of 91% school days. In February of 2020, girls maintained their attendance levels, attending school at an

[220] 957 girls who received cash transfer in Q11 received another stipend during the pandemic. 5,621 unique girls received a cash transfer.
[221] Differences in mean attendance rates between regions were statistically significant[221], the greatest improvements in attendance in the Oti region.

average rate of 92%[222]. By February 2021, net attendance rates increased to 95% (I01.1) and differences between February 2020 and February 2021 were statistically significant[223], suggesting that attendance rates were higher in project schools after schools re-opened than they were prior to school closures.

Attendance rates remained consistently high.

Attendance rates were consistently high across the board, but there were statistically significant differences between regions[224]. Attendance rates in Oti had improved considerably between midline and endline compared to Greater Accra where rates remained stable.



A higher proportion of girls improved their attendance between February 2020 and February 2021 than between February 2019 and February 2020. Between February 2019 and 2020, 21% of girls improved their attendance, and in 2021, 30% of girls improved their attendance levels.

More out-of-school girls (OOSGs) re-enrolled between midline and endline than between baseline and midline.

92% of OOSGs at midline returned to school by endline[225]. At midline, 83% of girls who had been out-of-school at school at baseline had come back to school[226]. This suggests that re-enrolment rates for OOSGs improved between midline and endline periods.

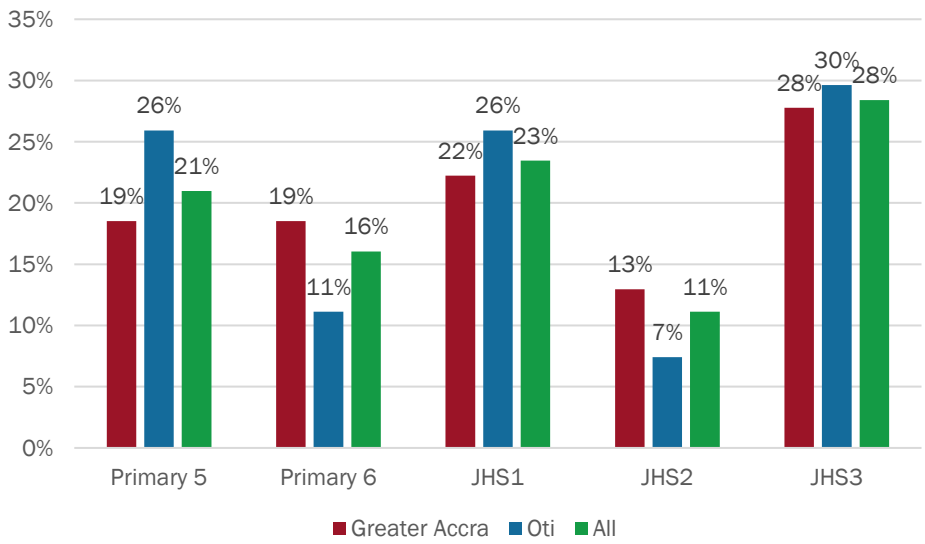
Attendance rates may decrease as a girl progress in school.

At endline, the highest proportion of girls with low levels of attendance[227] were in JHS3 and JHS1, which may signal that attendance rates decrease as a girl progresses in school.

[222] There was no statistically significant difference in means between February 2019 and February 2020, signalling that girls attended school at similar rates between these periods.
[223] p<.001
[224] p<.001
[225] N=12
[226] N=5
[227] "Attendance outliers" <85%.

While there were no significant differences in average attendance rates per grade level, the highest proportion of girls with low attendance rates[228] were found in JHS3 (28% of the sample[229]) followed by JHS1 (23% of the sample)[230]. This suggests that girls face more barriers to their attendance in higher levels of school.

Figure 20. Changes in Girls Attendance Levels by Region



Girls in Greater Accra were more likely to have lower attendance outcomes in 2021 than girls in Oti. At endline, 16% of the sampled girls in Greater Accra had low levels of attendance[231] compared to 6% of girls in Oti[232].

[228] These outlier cut-offs were identified through a review of the distribution of attendance scores at each period. Attendance outliers were defined as cases with low attendance or falling more than 1.5 box lengths from the lower or upper hinge of the box. For 2021 and 2019, the threshold was a monthly attendance rate of 85%, and for 2020, the threshold was a rate of 74%.

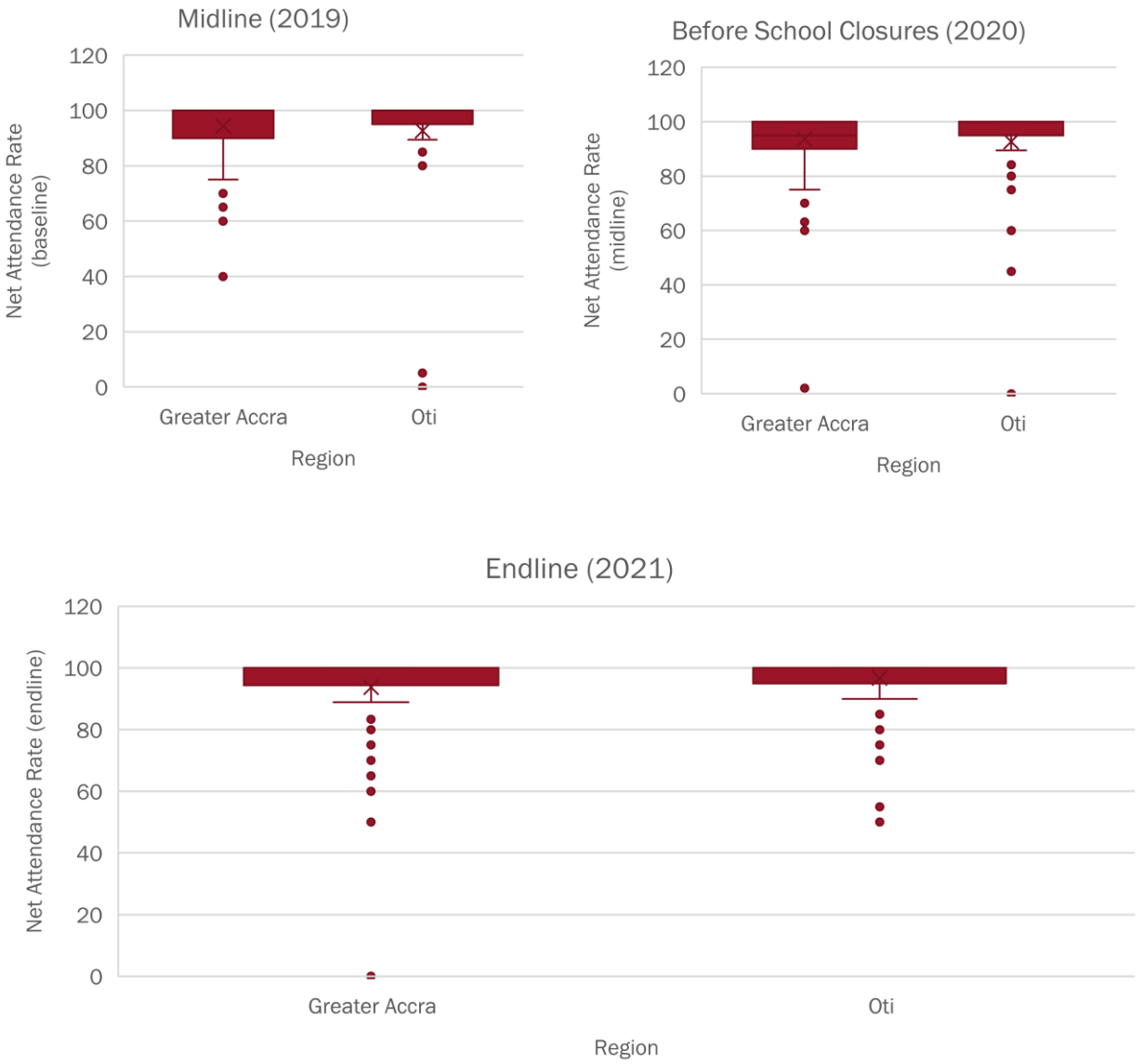
[229] *Ibid.*

[230] The third-grade level with most outliers' changes depending on the region in Oti is Primary 5 and in Greater Accra is Primary 6. Similar findings for previous years, suggesting a persistent trend. See Figure 20.

[231] See footnote above for definition of outliers.

[232] Low attendance is defined as a net attendance rate of less than 85% in 2021 and 2019 and less than 74% in 2020. In other periods, these differences were not significant. Box plots illustrate that both regions are comparable, although Greater Accra has a greater variation in attendance levels.

Figure 21. Box Plots for Net Attendance Rates across Evaluation Periods

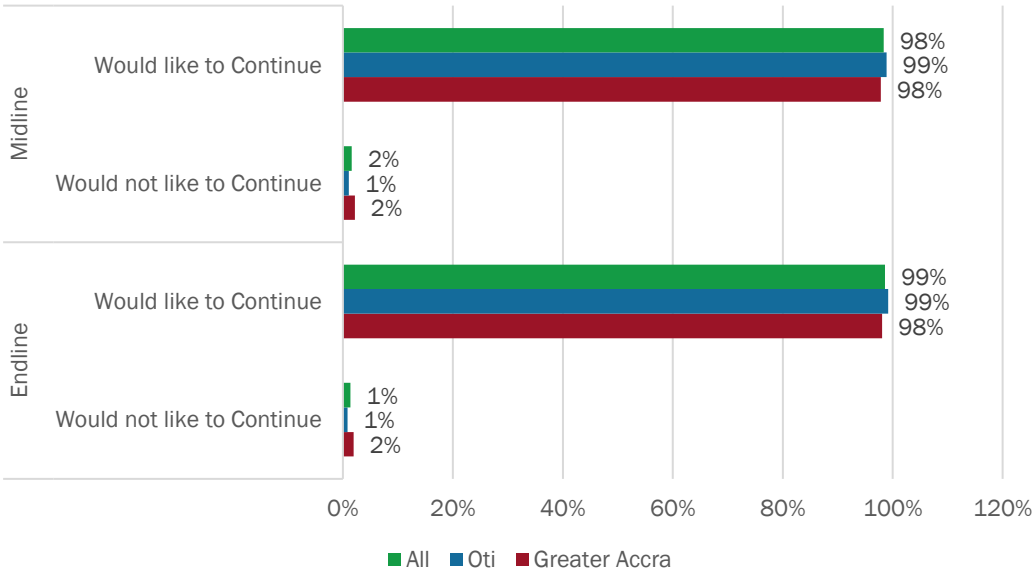


Almost all girls indicated that they would like to continue studying/attending school next year. For most girls, these sentiments have not changed since midline, prior to schools' closures.

99% of girls at endline and 98% of girls at midline indicated that they would like to continue studying or attending school next year. There were no differences based on region (IO1.2)[233].

[233] To measure if girls were willing to continue in school, the study replicated the midline item, which asked girls the extent to which they agreed or disagreed with the statement: *"I would like to continue studying/ attending school after this year"*[233]. If they agreed with the statement they were considered willing. When they did not agree or felt uncertain, they were then classified as not willing.

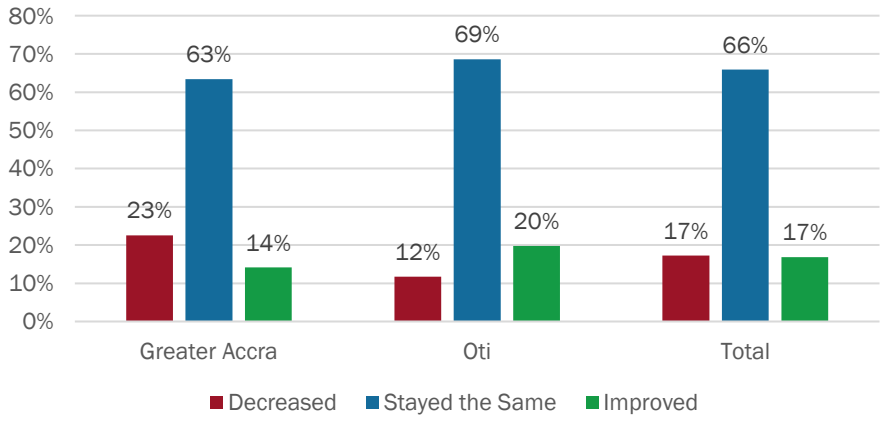
Figure 22. % of Girls Who Indicated That They Would Like to Continue Studying/Attending School Next Year



66% of girls remained equally willing to continue attending school across evaluation periods[234].

In both project regions, a minority of girls exhibited waning motivation to attend or continue school. In Greater Accra, the proportion of girls whose willingness decreased was 10% larger than the proportion in Oti.

Figure 23. Percentage of Girls Whose Motivation to Go to School Improved, Stayed the Same, or Decreased Across Periods



[234] For each period, girls were asked to what extent they agree or disagree with the statement "*I would like to continue attending school next year*", and girls who were less likely to agree with the statement were classified as less willing to continue schooling next year.

MGCubed's cash transfers, after-school clubs, and GLTV programming supported girls to attend school.

88% of caregivers reported that the cash transfer helped their girls attend school more regularly. 92% of them also report the cash transfer helped them enrol their girl in school and 91% to transition into JHS.

Girls participated in MGCubed after-school clubs attended school more frequently than those who did not.

On average, girls being a member of an MGCubed club was a statistically significant predictor of higher net attendance rates (96%)[235].

Evidence also shows that club members exhibited a high level of engagement. 85% of girl club members reported that they participated in every session, and 98% said that they felt that their club facilitator listened to them and acted on their opinions.

GLTV distance learning programming supported girls to attend school after re-opening.

Watching GLTV during school closures was associated with having a higher level of attendance in February 2021, after schools re-opened. Girls who watched GLTV during school closures attended school an average of half a day more than girls who did not[236].

Differences in average attendance rates between girls who watched GLTV (96%) and those who did not (94%) were statistically significant[237]. This suggests that learning through GLTV during COVID-19 school closures supported girls to remain interested in school and to attend schools when schools re-opened.

Girls who did not participate in remedial lessons or after school activities were more likely to have low attendance[238].

Girls who were not members of remedial lessons[239] or after-school clubs at endline[240] were more likely to have low attendance at some point during the project at statistically significant levels.

25% of girls who did not participate in after school clubs attended school less than 85% of the time in February of 2021 compared to 10.5% of club members and 10.6% of girls who participated in remedial lessons.

[235] Multilinear regression models results *t(41.86)=-2.21, p=.03*
[236] 2.4% higher net attendance rate; Model: df= 4, N=731 p<.001; Indicator: B=2.41, S.E = 1.813; p<.001. Other variables included participating in remedial lessons, after-school clubs, or cash transfers.
[237] *t(403.67)=2.93, p=.003*
[238] Attendance outliers are defined as cases with low attendance or falling more than 1.5 box lengths from the lower or upper hinge of the box. For 2021 and 2019, the threshold was a monthly attendance rate of less than 85%, and for 2020, the threshold was 74%.
[239] p<.05
[240] p<.05

Cash transfers supported higher attendance.

Girls who did not receive cash transfers were twice as likely to have attendance levels of less than 85% than girls who received cash transfers. At endline, 5% of girls who received cash transfers had lower levels of attendance[241] compared to 10% of girls who did not receive cash transfers[242].

96% of caregivers agreed that that cash transfers were very necessary for meeting schooling costs[243]. 10% of caregivers of girls with disabilities reported that they used the money to purchase assistive devices such as braille textbooks, hearing aids, or wheelchairs[244].

According to qualitative sessions, caregivers most commonly spent cash transfers on sandals, sanitary pads, bags, school uniforms, and books for their children[245]. Other parents reported that they had used cash transfers to cover the costs of boarding their child where they could attend school.

Positive parental and caregiver attitudes towards girls' education supported attendance outcomes.

Girls with parents who had positive attitudes towards girls' education attended school an average of 1.5 days (6%) more per month than girls whose caregivers did not have positive attitudes[246].

This suggests that improving parental attitudes towards girls' education had a direct effect on girls' attendance[247].

Caregivers of girls who watched GLTV were more likely to have positive attitudes towards girls' education[248].

This signals that improving parental attitudes towards education was a positive, unintended effect of the GLTV intervention. However, it is also likely that parents with positive attitudes towards girls' education were more likely to support their children watching GLTV. Watching GLTV and positive parental attitudes towards girls' education could, therefore, be mutually reinforcing.

[241] Attendance outliers are defined as cases with low attendance or falling more than 1.5 box lengths from the lower or upper hinge of the box. For 2021 and 2019, the threshold was a monthly attendance rate of less than 85%, and for 2020, the threshold was 74%.
[241] p<.05
[242] p<0.05 Associations were statistically significant according to Chi-square tests.
[243] N=559
[244] N=3
[245] KII with a girl who transitioned into secondary school and received cash transfer from the MGCubed project; KII with caregiver of a girl who receives cash transfer #1
[246] Positive attitudes towards girls' education were measured through a series of items that asked caregivers to agree or disagree with particular statements about girls' education.
[247] Model: df= 7, N=109 p<.05; Indicator: B=5.68, S.E = 2.30; p<.05. Other variables included the mean of self-efficacy, self-esteem, endline literacy and numeracy scores, average teaching quality score by school and whether the school has a functioning PTA.
[248] The scale is explained in chapter 4.1.5 and was used to measure how much caregivers supported girls' education.

The project contributed to improvements in young mothers' attendance levels between midline and endline.

Young mothers and girls who had been pregnant had higher attendance rates at endline than at midline. While at midline, 25% of young mothers had low attendance levels[249], at endline 19% of young mothers have low attendance levels[250]. This suggests that the project supported young mothers to improve their attendance outcomes between periods.

The project supported increased school attendance for girls with disabilities.

Project facilitators made efforts to make girls with disabilities feel welcomed and respected in school[251]. Some qualitative evidence suggests that these efforts motivated girls with disabilities to attend school.

In qualitative sessions, facilitators reported that they diversified their range of teaching and learning strategies to support children with disabilities. Facilitators introduced visual, auditory, and kinaesthetic approaches.

A girl with a visual impairment mentioned that she noticed a change in her teachers' behaviour, reporting that "*I could not read so my teacher changed my sitting position so, now I am sitting in front*." The girl indicated that she felt welcomed by the teacher, however, she still struggled to see the board at times, suggesting additional accommodations may be necessary in some cases[252].

The project supported headteachers to develop COVID safe re-opening plans. Most headteachers implemented measures to minimize the risk of COVID-19 transmission.

To support safe re-openings, the project trained headteachers and provided PPE.

84% of headteachers reported that they were prepared to conduct classes safely after schools re-opened[253].

According to Headteacher Surveys:

- 100% of headteachers reported that staff wore masks to minimize the spread of COVID-19
- 82% reported that they enforced social distancing measures
- 82% reported that classrooms were disinfected often
- 72% said that classrooms were well ventilated
- 88% reported that they had made hand sanitizing options available to their students
- 60% reported they had adequate handwashing facilities

In interviews, girls share that these measures made them to feel safe from COVID-19 transmission. Only 6% of girls reported that they sometimes missed school due to of fear of COVID-19.

[249] N=4
[250] N=3
[251] KII with Girls with a Disability, Oti #2
[252] KII with Girl with a Disability, #2
[253] N=72

The project's activities successfully sensitized girls to COVID-19 prevention and transmission.

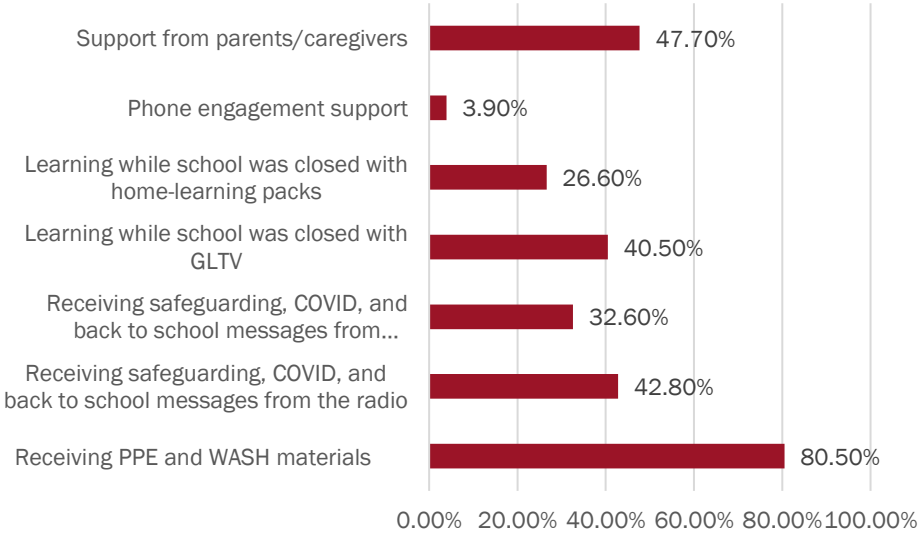
Results from the Girls Survey[254] show that 90% of girls had accurate knowledge about how COVID-19 is transmitted and how it can be prevented. The remaining 10% had some knowledge.

There were significant regional differences with 86% of girls in Greater Accra having correct knowledge compared to 96% in Oti[255].

MGCubed's provision of PPE eased most girls' return to school.

When asked what supported their return to school in January 2021, most girls indicated that PPE and WASH materials were key (80.5% of girls).

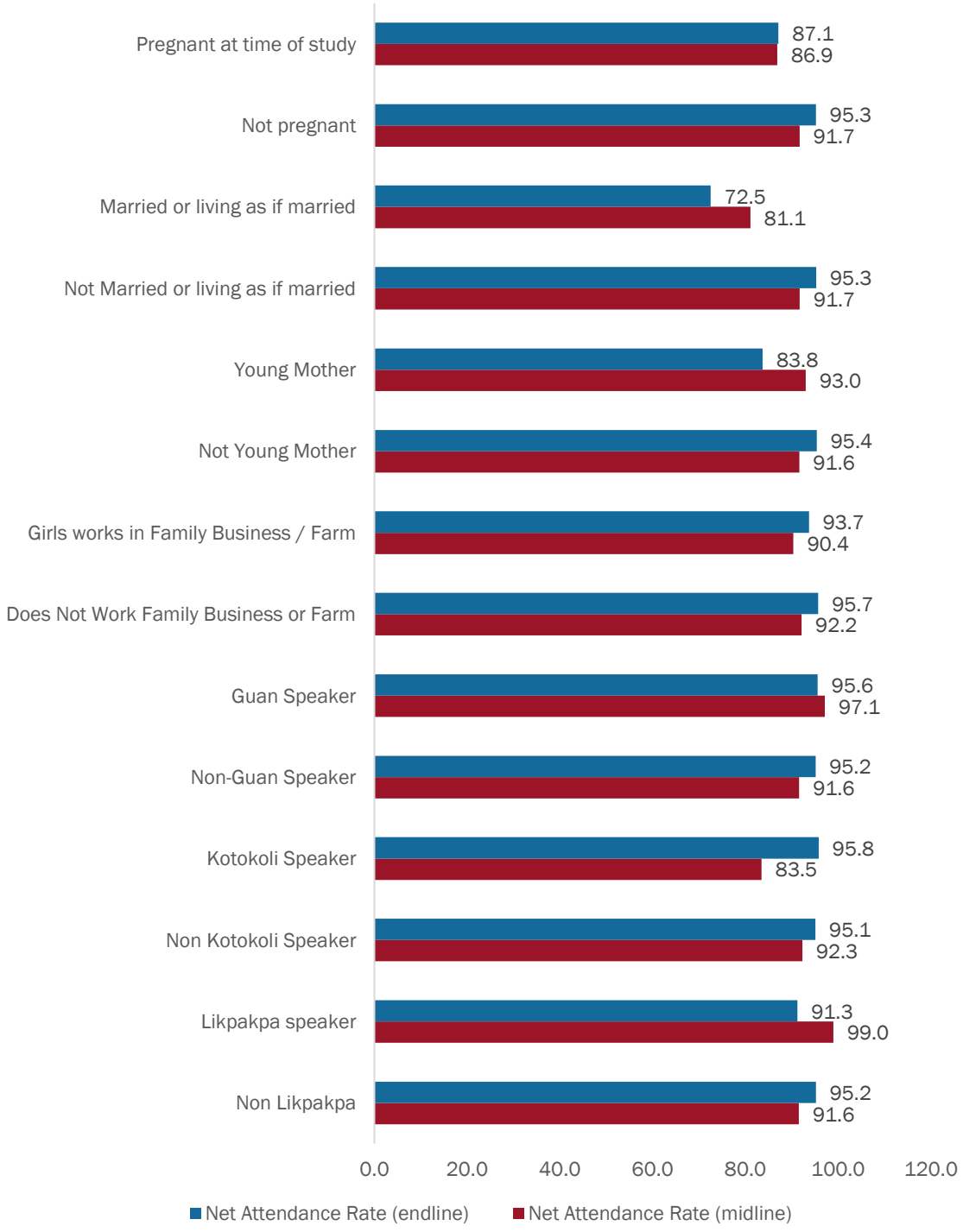
Figure 24. What Helped Ease Girls' Return to School in January 2021?



Several sub-groups of girls experienced reduced attendance outcomes at either midline or endline or reduced changes in outcomes between periods.

[254] To measure COVID-19 prevention knowledge and perceptions of safety, the Girls Survey asked girls to indicate whether they thought the following statements were true or false: *(1) "Keeping social distance helps protect people from getting COVID-19"; (2) "If you wash your hands regularly, you're more likely to get COVID-19."*
[255] p<.001

Figure 25. Net Attendance Rates for Sub-groups of Girls at Different Periods



The project supported girls from the Likpakpa and Kotokoli ethnic/linguistic minorities to improve attendance and catch up with their peers.

Right before school closures, Kotokoli girls frequently displayed low attendance[256]. At endline, 9% of Kotokoli girls had low attendance[257] compared to 20% at midline[258].

At endline, the gap between Kotokoli girls and their peers disappeared.

The project recruited language assistants who spoke these languages and had close relationships with minority groups. Qualitative interviews indicated that this intervention supported these girls to improve their attendance outcomes.

Key informant interviews with girls in these groups also suggest that teachers began checking the understanding of girls with linguistic differences before continuing with the lesson. Teachers also introduced more targeted encouragement for these girls to come to school[259].

Other girls who were members of linguistic minorities reported that the project helped them to pronounce English better and improve their mathematics[260], which augmented their confidence and motivation to come to school[261].

Girls who did not speak the language of instruction have much lower attendance rates than girls who could.

When girls understood the language of instruction, they attended school 95% of the time compared to 75% attendance for girls who did not[262]. Interviews attributed this difference to girls feeling less motivated when they feel excluded and have difficulty accessing the curriculum due to linguistic challenges.

The project helped close the attendance gap for girls from rural areas.

At midline, girls from rural areas were 7 times more likely than girls in urban and peri-urban areas to have low attendance levels[263]. This association was no longer significant at endline.

At midline, 12% of girls from rural areas had low attendance levels[264] compared to 5% at endline[265].

This is likely because girls from rural areas became more motivated to go to and participate in school than girls in peri-urban and urban areas between midline and endline.

20% of girls from rural areas demonstrated increased willingness to continue their studies, compared to 5% of girls in peri-urban or urban settings. In addition, 41% of girls from rural areas

[256] p<.05
[257] Attendance outliers are defined as cases with low attendance or falling more than 1.5 box lengths from the lower or upper hinge of the box. For 2021 and 2019, the threshold was a monthly attendance rate of less than 85%, and for 2020, the threshold was 74%.
[258] N=5 and N=9 respectively.
[259] KII with girl member of a special linguistic group#5
[260] KII with girl member of a special linguistic group#3
[261] KII with special linguistic group -Oti region
[262] These differences were significant according to independent sample t-tests t (734)=2.97, p=.03
[263] p<.05
[264] N=73
[265] 90

demonstrated increased confidence answering questions in class between midline and endline, compared to 27% of girls in peri-urban or urban settings[266].

Gender-specific barriers, working in the family business, and lack of parental support for girls' education remained barriers to girls' attendance at endline[267].

In focus group discussions, girls, parents, and caregivers reported several gender-specific barriers to attending school, including teasing and harassment from boys, pregnancy, and parental pressure to marry.

Girls reported that boys often teased them at school, which made them feel uncomfortable. Girls demonstrated a widespread perception that there are risks associated with being in mixed-sex settings.

Several girls appreciated that Wonder Women clubs provided female-only spaces where they could discuss sensitive issues.

Girls who work for family businesses/farms were more likely to have low attendance at both midline and endline[268].

At endline, 16% of girls who worked for family farms or businesses were low attendance outliers[269]. Differences in attendance between girls who worked for their families were lower than girls who did not at statistically significant levels[270].

In interviews, project stakeholders suggested that girls who work for their families face more pressure to spend time on work activities than attending school. Girls shared during interviews that that working on a farm means that they have less time for homework, which could contribute to reduced engagement and interest in school[271].

Cash transfers alleviated the pressure on some girls to work for family farms/businesses and earn income for school supplies.

According to qualitative evidence, the project sensitized parents and caregivers to the barriers caused by working for family farms or businesses[272].

One girl reported that her parents often asked her to work on the farm to help them earn enough to cover school costs. However, the MGCubed project successfully sensitized her parents to discourage this practice.

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[266] Girls were asked how comfortable they were answering questions in class for both periods. Evaluators compared the differences in responses between periods for girls in urban/peri-urban areas and girls in rural areas.
[267] Only significant results are reported. To evaluate whether specific sub-groups or characteristics did not benefit from attendance rate or motivational changes, evaluators used chi-square tests to identify positive associations between attendance outliers and other characteristics, that is, whether outliers were found in certain sub-groups more frequently than others.
[268] $p<.001$
[269] N=31
[270] $p<0.05$
[271] KII on numeracy with low performer 2 (GA)
[272] FGD with two girls who transitioned from secondary schools Greater Accra 2

Girls who did not received homework support from their caregivers were 3 times more likely to have low attendance at midline. This barrier became less pronounced at endline[273].

This finding speaks to the importance of parental engagement for attendance outcomes and highlights the relevance of project activities under Intermediate Outcome 5 – improved community attitudes and perceptions towards girls' education.

This association between lack of parental support and low attendance was no longer significant in 2021, suggesting that the project contributed to reducing this barrier between evaluation periods.

Pregnant girls had lower attendance rates than their peers.

Pregnant girls had a net attendance rate of 84%. Non-pregnant girls have a rate of 95%, which marks a statistically significant difference.

Significant evidence from the qualitative research suggests that pregnant and previously pregnant girls had reduced outcomes.

Girls reported significant shame associated with pregnancy and indicated that pregnant girls face higher degrees of anxiety and stigmatization[274]. This likely affects girls' attendance outcomes.

Girls with disabilities who lacked assistive devices attended school less frequently than their peers[275].

Findings indicate that there is a statistically significant association between lacking an assistive device and attendance rates lower than 85% at endline.

In qualitative sessions, one girl shared that when her wheelchair broke, she had to rely on support from her friend to get to school since her parents could not afford a new wheelchair. This had a negative impact on her attendance[276].

Girls with disabilities faced stigma and bullying at school, which likely influenced their attendance.

Some girls with disabilities reported that reaching school takes a long time for them. When they were late, regular teachers disciplined them in negative ways, which discouraged them from going to school[277].

Girls with disabilities also indicated that children with disabilities are stigmatized by their peers and subjected to non-inclusive teaching practices.

[273] Girl reports they do not have someone at home to help with homework N=39 (p<.001).
[274] FGD MGCubed Girls 3
[275] Chi-square for association with outlier group (p<0.05)
[276] KII with a girl with disability
[277] KII with a Caregiver of a Girl with a disability, Oti #2

Some parents reported that they were reluctant to raise these issues in schools out of fear that their child would face retribution from teachers[278]. Parents and caregivers also demonstrated that they keep children at home or closely monitored in community events to protect them from unnecessary stigma. These likely impacts children's behaviour at school and willingness to attend regularly.

[278] KII with caregiver of a girl with a disability

5.2 Teaching Quality

The project aimed to deliver teaching quality improvements across four areas of teaching practice: preparedness for the lesson, confidence, and clarity of delivery, promoting equitable learning, and managing classroom behaviours[279].

The project conducted several activities to support teaching quality improvements in schools. MGCubed:

- ✓ Delivered continuous professional development[280] every term to all teachers in the 72 treatment schools on student-centred teaching, gender-responsive practice, and activity-based pedagogy for literacy and numeracy instruction
- ✓ Delivered targeted training on how to support girls' transition to secondary school
- ✓ Trained three MGCubed facilitators in each school on practical technology (video streamed lesson content), classroom management, and broader teaching and learning strategies [281]
- ✓ Provided stipends and mentoring support to facilitate after-school remedial sessions and after school clubs, encouraging teachers to use the techniques in their own day-to-day lessons as a key mechanism for sustainability
- ✓ Provided face-to-face basic training on Psychological First Aid (PFA), stress management, and wellbeing for MGCubed facilitators and GES teachers during school closures

The majority of MGCubed facilitators were categorized as "*outstanding*" at delivering quality lessons at endline and midline based on agreed criteria.

Of trained teachers[282], 66% of MGCubed facilitators and 44% of regular teachers demonstrated "outstanding" application of all 4 teaching practice areas[283]. This compares to 55% of MGCubed facilitators at midline[284] who were classified as outstanding. Aggregate level teaching quality improved over time.

Difference between the teaching quality results of MGCubed facilitators and regular teachers show that facilitators deliver lessons with greater confidence, clarity, and preparedness. Most facilitators demonstrated confidence and ability to deliver content clearly. Regular teachers results left room for improvement.

81% of MGCubed facilitators and 56% of regular teachers trained by the project showed key behaviours, such as appearing comfortable and knowledgeable about material and using child-centred techniques.

[279] MEL Framework; This conceptual understanding of teaching quality, as reflected in its four dimensions, overlaps with other approaches found in literature, such as the Comprehensive Model for Teaching quality Kilieme (et al).
[280] Ensured that 985 teachers (402 women and 553 men) participated in the project's broader continuous professional development program, 251 of whom were MGCubed Facilitators (108 women and 143 men).
[281] Summary of MGCubed Teaching Roles (2020).
[282] In the sample, 93% of regular teachers were trained by the MGCubed project as were 100% of MGCubed facilitators.
[283] IO 2.1
[284] MGCubed Midline Report p. 110.

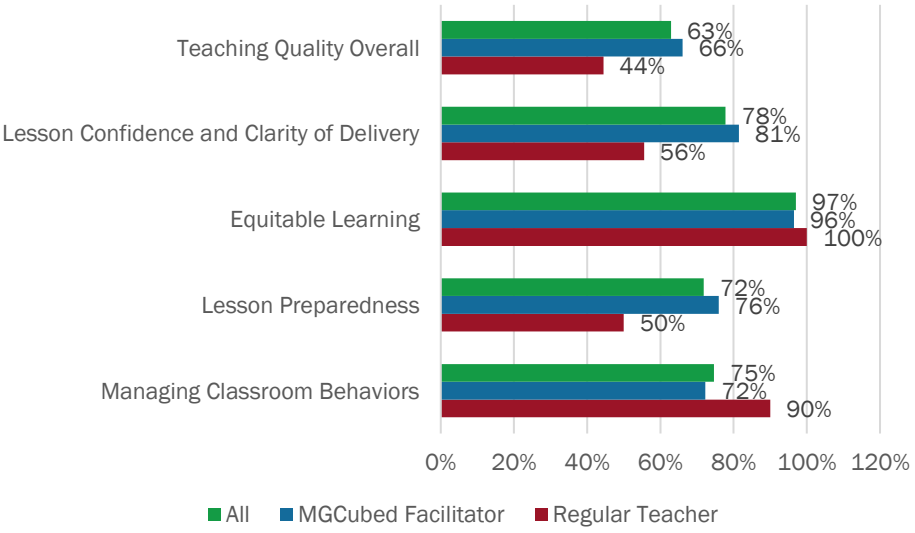
Children in qualitative sessions reported that these practices helped them learn English and feel more confident about mathematics, and this gave them more confidence to participate in class[285].

When looking at individual dimensions of teaching quality, most teachers and facilitators were able to manage their classroom effectively and equitably. 90% of regular teachers trained by the project and 72% of MGCubed facilitators were able to manage their classroom appropriately[286].

100% of regular teachers trained by the project and 96% of MGCubed facilitators treated girls and boys equitably in the classroom and included children with different learning abilities. This was the sub-indicator which teachers performed the best on comparatively across dimensions based on lesson observations.

MGCubed facilitators were generally more prepared for lessons than regular teachers. 76% of MGCubed facilitators showed preparedness for their lessons compared to 50% of regular teachers trained by the project.

Figure 26. Percentage of Teachers with a High Score Per Teaching Quality Dimension[287]



MGCubed training helped most MGCubed facilitators and regular teachers develop teaching skills.

98% of all teachers said the MGCubed training supported them to develop their teaching skills[288] and 81% of MGCubed facilitators said that they felt very prepared to teach at their school after receiving training.

Several facilitators stated that they would not be equipped with this level of teaching skills and knowledge without the project's intervention. Facilitators said that they *"would still use old*

[285] FGD with MG CUBED GIRLS 2
[286] For example, by efficiently managing materials, transition(s) between activities, class start and ending, and overall time management.
[287] To meet the conditions for overall teaching quality ("outstanding") a teacher has to meet achieve all 4 sub-indicators; a lower proportion of teachers meet these overall conditions than in any single sub-indicator category
[288] Endline Teacher Survey (2021).

teaching methods[289]*," "would not have the impact of interaction with people of different experiences and backgrounds [in the training process]*[290]*,"* and *"wouldn't have had the skills to solve problems*[291]*" without MGCubed's training.*

Facilitators attributed knowledge gains to the training provided by the project[292]. Facilitators said that training helped them gain confidence to teach, learn new teaching methods, and address many shortcomings related to their knowledge gaps[293]. In qualitative sessions, facilitators and teachers mentioned several important knowledge areas affected by the project, including:

- ✓ Classroom management strategies that impact both slow and fast learners, but especially slow learners[294]
- ✓ Identifying children with disabilities and responding to their needs, such as by bringing children with difficulties seeing or hearing to the front of the classroom and monitoring them so as to better cater to their needs[295]
- ✓ Planning lessons in advance so they identify teaching strategies to use[296]
- ✓ Learning to be more patient with children of different ability levels[297]
- ✓ Protecting girls from abuse[298]
- ✓ Teaching girls' confidence and self-efficacy[299]
- ✓ Strategies to teach numeracy, such as using real-world examples[300]
- ✓ Strategies to teach literacy, such as phonetics[301]
- ✓ Student-centred learning strategies, which differ from what they learned in college[302]

The majority of MGCubed facilitators demonstrated accurate knowledge of student-centred teaching strategies and home-learning guidance strategies[303].

At endline, 83% of facilitators demonstrated accurate knowledge of student-centred teaching strategies shared during MGCubed trainings[304].

Among teachers who had received the training, 97% were aware of Think-Pair-Share[305], 94% were aware of group work, and 88% were aware of brainstorming which constitute 3 of the most practical and widely applicable strategies.

[289] FGD with MGCubed Facilitator.
[290] FGD with MGCubed Facilitator.
[291] FGD with MGCubed Facilitator.
[292] FGD with MGCubed Facilitators on Teaching Quality in Oti and FGD with MGCubed Facilitators in GA.
[293] FGD with MGCubed Facilitator.
[294] FGD with MG cubed facilitators Oti region
[295] FGD with facilitators on barriers to education
[296] FGD with MGCubed Facilitator.
[297] *Ibid.*
[298] *Ibid.*
[299] FGD with facilitators on barriers to education
[300] *Ibid.*
[301] FGD with MG cubed facilitators
[302] FGD with MG cubed facilitators
[303] IO 2.3
[304] N=55. This is a new indicator for which midline data was not available. This meant that they answered correctly to at least 5 of the 8 knowledge items on student-centred learning strategies.
[305] Think-Pair-Share is when teachers give a moment for student to think for themselves, then compare with a neighbouring partner and prepare to share back to the class.

Endline interviews and classroom observations showed that MGCubed training taught teachers to plan their lessons according to the individual needs of learners. Facilitators said that they learned how to match activities to the learning level of the child[306] *and* pair students with differing abilities[307]. Teachers found that group-work was effective for students and encouraged them to 'speak out' and learn from each other[308].

Teachers and facilitators reported that observing MTTs model pedagogic techniques during broadcasts was a useful for developing their skills[309].

The project also succeeded in developing other core teaching skills and competencies. Interviews with facilitators found that the MGCubed project had succeeded in helping teachers use simple methods to produce concrete outcomes, extend and enhance their existing teaching skills, use knowledge to respond to student questions, move from a 'lecture' approach to child-centred activities, expand knowledge about the teaching process, manage classroom behaviour, and prepare teaching materials for better classroom delivery.

Comments from teachers linked their developments in teaching skills with gains for the students: *"The impact of the new training techniques is long term; we have seen some improvement in the learning abilities of our students[310]."*

By improving on these practice areas, teachers were able to ensure students were autonomously engaged with the lesson content and could benefit from a supportive learning climate. Teachers facilitated caring interactions with students and provided individual assistance and constructive feedback.

Based on this evidence, MGCubed's training likely contributed to overall improvements in teaching quality.

The project supported more teachers to apply student-centred learning. A higher proportion of MGCubed facilitators and teachers applied student-centred learning at endline than at midline[311].

At endline, 73% of MGCubed facilitators and 71% of regular teachers satisfactorily[312] demonstrated student-centred learning strategies in their regular lessons[313]. This compares to 56% at midline[314].

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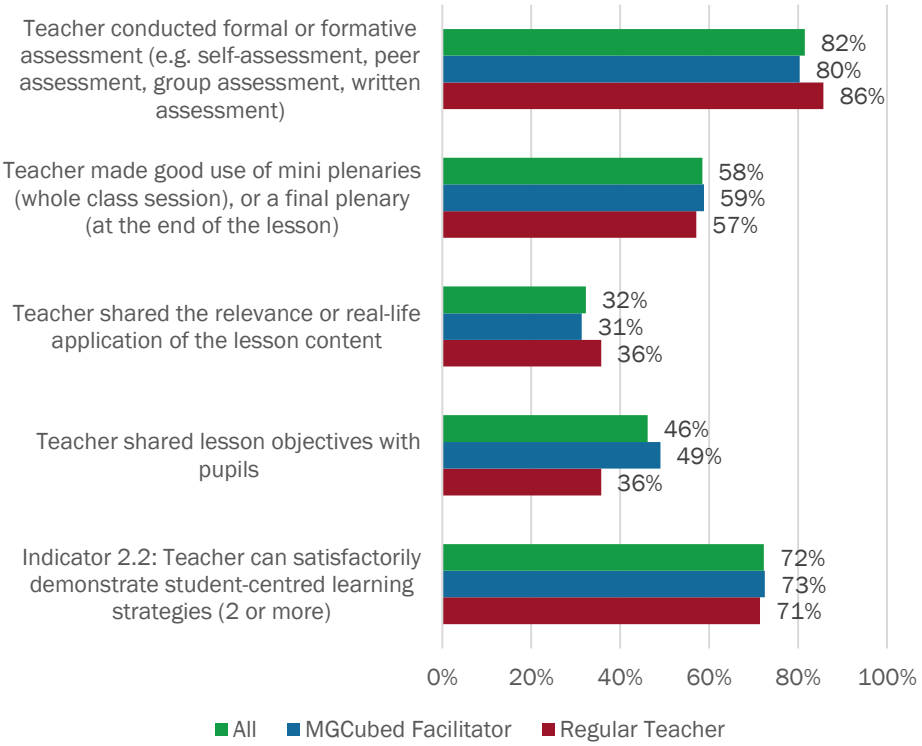
[306] FGD with MGCubed Facilitators on Teaching Strategies #1 GA.
[307] FGD with MGCubed Facilitators on Teaching Strategies #1 GA.
[308] FGD with MGCubed Facilitators on Teaching Strategies #1 GA.
[309] FGD with MGCubed Facilitator.
[310] FGD with MGCubed facilitators on professional development.
[311] IO 2.2
[312] To calculate this indicator, the evaluation team followed the Midline calculation and recorded whenever teachers or facilitators (1) shared lesson objectives with pupils, (2) shared the relevance or real-life application of the lesson content, (3) made good use of mini plenaries (whole class session), or a final plenary (at the end of the lesson), or (4) conducted formal or formative assessments (e.g. self-assessment, peer assessment, group assessment, written assessment). Outcomes increase from midline, when 56% of MGCubed facilitators demonstrated student-centred learning strategies in non-MGCubed lessons.
[313] N=37; and N=10 respectively.
[314] MGCubed ML Report p. 117. (IO 2.2)

Figure 27. Application of Child-Centred Teaching Strategies in the Classroom

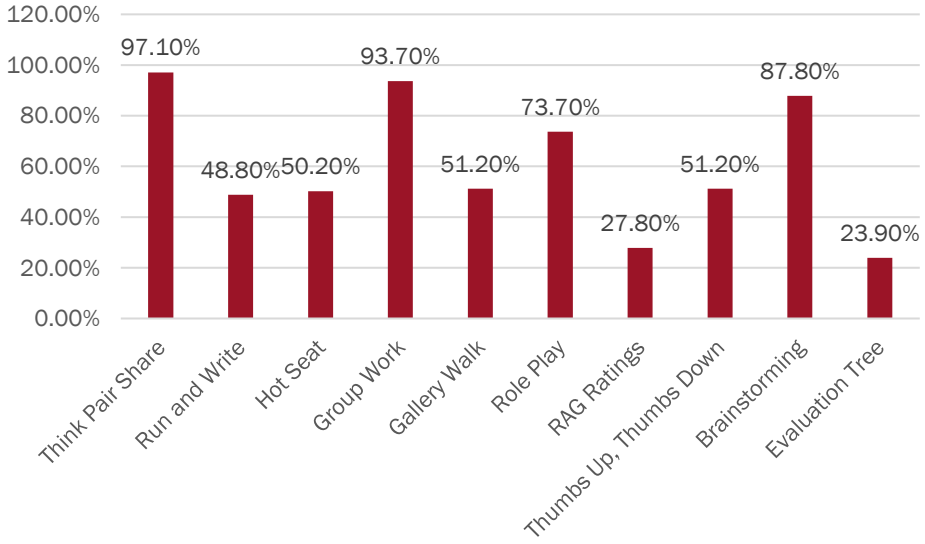


These findings were confirmed by qualitative interviews with both facilitators and regular teachers. Interviewees frequently mentioned 'Think-Pair-Share' and 'groupwork' as highly effective and widely applicable classroom techniques: *"These strategies stand out because they help the students to learn on their own and also to learn from their peers*[315]*."*

Regular teachers said that Think-Pair-Share made class more interesting for children[316]. One facilitator said, *"The Think-Pair-Share is helping a lot*[317]*,"* and another claimed that it *"enhances thinking skills."* A third facilitator said that group discussion really helped *"since it gives the learners the opportunity to interact together to come up with a concrete view*[318]*."*

[315] FGD with MGCubed Facilitators on Teaching Strategies# Oti.
[316] FGD with Non MGCubed teachers on PD and DL
[317] FGD with MGCubed Facilitators on Teaching Strategies #1 GA.
[318] FGD with MGCubed Facilitators on Teaching Strategies# Oti.

Figure 28. Application of Student-Centred Strategies as Observed in Regular Lessons



Evidence shows that teacher understood, adopted, and effectively applied the most practical and universally applicable pedagogical approaches[319]. Teachers attributed their increased pedagogical skill level to the MGCubed project.

At endline, 97% of MGCubed facilitators and teachers cited at least three student-centred learning strategies that they applied (98% of female teachers and 94% of male teachers)[320]. These findings suggest that teachers were knowledgeable about MGCubed-taught teaching strategies could apply them during lessons.

Qualitative evidence shows that the project's impact on pedagogical skills caused a positive ripple effect that reached teachers who did not directly participate in the program. One non-MGCubed teacher said, *"The project is beneficial because [non-MGCubed teachers] feed on the MGCubed teachers[321]."* Regular teachers (non-facilitators) also benefit from project training, receiving around 92 hours of training per year per year and receiving support from MGCubed facilitators in schools.

Teachers motivate their learners, including through demonstrating their own enthusiasm and through child-centred teaching techniques learnt from the MGCubed Project.

According to the qualitative sessions, girls preferred lessons that included story time. One high-achieving student shared, "*During story time, our teacher makes it exciting by telling the stories in a fun way*[322]." Her comment exemplified the widespread enthusiasm for participatory and active learning that girls demonstrated in qualitative sessions.

Girls also reported that MGCubed facilitators supported them to feel more confident during lessons. Girls mentioned that they felt better able to "*express themselves*" during lessons with

[319] Such as group work, Think-Pair-Share, and brainstorming.
[320] Evaluators gathered this data from the teacher's survey where MGCubed facilitators and teachers selected teaching strategies they applied in lessons from a pre-determined list.
[321] FGD with Non-MGCubed Teachers on PD and DL.
[322] KII with an in-school girl on literacy top performer #2 Oti

MGCubed facilitators than they do in regular classroom lessons, and this empowerment encouraged them to learn[323].

A lack of learning resources negatively affected teaching quality[324].

Headteachers frequently highlighted the lack of textbooks as a barrier to teaching, and MGCubed facilitators identified that "*students lack reading materials"*[325] and *"without the relevant resource materials to teach the children, the learning will be very difficult*[326]*."*

However, 92% of girls thought they had textbooks whenever they needed them. Given the project's focus on participatory techniques which do not depend on textbooks, this may point to the success of the participatory learning activity. 26% of MGCubed facilitators were observed using textbooks in their lessons[327], indicating a lower reliance on textbooks.

Where used, textbooks were distributed equally among in 89% of observe teacher lessons and in 93% of observed facilitator lessons[328].

The project provided workbooks, diaries, and other resources for remedial classes and clubs, however, the need for a better and more consistent supply of teaching materials is a significant and persistent barrier in this project's educational environment.

The project supported the adoption of some inclusive education strategies.

The studio-based training aimed to equip teacher with the appropriate skills and knowledge to improve teaching quality and enable a conducive environment for both boys and girls to learn in school. Teachers learned tools to introduce student-centred, gender-responsive, and activity-based pedagogies[329]. This section examines the key issues and impact of teacher training on project outcomes.

By endline, 78% of girls with a disability thought that students with disabilities were treated fairly by project teachers. This was reflected in many comments from girls with disabilities: "*They treat me like every other student in the class, I am often not intimated to ask questions or make contributions in class.*"[330]

Girls will disabilities generally considered MGCubed facilitators to be inclusive. For example, one girl with a disability shared that her MGCubed teacher "*knows [she] cannot see well, so whenever [she] write[s] something wrong in [her] book, [the teacher] corrects [her] using a red pen and teaches [her] the right thing*"[331].

Both the qualitative data and the summative findings from classroom observations showed that non-MGCubed teachers still exhibit non-inclusive attitudes[332]. For example, teachers punish girls

[323] FGD with MG CUBED GIRLS 3
[324] Performance Workshop Summary Report (2020).
[325] FGD with MGCubed Facilitators on Barriers to Learning
[326] Ibid.
[327] N=17 and N=2 respectively
[328] N=8 and N=50
[329] Summary of MGCubed Teaching Roles (2020).
[330] KII with a Girl with a Disability
[331] *Ibid.*
[332] MGCubed GEC-T Q6 (2018).

with mobility impairments when they are late for class and discourage students from asking questions.

Girls with disabilities still reported cases of non-inclusive treatment from non-MGCubed teachers. One girl said that her teacher "*insults [her] and calls [her] lazy*[333]."

In interviews, girls with disabilities noted a difference between MGCubed facilitators and regular teachers in that facilitators treated them with more dignity and respect. This distinction evidences the project's contribution to more inclusive education environments.

One girl with a disability mentioned that, before the project, "*teachers were not trained on how to handle these students [children with disabilities]"*[334], indicating a positive change. Teachers also recognized this change as a direct result of MGCubed's intervention.

The project and other factors such as distance learning resulted in a reduction in corporal punishment between midline and endline periods, however, 48%[335] of girls reported that teachers had used physical punishment in the last month.

The reported incidence of corporal punishment was significantly lower at endline but remained a prevalent issue within MGCubed schools.

In endline FGDs, girls stated that teachers at their school no longer caned them.[336] Boys reported that corporal punishment was used by non-MGCubed teachers but not by MGCubed facilitators. One boy shared, "*In class, the teachers cane us for not understanding, but with the online lesson, it is repeated for us to understand, so that has improved my confidence*[337]."

Another boy mentioned, "*Before the online lessons, I felt scared to go to school because the teachers would cane you if you were unable to answer a question. But the online lesson isn't that way*[338]."

Facilitators and teachers also noted that MGCubed training contributed changes in their approach to classroom discipline: "*We would have still been using the old method of teaching and learning and also when it comes to our classroom management, we would have to be using the cane on the children as usual*[339]*."*

Unreliable technology negatively affected teaching quality.

The project planned and implemented considerable technological maintenance training, and ___ stated that the project's technical support boosted their confidence and success in utilizing

[333] KII with a Girl with a Disability 2
[334] KII with a Girl with a Disability 2
[335] 41% of the girls in Oti reported corporal punishment, compared to 54% of girls in Greater Accra. This suggests important regional differences.
[336] FGD with Girls on Safeguarding – Greater Accra
[337] FGD with Boys in School, Oti Region
[338] *Ibid.*
[339] FGD with MGCubed Facilitator.

technological tools: *"We are prepared because some of us have technical personnel around who will attend to all faulty gadgets."*

Still, unreliable technology hindered gains in teaching quality. In qualitative sessions, ____ shared, *"Sometimes the network would be down, and that makes communication a big challenge*."

However, potential for failing technology, and at least a good number of cases of it in practice in the implementation of MGCubed, must be born in mind for future innovations and/or scale up, particularly in rural areas.

Facilitators considered MGCubed and non-MGCubed lessons to be largely the same, with a slight preference for non-MGCubed lessons.

Lesson delivery is an important component of teaching quality, therefore, comparing MGCubed-supported distance learning lesson with regular lesson yields noteworthy findings on the project's benefits[340].

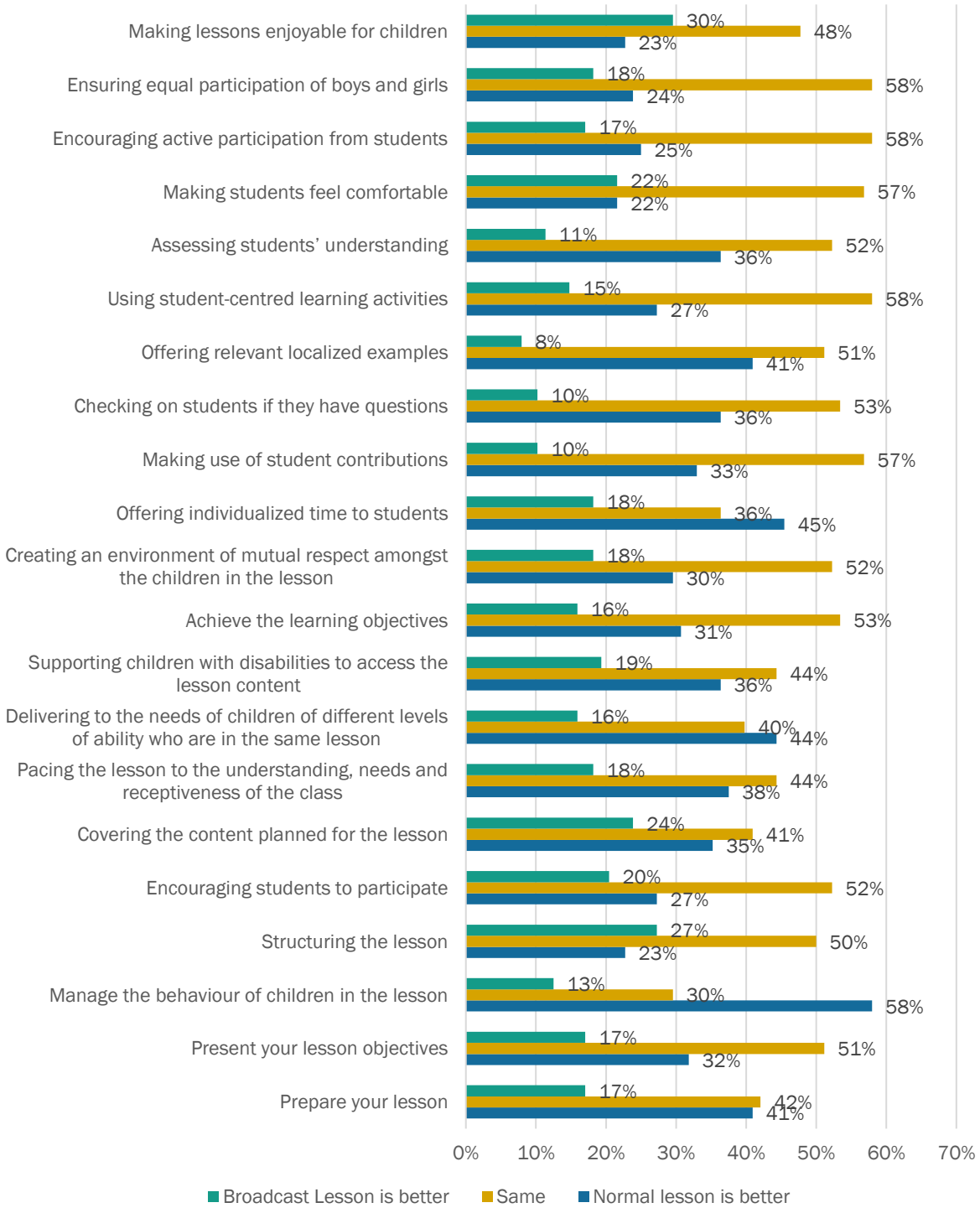
The teacher survey asked MGCubed facilitators to identify which approach was 'better[341]' or 'the same' in different aspects of teaching and learning[342]. Results are displayed on the Figure following.

[340] The aim of the comparison was not to show a definitive conclusion of one model 'over' the other. Each model offers advantages and disadvantages that can be useful in difference contexts. For example, a distance learning model to gives standardized, high-quality lesson content to a wide group of learners. It is not, therefore, necessary to set up these approaches as 'oppositional', even though it is interesting, and important, to understand potential benefits of this approach.

[341] 'Better' may have sometimes been interpreted as 'easier' or 'what I am used to'; there can be a psychological tendency to prefer what you are accustomed to. The overall preference for regular lessons does not diminish the impact of the project, in terms of teaching quality, as evidenced by this evaluation.

[342] See Figure 29.

Figure 29. MGCubed Facilitators' Preference for Aspects of Regular vs. Broadcasted Lessons



Quantitative results show no difference in in most aspects of a lesson. The majority response was that MGCubed and non-MGCubed lessons were 'the same.' This lack of distinction indicates that facilitators did not consider either of the two lesson formats to be 'inherently' better or worse.

Respondents demonstrated strong preferences in only 3 out of 21 items - *"managing behaviour", "offering individual assistance",* and *"catering to the individual needs of students."* In all three of these dimensions, facilitators preferred non-MGCubed lessons.

This preference could be attributed to the fact that the MGCubed lessons demand more from teachers. Classroom management and individualized assistance are difficult when students are learning from broadcasted lessons. These elements also differ greatly from non-MGCubed lessons that teachers are accustomed to where the teacher controls lesson flow.

Even when a majority of respondents considered the formats equal, the remaining facilitators preferred non-MGCubed lessons in all but two of the dimensions: "*making lessons enjoyable*" and "*structuring the lesson*." These aspects are inherently augmented by a video-based learning experience. MGCubed lessons are 'pre'-structured. High-quality teaching techniques and the novelty of learning through the medium of technology tend to make lessons more engaging.

Many of the items for which non-MGCubed formats were preferred[343] relate to lesson ownership, indicating that facilitators preferred to control the lesson over having MTTs control the lesson via video. Other aspects related to time working with and supporting students. Both categories are inherently scaled back in MGCubed lessons compared to regular lessons.

These findings were validated by qualitative interviews where facilitators broadcast lessons had the advantage[344] of exposing to different, less monotonous teaching strategies which kept them engaged[345].

One facilitator noted a potential pitfall of broadcast lessons, saying that some students passively watched the videos without interacting with the lesson. However, few facilitators noted this issue, indicating that active engagement could depend on the facilitator's approach. The project should further consider equipping teachers with strategies to encourage student engagement with videos so that both facilitators and students participate more actively in broadcast lessons.

Other facilitators said that remedial lessons have improved literacy because the teaching techniques used supported children to read, spell, construct sentences, pronounce letter sounds[346].

There are some limitations to acknowledge in comparing lessons in this way.

Firstly, that the aim of the comparison was not to show a definitive conclusion of one model 'over' the other, but that by using this approach for remedial lessons additional advantages can be achieved given the ability of the distance learning model to give standardized, high quality lesson content to a wide group of learners in need of learning support. It is not, therefore, necessary to set up these approaches as 'oppositional,' even though it is interesting, and important, to understand potential benefits of this approach.

Secondly, there is a need for several caveats around our use of this data, and we need caution in terms of conclusions being over-stated.

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343 *"Encouraging participation", "assessing understanding", "using student-centred activities", "offering relevant localised examples", "making use of contributions", "offering individualised time to students", "supporting children with disabilities", "achieving learning objectives", "pacing the lesson in response to the learners", "covering the planned content", "presenting lesson objectives"* and *"preparing your lesson."*

344 FGD with MG cubed facilitators Oti region

345 FGD with MG cubed Facilitators

346 *Ibid.*

- ‘Better’ may have sometimes been interpreted as ‘easier’ or ‘what I am used to;’ there can be a psychological tendency to prefer what you are accustomed to.

The overall preference for a format of a regular lesson over video-led, does not diminish the impact of the project, in terms of teaching quality, as evidenced in this evaluation.

Both Girls and facilitators had mixed views of broadcast versus regular lessons.

Some girls praised facilitators for checking student understanding and reinforcing MTT lessons while others said that facilitators did not exhibit these practices[347].

Facilitators also had mixed views about the effectiveness of MGCubed lessons compared to normal lessons. Some facilitators report that girls understood regular lessons better because broadcast lessons moved too fast[348]. Other facilitators report that MGCubed lessons helped them to easily structure the lesson[349], and supported learners according to different levels of ability[350].

Technology issues caused some frustration with broadcast lessons.

Potential advantages of broadcast lessons were limited by technological challenges. Qualitative data showed that teachers were frustrated by equipment malfunctions and internet outages.

Girls mentioned that the TV in the classroom turned off at times, which interrupted the lesson[351].

[347] FGD with MGCubed Girls #1
[348] FGD with MGCubed Girls #3
[349] FGD with MG cubed facilitators Oti region
[350] Ibid.
[351] Ibid.

5.3 Life Skills

To support marginalised girls' life skills, MGCubed:

- ✓ Trained teachers to organize interactive after-school clubs for girls and boys
  - o Wonder Woman clubs for girls, Boys' Boys Clubs for boys and mixed clubs attended by both girls and boys
- ✓ Organized after-school clubs which introduced girls and boys to content covering careers and future aspirations, adolescence and reproductive health, nutrition, gender stereotypes, and inclusion[352]
- ✓ Trained DEO officers to monitor club activities
- ✓ Trained facilitators on how they could support the socio-emotional wellbeing of learners to landscape.

Academic self-efficacy is understood as a person's belief that they can successfully reach a specific academic goal or reach a certain level of academic achievement[353]. In self-determination theory, academic self-efficacy/perceived competence), autonomy/agency, and belonging are necessary for goal-directed behaviour.

The evaluation team measured[354] academic self-efficacy by asking girls to what extent they agreed or disagreed with the statement, "*I believe I can succeed in school.*"

Girls had high academic self-efficacy at endline.

A large proportion (88%) of girls at endline believed they could succeed in school, demonstrating high academic self-efficacy. There was a higher proportion of girls in Oti who believed they could succeed in school than in Greater Accra[355].

[352] Prior to COVID-19, 40 hours of interactive Wonder Woman, Boys Boys, and Mixed Club sessions were delivered for 4 hours per week in 212 classrooms (72 schools) over the course of 3.5 years. The sessions paused during school closures and resumed once school reopened. Project staff adapted after-school clubs to pandemic conditions by reducing club size and running the same sessions multiple times for different groups. This meant working at a reduced timetable to be able to accommodate the same number of project participants. For this outcome, all target outputs were met, indicating project effectiveness.
[353] Bandura, 1997; Eccles & Wigfield, 2002; Elias & Loomis, 2002; Gresham, 1988; Linnenbrink & Pintrich, 2002a; Schunk & Pajares, 2002).
[354] A different method was used to measure self-efficacy at midline, relining out the ability to definitely understand the change in academic self-efficacy between periods.
[355] There was a significant association between region and high academic self-efficacy, according to chi-square tests ($p<.05$).

The project has supported girls to improve academic self-efficacy between midline and endline.

Evidence from the qualitative sessions suggests that girls raised their academic self-efficacy between periods.

Girls reported that the clubs contributed to increased confidence: "*The project has improved my confidence as compared to before,*" "*at first, we the girls were scared to participate in the school quiz, but now we do it confidently.*"

Headteachers also reported that girls became more assertive and confident because of the project[356].

One caregiver believed that, without MGCubed's program. her daughter would not have been interested in learning: "*Some too would have not shown any interest in learning*[357]."

After-school clubs helped girls build confidence in their academic abilities.

In interviews, many girls shared a belief that the clubs helped them gain the confidence in English and mathematics. They identified that after-school clubs and remedial sessions, in particular, contributed to their confidence[358] as did teaching strategies used by facilitators.

Wonder Women Clubs provided female-only spaces for girls to build their confidence self-advocacy skills.

According to interviewed girls, Wonder Woman Clubs provided safe female-only spaces where girls could discuss important issues relating to their life skills and practice having challenging conversations. Girls also reported that they were more confident to voice their concerns at home because of the skills developed through the clubs.

The clubs were an effective mechanism for shifting attitudes towards gender roles and challenging gender stereotypes.

In clubs, girls learned that they were equal to boys and that they could aspire to the same roles in school and society.

In interviews, many girls of girls demonstrated how their perceptions about women's role in society and their aspirations changed as a result of participating in mixed clubs: "*If a man can be a carpenter, then a woman can also be a carpenter*[359]," said one young mother.

In other sessions, girls reported that Wonder Women clubs taught them that "*both boys and girls can perform the same tasks.*" Another girl said, *"They used to say, 'girls are meant for the kitchen,'*

[356] KII with Headteacher #1 GA
[357] FGD w caregivers re teaching quality 2
[358] FGD w MGCubed girls Odumase
[359] KII with young mother in school-Oti Region

but through these online lessons, I have realized that women can also do what men do. That I can also go to school and become whatever I want to become in future[360]*."*

When asked about the most significant changes brought about by the project, many girls linked their participation in clubs with examples of how they were now better able to speak to family members about things they want to change. Parents and caregivers confirmed these findings with one respondent saying that they *"also learned that what a woman can do, men can also do. So, boys should also be included in household chores.*[361]*"*

Boys Clubs taught boys about gender equality and supported them to understand why household chores should be divided equitably.

Boys reported that their housework is divided more equitably in households, especially after discussions about gender roles in Boys clubs[362].

The clubs supported girls and boys to learn about their rights, sexual abuse, and the risks of early marriage.

According to interviewed girls, the clubs taught them about their rights, the benefit of abstaining from sex, their right to bodily autonomy, and how to report abuse or harassment.

Girls reported that clubs discussed the importance of delaying marriage until after completing their education[363]. Girls also said that they learned about their right to say no unwanted sexual advances and how "*stay away from [sex]*[364]."

In FGDs, both girls and boys reported they were advised to abstain from sex, following GES guidelines[365]. A GES directive required the project's sexual education to stipulate that abstinence is the only form of contraception.

Girls believed teachers would take appropriate to address reports of bullying.

MGCubed facilitators taught students how to report and that reporting would be safe and confidential. 94% of girls said that they think their teacher would take the appropriate actions to address reports abuse or bullying[366].

During endline discussions, MGCubed facilitators discussed the appropriate pathways for reporting abuse: *"It depends on the kind of abuse. That is why I have to go through the channels of communication such as the counsellor, coordinators, and the district education services*[367]*."*

[360] FGD MG3 girls Odumase
[361] FGD with Caregivers on Teaching Quality, Remedial Lessons and Life Skills #1
[362] FGD with Boys
[363] FGD with MG CUBED GIRLS 1
[364] FGD with MG CUBED GIRLS 2
[365] Validation Workshop
[366] N=693.
[367] FGD with MGCubed Facilitators on safeguarding.

Several girls reported cases of harassment which were referred to the project team for follow-up.

Girls in both primary and secondary levels reported cases of harassment in schools, including boys: "*saying they like you*[368]," "*gossiping and calling you his girlfriend*[369]," "*touching you when you are playing with them*[370]," "*teasing [girls] when they have their menses*[371]," and "*insulting me when I try to ask a question*[372]." In line with child safeguarding practices, __ reported these cases to project staff who followed-up through relevant and agreed processes.

The project taught girls steps they could take to keep themselves safe.

Girls reported that club discussions taught them how to avoid situations that may expose them to harm. Discussions centred around risky behaviours such as "*drug abuse, stealing, and smoking*[373]," and "*having sex with those boys in exchange of money*[374]."

MGCubed facilitators assessed that girls would be worse off without after-school clubs because the clubs taught girls their rights as women, when to have sex, and how to prevent pregnancies and STIs[375].

Wonder Woman clubs equipped girls with useful knowledge menstruation hygiene management (MHM).

Girls found the Wonder Woman club lessons on MHM to be extremely relevant. When asked what they remembered learning about in the clubs, the majority of girls highlighted "*taking care of ourselves during our menses*[376]" and how to "*keep clean*[377]."

In FGD sessions, girls, caregivers[378], and MGCubed Facilitators reported MHM was among the most relevant and useful topics taught by after-school clubs[379]. Facilitators explained that, without proper MHM, girls would feel discouraged from coming to school during their menstrual period, but thanks to the clubs, they now have the knowledge to manage it in school[380].

At times, facilitators also engaged female role models from the community to speak on MHM, teach the girls how to create sanitary pads, and how to maintain good hygiene[381].

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368 FGD with MG CUBED GIRLS 1
369 *Ibid*.
370 *Ibid*.
371 *Ibid*.
372 FGD with girls on life skills and transition
373 FGD With in school girls on Covid 19 and closure
374
375 FGD on with MGCubed facilitators on safeguarding
376 FGD with MG CUBED GIRLS 1
377 FGD with MG cubed girls-Oti Region
378 FGD with care givers on teaching quality, remedial lessons, and life skills#2
379 FGD with MG cubed girls-Oti Region;
380 FGD with facilitators on barriers to education
381 FGD on with MGCubed facilitators on safeguarding

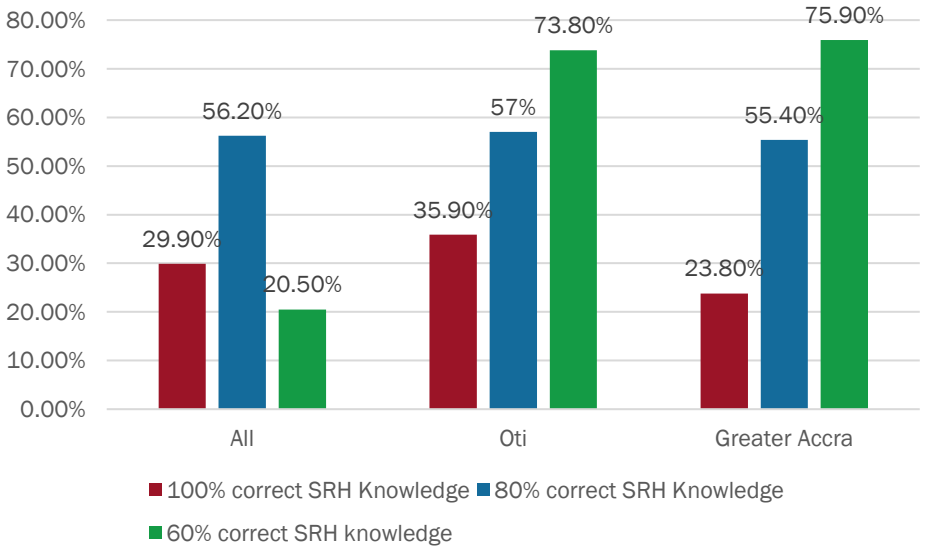
One girl with a disability mentioned that future clubs should help girls obtain clean MHM materials or "*pads*" to "*help them learn well*[382]," indicating that this intervention was highly valued and should be repeated.

Only 1/3 of sampled girls demonstrated accurate knowledge and understanding of sexual and reproductive health issues.

At endline, 30% of girls had *accurate* SRH knowledge[383] and 56% had *some* SRH knowledge[384]. This shows that there is still a large percentage of girls with significant gaps in their knowledge of SRH issues.

Fewer girls from Greater Accra had correct SRH knowledge than from Oti[385].

Figure 30. Percentage of Girls with Correct SRH Knowledge by Region (Tracked Cohort)



By the endline, most girls were aware of their sexual and reproductive health rights (SRHR) and how STIs like HIV are transmitted.

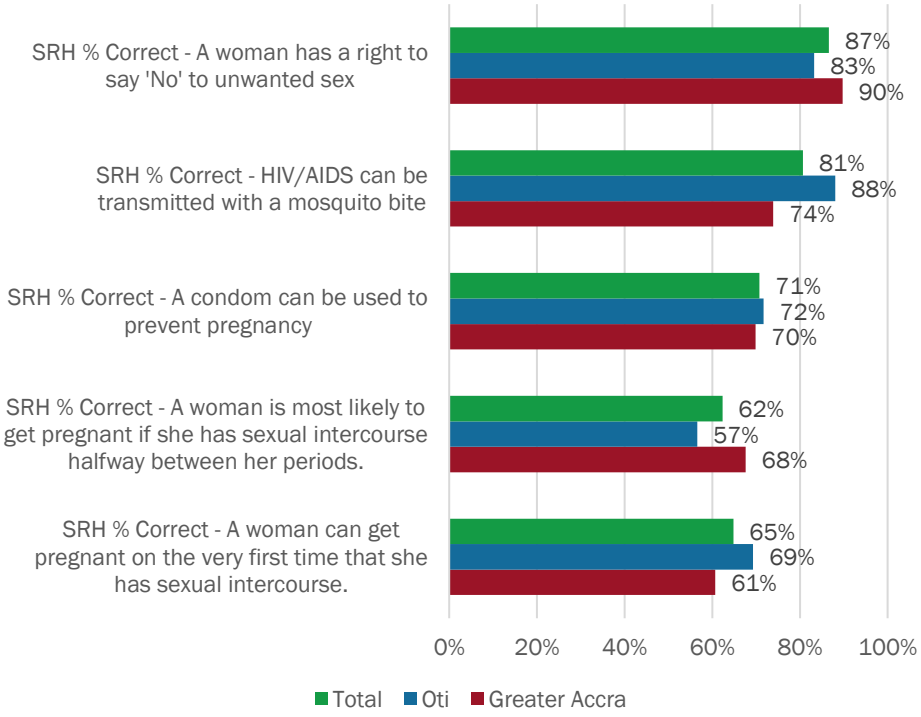
87% of girls correctly answered that 'a woman a right to say 'no' to unwanted sex,' suggesting that knowledge of sexual and reproductive health rights was somewhat prevalent.

A smaller majority of girls had relevant knowledge about how to prevent pregnancy. 70% of girls thought that a condom can be used to prevent pregnancy, 68% knew the point in their menstrual cycle when they are most likely to get pregnant, and 65% knew that they can get pregnant the very first time that they have sexual intercourse.

In order to comply line with national policy, MGCubed clubs could only promote abstinence. The resulting education restrictions likely contributed to the knowledge gap.

[382] KII with a girl with disability-Oti region
[383] 100% of questions on SRH answered correctly.
[384] At least 80% correctly answered items. I03.2
[385] p<.05. See Figure 30.

Figure 31. % of Girls Who Responded Correctly to SRH Items (Tracked Cohort)



Pregnant girls had better SRH knowledge than their peers.

At endline, 71% of pregnant girls correctly answered that *"a woman is most likely to get pregnant if she has sexual intercourse halfway between her periods,"* compared to 57% of their peers. 100% of pregnant girls knew that they can use a condom to prevent pregnancy, compared to 62% of their peers.

However, pregnant girls were less informed about STI prevention as only 43% knew how HIV is transmitted, compared to 78% of their peers. This could suggest that pregnant girls learned SRH information after they got pregnant as they were increasingly more informed about the process.

At endline, only 66% of girls in secondary school and 57% of girls in primary school knew that they could get pregnant during their first sexual intercourse.

Girls in secondary school had significantly better SRH knowledge than girls in primary school.

42% of primary school girls and 66% of secondary school girls had at least 80% correct SRH knowledge. This distinction could be attributed to the fact that Comprehensive Sexuality Education (CSE) is delivered in secondary schools and that topics related to sex become more relevant during adolescence[386].

[386] N=640; p<.001 for all variables.

Only 53% of girls (33% of primary school girls and 67% of secondary school girls[387]) had heard of any method to avoid pregnancy[388], and most of these girls were in secondary school.

Of girls who knew how to prevent pregnancy, 77% knew about abstinence[389] and 82% knew about male condoms[390].

As girls grew older, they were more likely to understand their right to say no to unwanted sex[391].

Girls without correct SRH knowledge attended school less frequently.

14% of girls without correct SRH knowledge had extremely low attendance[392], compared to 3% who had correct SRH knowledge, at midline[393]. At endline, 20% of girls without correct SRH knowledge had low attendance.

This indicates a link between knowledge of SRHR issues and higher school attendance. Improving girls' SRH knowledge through after-school clubs could be a key mechanism for improving attendance outcomes.

Girls whose caregivers had positive attitudes towards girls' education had better SRH knowledge than their peers.

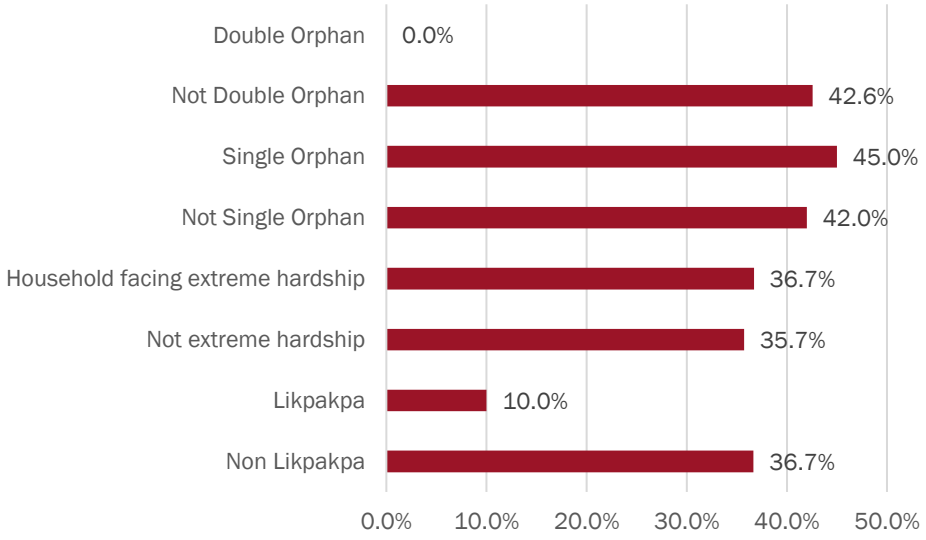
60% of girls whose caregivers had positive attitudes towards girls' education had correct SRH knowledge compared to 39% of girls whose caregivers did not have positive attitudes[394]. This validates the project's strategy of training communities on the value of girls' education. The project should undertake additional work on comprehensive sex education for parents to sensitize them on the key SRH messages they should deliver to their children.

Findings also show that the SRH knowledge gap is wider for children who are orphaned, girls from the Likpakpa Group and girls living in households experiencing hardship.

Therefore, project contributions towards SRH knowledge improvements might have been more limited for these groups when compared to others. Future interventions can explore ways to deliver comprehensive sex education content through caregivers, though exploring how orphaned children can also be included.

[387] N=100 and N=294 respectively.
[388] N=397
[389] N=305
[390] N=324
[391] Model: df= 1, N=749, p<.001; Indicator: B=.157, S.E = .043, p<.001.
[392] Defined as a net attendance rate of less than 85%.
[393] (p<.001). Correct SRH knowledge at minimum threshold of 60%. (p<.05)
[394] (p<.05)

Figure 32. % of Girls Who Scored 100% on SRH Knowledge Items



Schools that parents perceive to be well-managed are also better at providing SRH information to their students.

33% of students from schools perceived to be well-managed have correct SRH knowledge compared to 17% of girls from schools that are not. This suggests that MGCubed's interventions for improving school management affected overall awareness of the gender-specific needs of girls and boys, including SRH.

Clubs influences on girls' confidence.

In qualitative sessions, girls reported that they are more confident to voice their concerns at home as a result of the project. Many girls said that one of the most significant changes brought about by the project was that clubs equipped them to better speak to family members about things they want to change.

For example, one girl mentioned that she convinced her family to cover sources of stagnant water to prevent malaria and "correct[ed]" them when they did not "dress decently[395]."

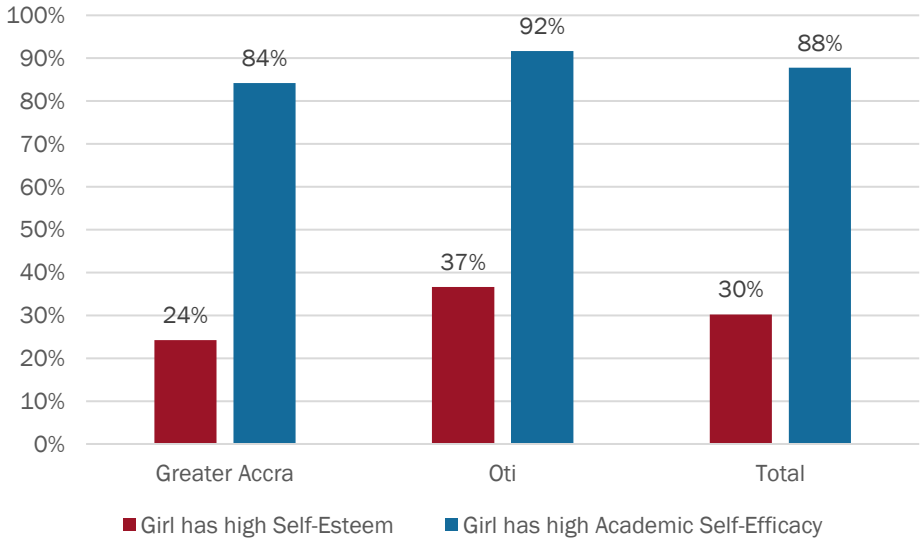
Another girl felt that her participation in the club helped her advise [396] her parents to engage in healthier behaviours, "*for example, if your parents like drinking alcohol, you should talk to them about stopping*[397]*.*"

[395] FGD with MGCUBED GIRLS 3
[396] FGD with MGCUBED GIRLS 3
[397] *Ibid.*

A minority of girls had high self-esteem[398] at endline.

More girls in Oti had higher levels of self-esteem than in Greater Accra[399], however, only 30% of girls overall had high self-esteem at endline[400]. School closures and isolation imposed by lockdown likely influenced girls' self-esteem between midline and endline.

Figure 33. Percentage of Girls with High Self-Esteem and Academic Self-Efficacy



School clubs strengthened the way girls see themselves with regards to their gender roles.

Significant qualitative evidence from discussions with girls, parents, and facilitators suggested that clubs supported girls to improve their sense of self-worth. Respondents identified that clubs' inclusion of community role models who spoke to girls and demonstrated the diversity of roles women can occupy had a significant and positive effect.

MGCubed cash transfers supported high self-esteem in girls.

Girls who received a cash transfer from MGCubed had higher self-esteem than girls who did not. 32% of girls who received a cash transfer had high self-esteem compared to 21% of girls who did not[401].

According to interviews with stakeholders, this distinction could be attributed to the negative effects of poverty causes on self-worth.

[398] Self-esteem refers to the extent to which we like, accept, or approve of ourselves, or how much we value ourselves. Self-esteem always involves a degree of evaluation, and one may have either a positive or a negative view of themselves[398]. Self-esteem is closely associated with well-being and several other adaptive outcomes for children, adolescents, and adults in diverse cultures[398]. Self-esteem was measured through the Rosenberg scale, with girls scoring a mean of 4 or greater across items (out of a maximum of 5) categorized as having high self-esteem.

[399] $p<.05$

[400] Self-esteem was not measured at midline, so changes in self-esteem are difficult to definitively assess.

[401] $p<.05$

Community trainings supported girls' higher self-esteem.

Parental attitudes toward girls' education were the most powerful predictors of girls' self-esteem. 34% of girls whose parents supported girls' educational rights had high self-esteem compared to 8% of girls whose parents did not.

According to this data, community trainings on girls' education and child protection and safeguarding likely contributed to girls' self-esteem.

Qualitative evidence also suggests that parental attitudes influenced how girls see themselves[402]. According to project staff, the self-esteem of girls and boys who do not live with their biological parents is often affected by their situation. Facilitators reported that many parents who are not "*financially sound*" send their biological children to live with other families[403]. These families, in turn, expect that girls help them in business and other household duties, making it difficult for girls to focus on their schooling[404]. These households were difficult to engage through community sensitization activities[405].

School leadership training on girls' education positively impacted girls' self-esteem.

Girls were more likely to have higher self-esteem in schools that parents consider well-managed. 32% of girls whose caregivers believed their school was well-managed had self-esteem compared to 20% of girls whose caregivers did not[406].

This suggests that the project's leadership training focusing on girls' educational rights and how schools support girls directly affected girls' self-esteem.

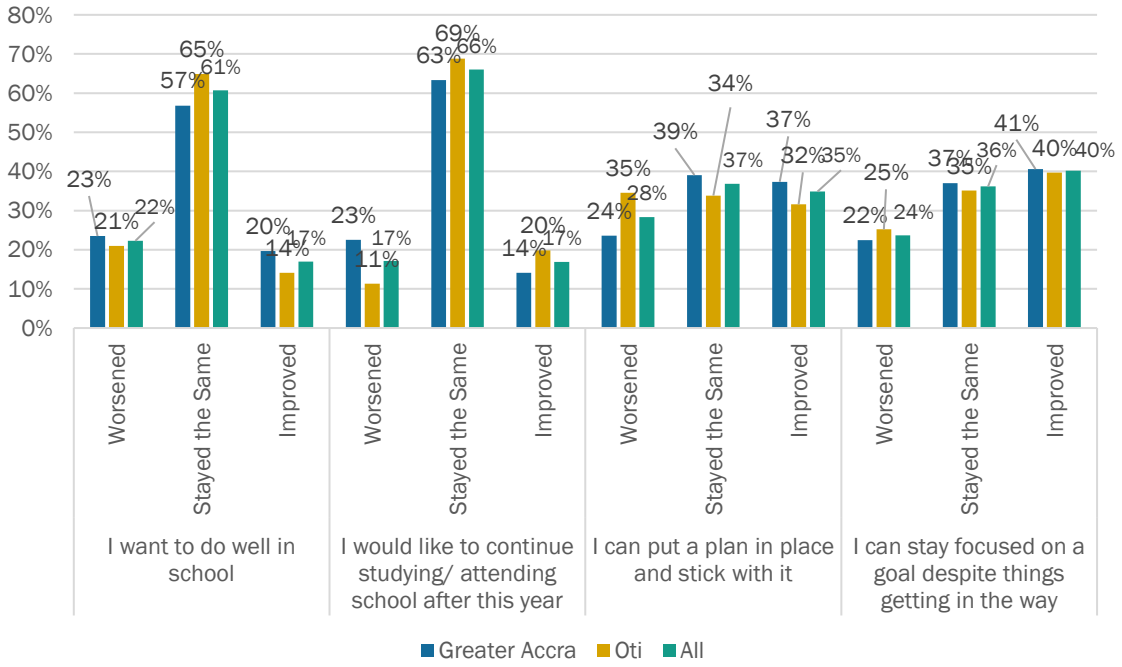
The project supported improvements in girls' planning skills and resilience.

At endline, 100% of girls wanted to do well in school (2% increase since midline) and 99% wanted to continue studying (1% increase since midline).

86% of girls at endline said they could put a plan in place and stick with it (2% increase midline), and 88% could stay focused on a goal despite obstacle (11% increase since midline).

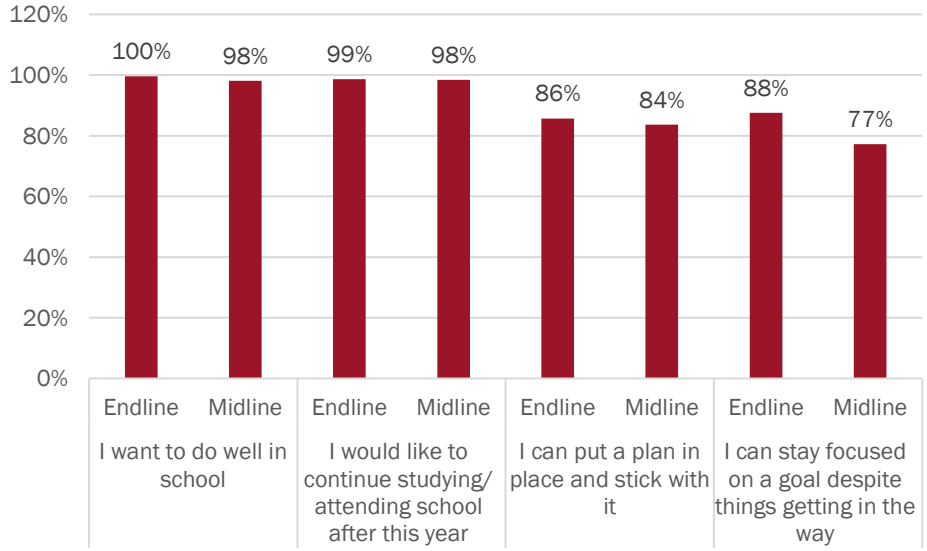
[402] MGCubed facilitators indicated that, in some cases, parents used discouraging words when they communicated with girls (e.g. *'you're useless'*). Facilitators suggested that this affected how girls saw themselves and their aspirations in school. FGD with Facilitators on Barriers to Education.
[403] FGD with MGCubed facilitators on professional development
[404] *Ibid.*
[405] KII with Project Staff
[406] N=183 and N=33 respectively (p<.001)

Figure 34. Changes in Personal Skills From Midline to Endline



The greatest improvement in personal skills between midline and endline was in staying focused on goals. 40% of girls reported improvements in perceived levels of focus and resilience.

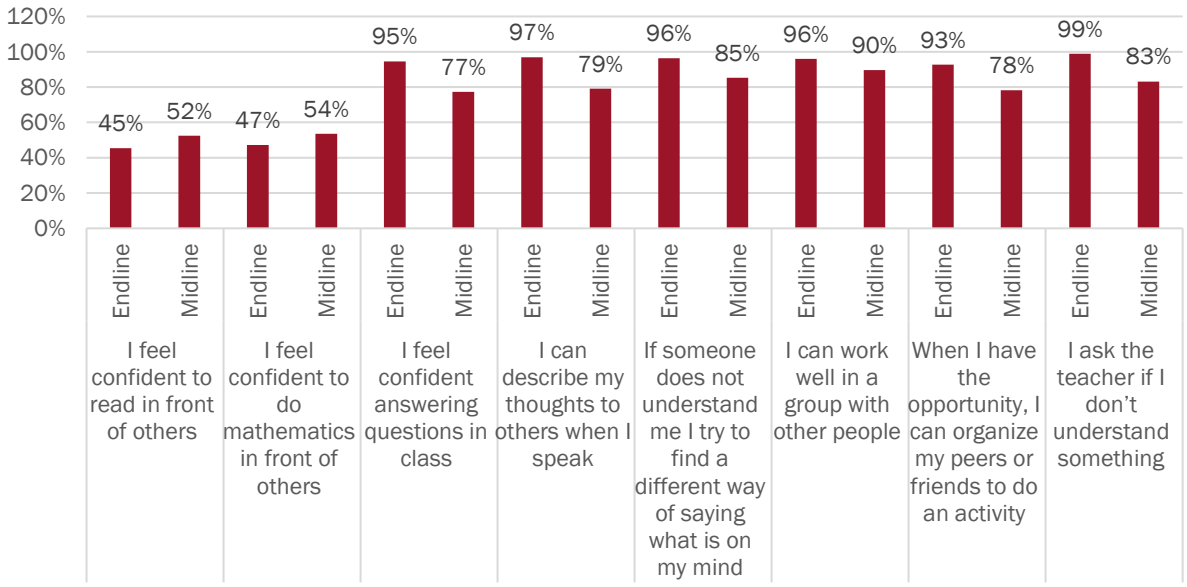
Figure 35. Percentage of Girls with Positive Attitudes Towards their Personal Skills (Tracked Cohort)



Since the midline, the project supported girls to improve skills describing their thoughts to others when they speak, answering questions in class, engaging in teamwork, organizing activities with peers, and asking teachers if they do not understand something.

More girls in secondary school[407] than primary school[408] felt equipped to describe their thoughts to others, organize their peers, and have confidence reading and doing mathematics in front of others.

Figure 36. Percentage of Girls with Positive Attitudes Towards their Inter-Personal Skills (Tracked Cohort)



Girls' confidence answering questions in class improved the most between periods.

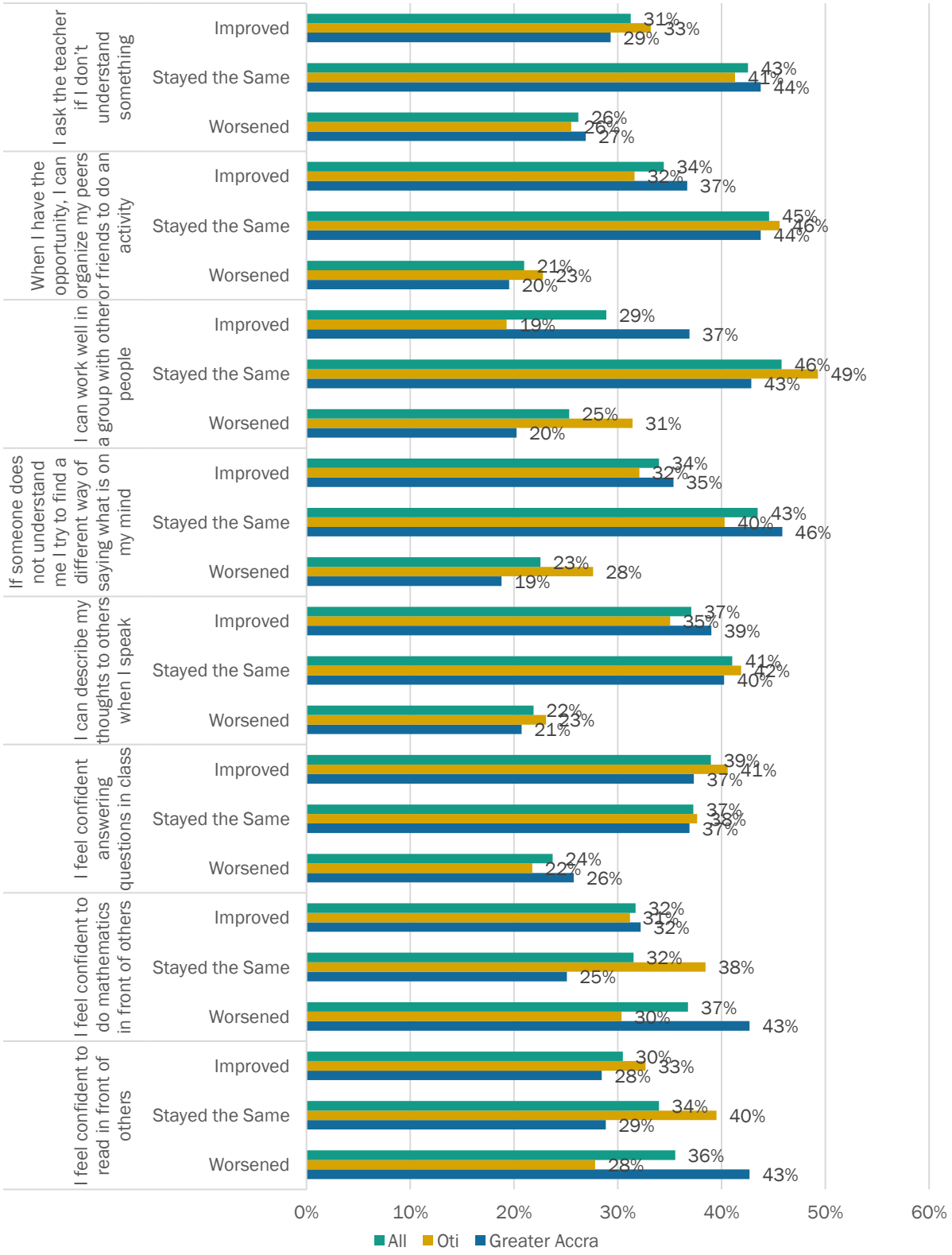
The Girls' Survey demonstrated an increase from 80.5% to 85.1% of girls agreeing or strongly agreeing they were confident answering questions in class[409].

Qualitative evidence suggests that clubs taught girls the importance of class participation and asking questions when they need to. One girl shared, *"At first, the girls did not want to involve themselves in any school activity, but the [MGCubed] lessons have taught us the importance of participating, so we now involve ourselves in all school activities*[410]*."*

Teaching quality improvements, including student-centred techniques, likely contributed to these improvements, according to interviews with girls and teachers.

[407] N=298 and N=436 respectively
[408] (p>.05)
[409] Midline (2019) and Endline (2021) Girls Surveys respectively
[410] FGD w MGCubed girls Odumase

Figure 37. Improvements in Inter-Personal Skills Between Midline and Endline



The proportion of girls who felt confident reading and doing mathematics in front of others decreased between midline and endline, likely due to school closures.

The proportion of girls who felt confident reading and doing math in front of others decreased by 7% between midline and endline. This improves slightly when girls progress into secondary school but not dramatically.

In qualitative sessions, teachers explained that girls felt anxious about doing math despite the project's work to help teachers teach math in a more engaging way.

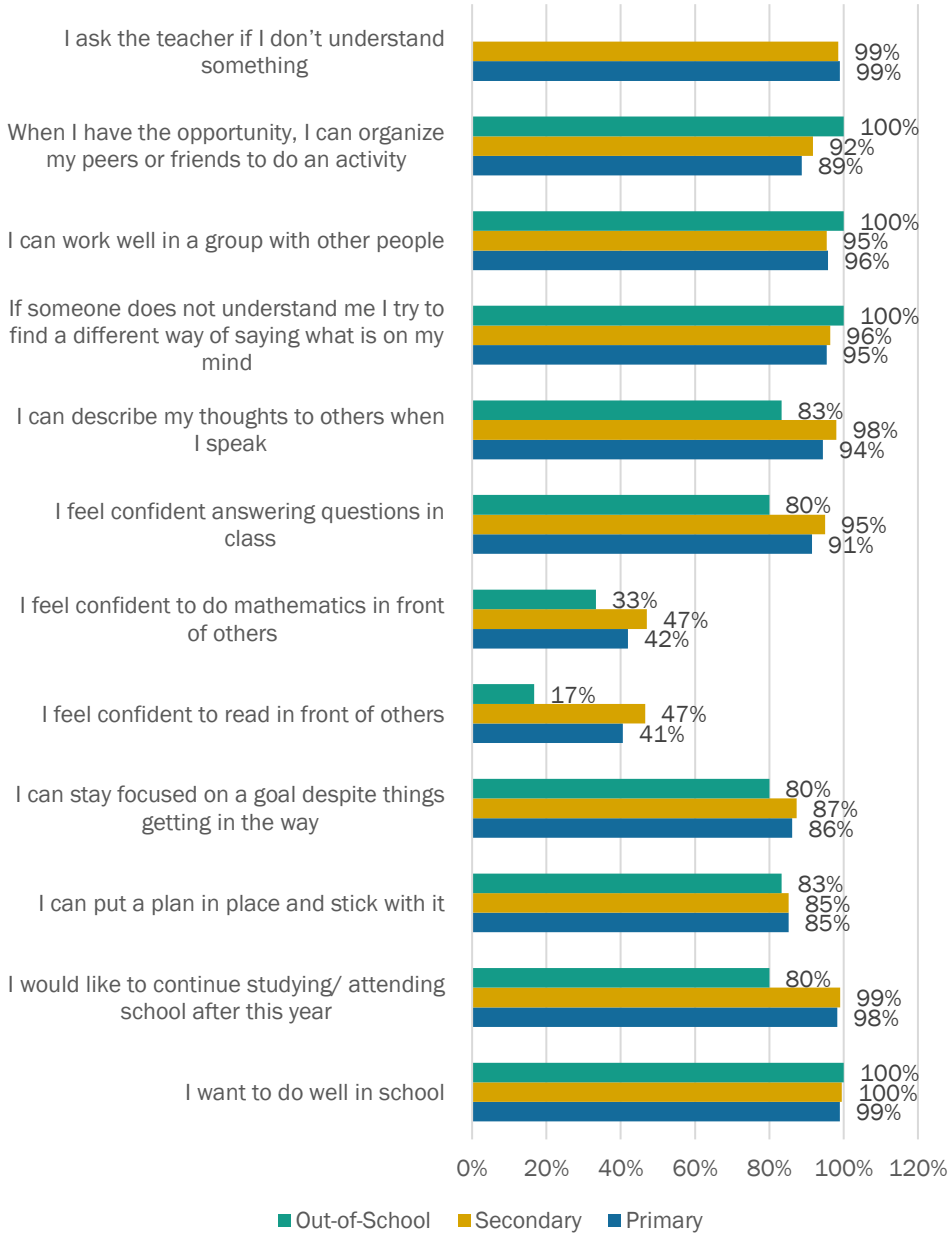
In qualitative sessions, teachers mentioned that children believed math was too difficult for them and are afraid engaging with it: *"I would like to say that the fear of numeracy alone in the children is great…The fear has been placed in them that numeracy is difficult. So, no matter the strategies you use to make them understand, they still have the challenge*[411]."

Facilitators and teachers also mentioned that the projects child-centred strategies helped keep children engaged and interested in the subject. One an MGCubed facilitator elaborated, "*We now have different methods to make it very simple for our students to comprehend what we teach.*"[412] However, engagement did not translate into students' academic self-efficacy in the subject.

Covid-19 and school closures likely influenced children's levels of reading and math anxiety. During closures, students might have fallen out of practice with the subjects and lost their momentum for confidence-building.

[411] FGD with Non MGCubed teachers on PD and DL
[412] FGD with MGCubed facilitators on professional development

Figure 38. Percentage of Girls Whose Perceptions Towards their Inter-personal Skills Worsened, Stayed the Same or Improved by Region (Tracked Cohort)



The project's theory of change was confirmed by strong relationships between life skills and other desired educational outcomes at endline.

Endline evidence shows strong relationships between life skills and other outcomes of the project, verifying the project's theory of change:

- ✓ Girls who could stay focused on goals and believed they would succeed in school (academic self-efficacy) performed better on math assessments[413]

[413] ($p<0.05$)

- ✓ Girls who were motivated to continue studying had higher levels self-efficacy and self-esteem[414]
- ✓ Girls who wanted to continue studying (high academic self-efficacy) were more likely to have greater improvements in literacy[415]
- ✓ Girls who could describe their thoughts to others[416], organize peers, and answer questions in class had higher academic self-efficacy[417]
- ✓ Girls who felt confident reading in front of others had higher self-esteem[418] and academic self-efficacy[419]
- ✓ Girls who felt confident doing math in front of others improved their school attendance[420]
- ✓ Girls who felt confident answering questions in class had higher improvements in math[421] and literacy[422]
- ✓ Girls who could organize peers or friends to do an activity improved in literacy[423]
- ✓ Girls who could ask their teachers when they did not understand something had a higher likelihood of successfully transitioning[424]

Clubs supported children to learn practical life skills and envision aspirations for the future.

Clubs provided financial literacy training so that girls. Many girls reported that they learned how to save money and use it towards certain expenses in case their parents were unable to provide. According to qualitative sessions, some girls received pocket money from their caregivers, which they save rather than spend after club financial literacy training. Girls also said they used their money to "*buy sanitary pads*[425]."

In clubs, girls also learned craft skills, like weaving baskets or brooms, which they later sold for profit. A girl with a disability said these skills helped her earn money "*to buy books for school*[426]." This qualitative evidence shows that girls felt they could rely on themselves to cover some financial burdens when their caregivers could not.

Other girls spoke up when their clubs stopped providing craft skill training. The girls wanted these trainings to continue because they had previously derived benefits from it.

Overall, the project's after-school clubs led to changes in attitudes about gender norms and stereotypes and increases in girls' sense of self-worth and efficacy.

As a result of the project's after-school clubs, girls felt they could achieve the same things as boys and understood that household tasks are not solely a girl's domain. Changes in attitudes extended

[414] p<.001. Both in the tracked and general cohort.
[415] p<.05
[416] p<.05
[417] p<.05
[418] p<.001
[419] p<.05
[420] p<.05
[421] p<.05
[422] p<.05
[423] p<.05
[424] p<.001
[425] FGD with MG CUBED GIRLS 1
[426] KII with a girl with disability-Oti region

to boys as well. One boy said, "*The clubs have shown to us how some girls have gone to school to become great people such as doctors and engineers*." Another boy said, "*we have been enlightened…girls are not meant for the kitchen. So, the boys no longer look down on the girls."*

Some boys also mentioned that the clubs' lessons increased their respect for girls, and that girls could hold the same roles and responsibilities as boys: *"I thought girls are not important, but the mixed session has changed that perception."*

Girls, boys, caregivers, teachers, and GES officials all valued club methodology. MGCubed clubs should considered an effective model for future education programs in Ghana.

5.4 School Governance

This chapter examines whether MGCubed trainings helped school leaders and DEOs introduce sustainable school-level changes that supported girls' learning. The project trains headteachers and executive members from Parent Teacher Associations (PTAs) and School Management Committees (SMCs) to understand the importance of girls' education and follow up on girl-specific issues in their schools either directly or by involving other stakeholders or agencies such as caregivers.

To support school governance MGCubed:

- ✓ Provided studio-based training on school leadership, management, and child protection[427] to 72 headteachers[428]
- ✓ Trained 62 DEOs on specific monitoring tools (focused on attendance, enrolment, teaching quality, and remedial lessons), and worked with GES DEOs to conduct monitoring
- ✓ Conducted face-to face training on school governance for PTA executive members and SMCs from all 72 schools[429]
- ✓ Created a confidential reporting system for safeguarding and protection concerns in all 72 schools

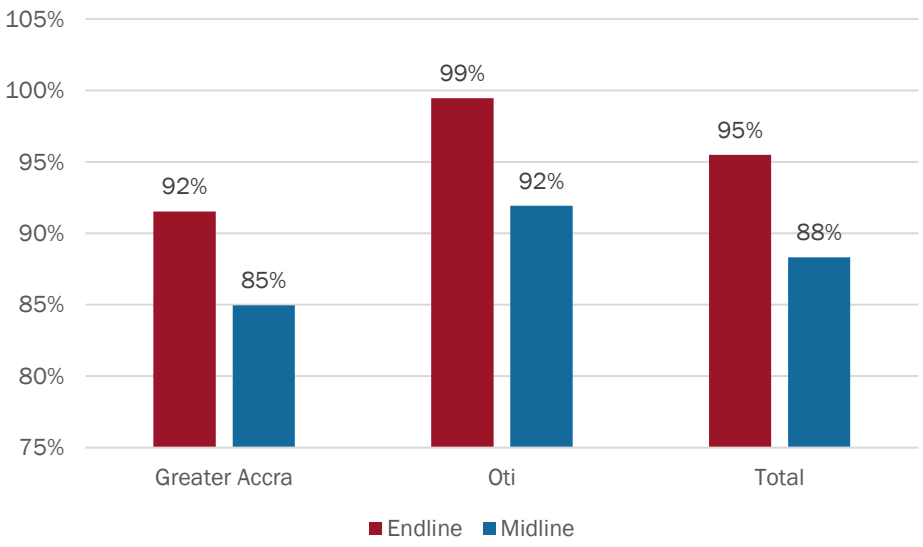
Almost all parents and caregivers believed that MGCubed schools are well-managed. MGCubed leadership training contributed to these improvements, according to headteachers.

At endline, 96% of caregivers believed that the school their daughter attends was managed well or excellently[430], compared to 88% at midline. This change marks an improvement between periods[431].

The Oti region had a greater proportion of well-managed schools than Greater Accra[432].

[427] MEL Framework
[428] The project trained headteachers, GES Circuit Supervisors, and Girls' Education Officers at DEO offices on distance learning technology, safeguarding rules, reporting mechanisms, positive discipline, local referral pathways, classroom observations, monitoring teachers' performance how to support the continuous professional development of their staff, and how to make a clean school environment to lower the risk of COVID-19 (described in the Attendance and Enrolment Chapter). to conduct. The project conducted monitoring activities, including lesson observations. By endline, the project trained 72 headteachers and 62 DEOs.
[429] Plan International Ghana trained SMCs and PTA executive members in-person in small groups every other quarter for all 72 schools. This training explored key concepts from the community training and helped re-enforce learning.
[430] HHS question Q106: *"In your opinion, how well is the school [GIRL] attends managed?"* Respondents could choose between 'excellently,' 'well,' 'fairly,' 'poorly,' and 'don't know.' (IO 4.1)
[431] Differences were significant according to McNemar chi-square tests (p<.001).
[432] See Figure 39.

Figure 39. Percentage of Schools Assessed as Having "Highly Satisfactory" or "Outstanding" School Leadership and Management



There was no significant difference in the opinions of parents and caregivers of different sub-groups of girls, suggesting that this finding applies to all girls in the sample.

Parents and caregivers noted the important changes in MGCubed schools which they attributed to larger improvements in school management. Benefits derived from MGCubed included:

- ✓ School leaders improved efforts to ensure students' learning performance got back on track after the pandemic[433]
- ✓ Teachers increasingly encouraged and motivated children to attend school[434]
- ✓ Schools responded better to the needs of vulnerable children, such as providing uniforms when children could not afford them[435]
- ✓ Schools applied COVID-19 prevention measures by requesting the use of facemasks and providing hand sanitizing facilities[436]

MGCubed leadership training supported headteachers and contributed to improvements in how thy managed schools.

All surveyed headteachers surveyed said that the MGCubed training was useful (94% found it very useful, and 6% found it somewhat useful[437]). 81% of respondents reported that the MGCubed training was better than other trainings they received.

In qualitative sessions, teachers referenced a number of ways that the leadership training provided led them to think differently about issues affecting girls. Many reported that they have employed what they learned from the MGCubed project in their own teacher trainings[438].

[433] FGD with Caregivers on COVID-19 and School Management Oti.
[434] *Ibid.*
[435] *Ibid.*
[436] FGD with Caregivers on COVID-19 and School Management Oti.
[437] N=67; N=4
[438] KII with Head Teacher Oti Region

Some headteachers also reported they gained important leadership skills from MGCubed training, such as managing teachers according to their individual needs and developing varying management strategies for these groups[439].

Headteachers reported that the project training helped them strengthen child protection mechanisms at their school[440], for example, by helping them to establish confidential systems for reporting abuse and by working together with gender coordinators to address school-level barriers to girls' education[441]. Headteachers said that the teaching and learning materials inherited from the project proved extremely useful[442].

Together, these findings show that parents and caregivers believed that management of MGCubed improved since the project began. Testimonies from headteachers suggest that this is, in part, due to the project's leadership training.

Members of the DEO were more prepared to support school leaders and teachers, monitor teaching quality, and deliver quality education for girls.

As a result of MGCubed training, DEO officers such as Circuit Supervisors and Girls' Education Officers regularly visited schools to monitor teacher and student attendance and performance. At endline, 99% of headteachers stated that a member of the DEO office had visited their school in the past term to monitor activities.

According to DEO officers' survey responses, they learned important lessons from MGCubed training, such as:

- ✓ An improved understanding of the expectations of their role and what they can accomplish through it
- ✓ How to monitor teachers' performance and attendance; in particular, through the use of lesson observations
- ✓ How to monitor students' performance and attendance at school, including on literacy, numeracy, BECE examination results, and the number of dropouts re-enrolling
- ✓ An understanding of gender-equality and how to promote it in schools, including common challenges faced by girls in their district and how to specifically support girls
- ✓ How to advocate for girls' educational needs and monitor how girls experience teaching and learning through their lesson observations
- ✓ Conflict resolution
- ✓ How to report cases of child protection and take necessary action

DEO officers confirmed that the project's training was useful. A DEO Director of Service Supervisors mentioned that regular trainings allowed his team to refresh concepts and ensure they could support schools in a relevant way. Other DEO directors said the performance of MGCubed schools helped them meet retention, re-enrolment, literacy, and numeracy target in their districts and avoid lagging behind other districts[443].

These are important steps toward strengthening GES's institutional capacity to support teaching and learning at their schools through key monitoring activities. The DEO Survey showed that the

[439] *Ibid.*
[440] KII with Head Teachers, GA.
[441] KII with Head Teachers, GA.
[442] KII with Head Teachers #1 GA.
[443] KII with Ghana Education Sector Official

majority of DEOs (71% at endline compared to 66% at midline) shared written feedback with school management and headteachers.

100% of DEOs stated that they would continue to use MGCubed monitoring strategies and tools after the project ends, signalling sustainability.

The majority of headteachers believed their PTAs and SMCs to be functioning well.

78% of headteachers reported that their schools had PTAs and SMCs that function very well or quite well[444]. At midline, 70% of headteachers reported that their PTA/SMC was functioning well, suggesting an overall increase of 8%.

PTA/SMC members said MGCubed training gave them important knowledge, including:

- ✓ A comprehensive understanding on their role and expectations as a committee and as executive members of the PTA or SMC[445]
- ✓ An understanding of sexual abuse, exploitation, and harassment and how to respond to cases[446]
- ✓ How to address caregiver concerns about managing their children's behaviour and supporting them at home[447]
- ✓ How to help children catch up with the syllabus after COVID-19 school closures in order to complete the Basic Education Certificate Examination (BECE)[448]
- ✓ How to identify unsafe places in the community and improve safety, such as by petitions for the installation of streetlights
- ✓ How to protect classrooms from theft, such as by installing locks and lights in classrooms where equipment is stored[449]

PTA/SMC members reported that they will continue to apply what their learned from MGCubed once the project is over. Respondents said they will make sure facilitators in charge of the classroom-based equipment continue to use these resources well[450].

PTA/SMC members also said that they would raise awareness about girls' education issues, for example, by having regular discussions with children and parents/caregivers on issues that impact girls' education, including gender norms, early marriage, pregnancy, and unequal distribution of household labour[451].

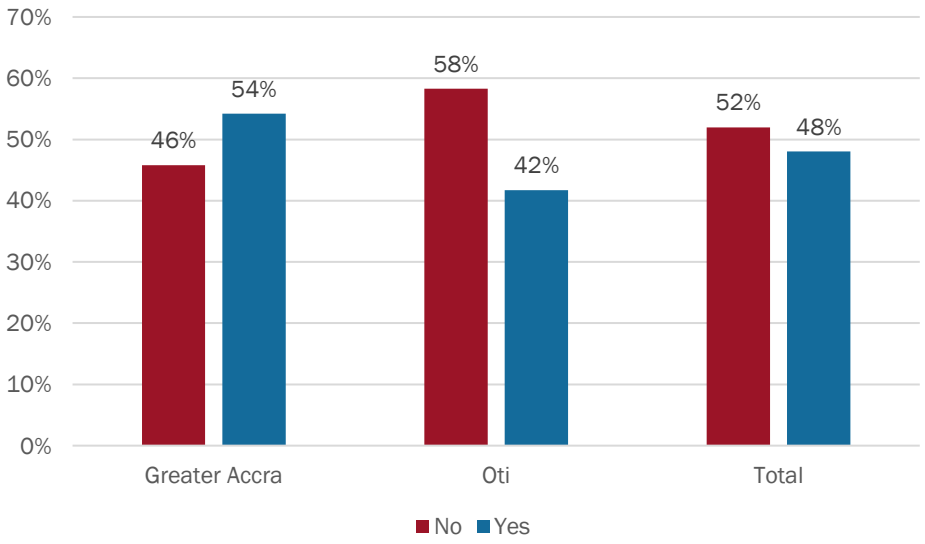
[444] IO Indicator 4.3
[445] FGD with PTA SMC Mabole, GA.
[446] FGD with PTA&SMC Members, Oti Region#1.
[447] *Ibid.*
[448] PTA SMC Mabole-GA
[449] *Ibid.*
[450] FGD with PTA&SMC Members, Oti Region#1.
[451] FGD with PTA&SMC Members, Oti Region#1-

The project supported a reduction in the use of corporal punishment as a form of discipline in MGCubed schools. However, about half of girls sampled reported that corporal punishment was still used.

48% of tracked girls at endline[452] reported that they had observed the use of physical punishment by teachers in the month prior[453]. This compares with 72% of girls at midline[454]. According to girls' responses, corporal punished occurred in 85% of the sampled schools[455]. This explains why qualitative evidence shows mixed results about physical punishment.

The use of corporal punishment was more prevalent in Greater Accra than in Oti, suggesting important regional differences[456]. This is shown in the figure following:

Figure 40. Proportion of Girls Who Had Observed the Physical Punishment in the Month Prior by Region



Qualitative evidence strongly suggests that corporal punishment was used by non-MGCubed teachers and not MGCubed teachers[457]. Girls and boys reported that teachers never used corporal punishment in MGCubed lessons, but other teachers did use corporal punishment in their regular lessons[458].

[452] N=339 and N=1843; All schools where corporal punishment was observed were listed and reported as per the reporting pathway. The midline item read: "Think about the past week at school, or the last week you were in school. In that week, did you see any teacher use physical punishment on other students?" The endline item read: "Now I want you to think about the last month that school was open. In that past month, did you see a teacher use physical punishment on other students? (for example, hitting, beating, caning, or manual labour)?" The differences in the time window asked in the item between periods stems from the need to capture prevalence in a longer period of time.
[453] According to chi-square tests, the differences between periods are statistically significant p<.05
[454] IO 4.2
[455] N=61.
[456] See Figure 40.
[457] FGD with MGCubed Girls, Oti Region#3.
[458] FGD with MGCubed Boys in School, Oti Region

One young mother said the fact that teachers no longer used physical punishment at school was the most important difference in teacher behaviour since the project began[459].

Supporting these findings, MGCubed facilitators said in FGDs that the project's training helped them manage the classroom without using a cane[460]. This suggests that improving teachers' skills in managing classroom behaviours was a key mechanism for reducing corporal punishment in schools.

Facilitators also said that training taught them how to listen to children when they brought cases of abuse and how to navigate the appropriate reporting pathways to address these cases[461].

By endline, 94% of surveyed girls thought their teacher would take appropriate action to address cases of abuse, and 86% of girls agreed that their teachers ensured that children did not get bullied at school.

In qualitative sessions, participants said that without the MGCubed project, girls would not know how to report safeguarding issues[462]. Facilitators noted that the project sensitized students and community members about child protection and safeguarding and provided knowledge to parents and caregivers on how to positively manage behaviour at home without corporal punishment[463].

93% of surveyed headteachers reported that their schools have policies to protect children against sexual, abuse, harassment, and exploitation, however, these findings show that there is still a gap in the application of these policies. Only 31% of headteachers said that all staff members had been trained on the child protection policy. 51% said that only some members of staff were trained on this issue[464].

43% of headteachers reported that their school's protocols were publicized in an appropriate manner or distributed widely. Only 29% of headteachers reported that students had been made aware of the safeguarding policy. Therefore, the majority of schools do not have a mechanism in place to disseminate PSEAH policies and information or allow for easy access of the policy/information.

30% of headteachers said that a child protection case had been reported in the previous year. Students likely did not report all breaches of child protection policies, and many cases might still be unreported. Some girls explained they were afraid to report child protection cases because they feared retribution[465]. Others said they were intimidated by the potential follow-up questions[466] and were concerned that something bad would happen to their teacher if they were to report them[467].

Based on the evidence, MGCubed strengthened child protection systems in schools. Training school leaders and staff on confidential and appropriate child protection reporting mechanisms led to improved child protection policies and increased confidence among girls to report cases of

[459] Kill with young mother in school Oti
[460] FGD with MGCubed Facilitator, Oti Region#2
[461] FGD on with MGCubed facilitators on safeguarding
[462] FGD with facilitators on professional development
[463] *Ibid.*
[464] Endline Headteacher Survey (2021)
[465] FGD with MGC girls #1
[466] FGD with MGC girls #1
[467] FGD with MGC girls #1

abuse. However, as not all members of the regular teaching staff were trained by school leaders on child protection, which could explain the persistent use of corporal punishment in schools.

Only half of project schools had plans for supporting children with disabilities.

School leaders use School performance improvement plans (SPIPs) to summarize objectives and plan how to achieve them. While 97% of headteachers had SPIPs in place, only 56% of headteachers said that their SPIP had specific objectives in place for children with disabilities. This means that many schools have yet to show an increased commitment to create policies that are conducive to all girls exercising their right to quality education.

MGCubed facilitators shared that most school activities were designed for persons without disabilities and that children with disabilities, particularly those with mobility impairments, were left out[468].

A caregiver of a girl with a disability added that bullying is another issue that prevents full participation of children with disabilities[469].

Furthermore, children with disabilities complained about inaccessible infrastructure in communities and schools. Girls with physical impairments, particularly girls who used wheelchairs, mentioned that it was difficult to get around the school[470].

Project schools should consider school-level changes to enhance the participation of children with disabilities in school activities and ensure they feel welcome and safe amongst their peers. This requires investments in infrastructure and special planning for which schools may need increased technical assistance.

[468] FGD with facilitators on barriers to education
[469] KII with a caregiver of a girl with disability-Oti region
[470] KII with a girl with disability

5.5 Community Attitudes and Perceptions

The project aimed to help caregivers gain knowledge and awareness on the value of girls' education, girls' educational rights, how to support girls throughout their educational journey. This includes an understanding of the importance of girls' education for marginalised girls such as girls with disabilities, girls from marginalised communities, and young mothers or pregnant girls. Evaluates measured increases in knowledge and awareness using the HHS which asked caregivers if they agree or disagree with a set of attitudinal items.

To support community attitudes and perceptions, MGCubed:

- ✓ Trained parents and caregivers on why girls' education is important and how to support it, including PTA/SMC training on school governance, child protection, and safeguarding
- ✓ Trained parents and caregivers from 72 communities on supporting home learning, child protection, safeguarding, and school governance once per month over the course of 4 years.
- ✓ Distributed home learning packs and provided guidance to caregivers[471]
- ✓ Disseminated Safeguarding, COVID-19 and back-to-school messages via community information centres, IEC materials and radio[472].

The project supported the majority of parents and caregivers to improve their attitudes towards girls' education.

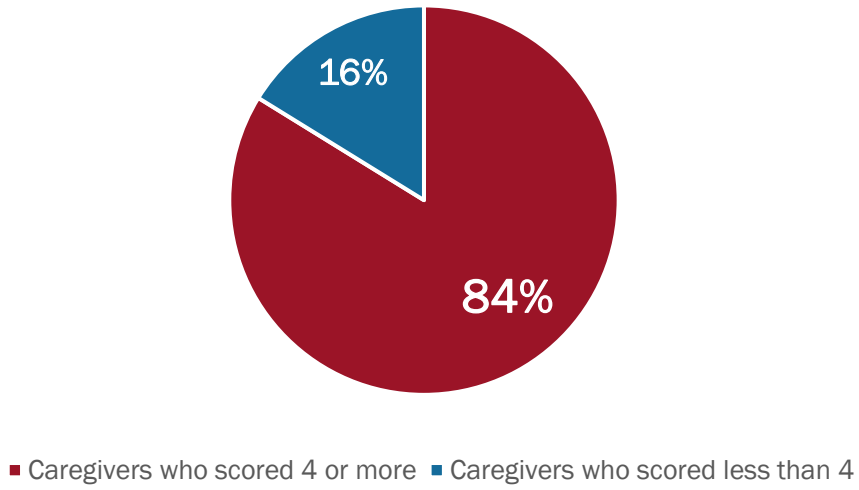
At endline, a majority of caregivers from MGCubed schools held positive attitudes towards girls' education and attributed these changes to the MGCubed project[473]. 84% of parents and caregivers had positive attitudes towards girls' education (84% of female caregivers, and 82% of male caregivers)[474]. This finding triangulates with the Girls Survey, where 88% responded that their parents/caregivers supported their education[475].

[471] Through a combination of direct phone calls, messages broadcast through information centres, district radios and leaflets and online training for caregivers the project aimed to ensure that caregivers were receptive and able to foster an environment conducive to at-home learning.
[472] The project shared announcements regarding school re-opening via posters in the community, phone calls, and text messages in local languages for MGCubed facilitators, caregivers, and PTAs. By doing so, the project aimed to ensure that caregivers re-enrolled their when school re-opened. The project aimed to reach all 72 communities.
[473] To measure whether caregivers held positive attitudes towards girls' education, evaluators created an attitudinal scale called the Parental Support to Girls' Education Scale (refer to 2.2.3.3 for scale description).
[474] N=656; N=527; N=126 respectively. These differences were not significant according to chi-square tests. (IO 5.1)
[475] N=656. This was measured through the Parental Support Scale (11 items) and the Girls' Survey.

In qualitative sessions, caregivers explained that MGCubed helped them appreciate the essence of education and that girls should have been entitled to the same aspirations as boys do. Girls attributed these positive attitudinal changes to the work of MGCubed facilitators[476].

Facilitators explained that, by endline, most parents and caregivers held positive attitudes because the project brought parents, community members, and teachers together to encourage a common view on supporting the education and well-being of girls and boys in their communities[477].

Figure 41. Proportion of Caregivers Who Had Positive Attitudes Toward Girls Education (scored more than 4 on the 12-item attitudinal scale



The MGCubed project supported almost all parents and caregivers to support girls' education even when funds are limited or if their daughter got married.

Parents and caregivers said that the project helped them better understand the value of education and they had made an increased effort to send their child to school. Some parents still did not see the value of schooling[478].

By endline, parents and caregivers prioritized girls' education. 97% of parents and caregivers agreed that, even when funds are limited, it is worth investing in the education of their girl.

Additionally, 91% of parents and caregivers agreed that even if their daughter got married, they would still encourage her to continue with her education. 93% of caregivers stated that they would like their daughter to obtain a college/university degree or higher.

[476] FGD with MGCubed girls, Oti Region
In some circumstances, parents encourage girls to marry as a way of overcoming financial difficulties that prevent them from going to school[477]. Parents and caregivers also said there was a perception that boys will share their success with their household, but girls will benefit their husband's household. Parents and caregivers also discussed that children in single parent households are less likely to attend school because of loss of income.
[477] FGD with MGCubed facilitators, Oti region. See Figure 41.
[478] FGD with Caregivers on teaching quality, Remedial Lesson and Life Skills, Oti Region#2

MGCubed supported the majority of parents and caregivers to prioritize schoolwork over housework and distribute house tasks more equally among girls and boys.

By endline, 85% of parents and caregivers from MGCubed schools prioritized homework over household chores (82% M and 86% F)[479].

MGCubed community trainings motivated positive attitudinal changes towards girls' education among parents and caregivers. These changes resulted in more gender-equitable households.

Parents and caregivers shared that, during training, they learned about gender stereotypes and how these stereotypes affected their views women and men's roles in society and at home[480]. Parents and caregivers said training spurred them to reflect on how they assigned tasks to their children at home, and they started considering splitting the tasks equally among their boys and girls[481].

Boys clubs had a similar effect for boys, who said that before the project, they did not do chores at home, but that changed through self-reflection and parental changes[482].

Girls who were young mothers or worked for family businesses or farms were more likely to have caregivers who were less supportive of their education.

59% of caregivers of young mothers prioritized homework over housework (compared to 86% of caregivers for girls who are not mothers)[483]. 80% of caregivers of girls who worked for family business or farms prioritized schoolwork over housework (compared to 87% of caregivers for girls who do not work)[484]. These sub-groups exhibited different outcomes from the general group.

Young mothers and of girls with difficulties communicating had were less likely to have caregivers with positive attitudes towards girls' education.

50% of the caregivers of girls with difficulties communicating had positive parental attitudes toward girls' education compared to 84% of caregivers of girls that did not have difficulties[485]. Similarly, 53% of caregivers of young mothers had supportive attitudes towards education compared to 85% of the caregivers of girls who were not mothers[486].

[479] N=740; N=514; N=114 respectively (differences not significant). These were parents and caregivers who disagreed or strongly disagreed with the statement in Q159 *"sometimes girls should help around the house rather than doing homework."*
[480] FGD with Caregivers on Teaching Quality, GA
[481] Cf. FGD w caregivers teaching etc 2; FGD with Caregivers on COVID-19 and School Management Oti.
[482] FGD with Boys in Oti
[483] N=10 and N =618 respectively. Differences were significant at the $p<0.05$ according to chi-square tests.
[484] N=176; N=472 respectively. Differences were significant at the $p<0.05$ according to chi-square tests.
[485] N=3.
[486] N=9. These were the only two sub-groups that had statistically significant differences in parental attitudinal outcomes as per chi-square test results.

Children with disabilities still had negative experiences participating in activities with other children (usually outside of school). As a result, their caregivers prevented them from participating in certain social events.

In interviews, many girls with disabilities mentioned negative experiences with classmates and that their parents discouraged them from participating in school or community activities as a result.

One girl with a disability said that her mother does not allow her to play with peers outside class because they made fun of her[487]. Another girl with a disability said she has come to accept her condition and does not "bother to participate[488]."

Caregivers of girls with disabilities shared that they were reluctant to let their daughters participate in activities with other children because they are often left out and bullied because of their differences[489].

Quantitative data shows that 10% of girls with disabilities did not feel they had support from their caregivers to join after-school clubs, compared to 1% of girls without disabilities. This does not mean that caregivers held apprehension about MGCubed after-school clubs, only that that parents of girls with disabilities fear other children stigmatizing and rejecting their children.

While parents and caregivers of children with disabilities may have similar attitudes to other parents regarding education, these findings show that communities and schools can improve on including children with disabilities and protecting them from bullying.

[487] KII with girl with a disability
[488] KII with a girl with disability
[489] KII with a caregiver of a girl with disability-Oti region

6. Value-for-Money

The objective of this chapter is to study the extent to which the MGCubed project had good value-for-money (VfM)[490] utilizing a framework for analysis centred on effectiveness, efficiency, equity, and sustainability. This chapter will assess whether the project invested in activities that responded to the needs of project participants and whether it optimally allocated resources for them. It will also identify which combination of activities constituted a good investment based on the activities' contributions to the project's overall impact.

The chapter will also explore whether the project was delivered on time and on budget. Finally, this chapter considers the extent to which one can expect outcomes for project participants to be sustained long-term and whether the project has created the conditions for the replication of project lines, scale-up, systemic change, or adoption of aspects of the project without FCDO funding.

First, the evaluation examines the projects achievements and differentials across groups in order to evaluate the MGCubed project's **effectiveness**. The evaluation measure project achievements d in terms of changes in girls' literacy and numeracy and their transitions in school, as well as the intermediate outcomes that led to these changes[491]. This section also considers which combination of activities was the most impactful and can therefore be considered a good investment.

Overall, the project spent £5,991,773 on 25,547 children (14,132 girls and 11,415 boys), over the course of 5 years. The project spent a total of £235 per child over 5 years, or £47 per child every year.

MGCubed delivered complementary teaching, after-curricular activities, and trainings at a fraction of the cost of government boarding schools (which cost £209 per child per year), and with significant gains in learning and transitions.

It is also important to note that without pandemic-associated costs, the cost per child per year would have been lower. Implementation costs increased due to the costs arising from the project's

[490] Value-for-Money (VfM) reflects the relationship between the money that enters a results chain (the costs) and the resulting outcomes and impact. It can be best be understood in terms of the Theory of Change, which shows how money is converted into inputs, which in turn generate activities (or 'processes'), produce outputs (the specific, direct deliverables of a program), and finally, result in outcomes (changes in social or economic well-being) and impacts (related to the longer-term, higher-level outcomes of programs). As an additional component, the GEC framework also considers the sustainability of these outcomes in the long-term.

[491] To determine the direct contributions of the project at an individual level, evaluators conducted regression analyses and explored the causal relationships existing between activities, intermediate outcomes, and the main outcomes of girls participating in the project. Regression analysis is a statistical method through which causal relationships can be established. Evaluators also horizontally merged key variables from the teachers' and head teachers' datasets to the girls' and households' datasets, thereby linking teaching quality and school-management outcomes to girls' and household data. This method enabled the evaluation team to identify which mechanisms the project contributed to individual-level outcomes (such as learning and transitions) and determine which investments were the most impactful.

adaption to COVID19, such as the GLTV (including TV/decoder distribution), PPEs, WASH facilities, and back-to-school campaigns.

By effectively supporting attendance and improving school management processes, MGCubed had a statistically significant impact on English literacy[492] and contributed to improvements in numeracy, signalling good value-for-money.

Evidence from term grade data suggests that the project supported girls to improve their English and mathematics levels between baseline and midline periods. According to term grade data for both English and mathematics, girls in project schools largely maintained existing learning levels between school closures and re-openings.

School attendance[493] and improved school management[494] predicted both literacy and numeracy outcomes.

MGCubed's cash transfer program, remedial sessions and after-school clubs drove improvements in girls' transitions.

Girls from the tracked cohort who received a cash transfer were 1.3 times more likely successfully transition[495]. Drop-out rates also fell from 4% at midline to 0% at endline, pointing to the project's contributions to girls returning and remaining in school after schools re-opened in January 2021.

MGCubed's cash transfer program and activities that affected attendance[496], such as remedial lessons[497] and after-school clubs[498] drove these outcomes. According to qualitative evidence, girls and caregivers perceived the after-school clubs to be one of the MGCubed project's most valuable interventions.

Caregivers reported using cash transfers to cover the associated costs of going to school, such as uniforms and school materials, without which many girls would not have successfully transitioned. Most secondary school girls and caregivers also believed that cash transfers helped girls transition into JHS.

Given that cash transfers constituted only 7% of the project's total costs of the project and were the least costly intervention, cash transfers are among the best VfM interventions.

These analyses revealed an important causal link between project activities and the learning and transitions of marginalised girls. Project participants also perceived these interventions to be extremely relevant.

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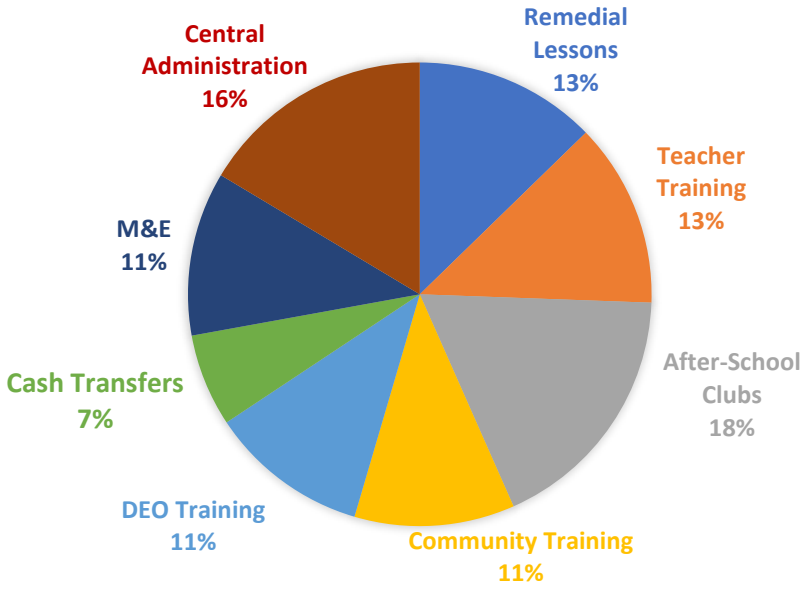
[492] Exposure to the project resulted in a 1.16% (Beta) improvement in English aggregate score between these periods (p<.05).
[493] For Literacy Model: Model: df= 1, N=380, p<.001; Indicator: B=8.54, S.E = .089, p<.001 and Model: df= 1, N=380, p<,001; Indicator: B=.608, S.E = .064, p<.001.
[494] For Numeracy Model: df= 1, N=334, p<.001; Indicator: B=12.878, S.E = 4.418, p<.05; For literacy model: df= 1, N=394, p<.05; Indicator: B=13.892, S.E = 4.339, p<.05.
[495] Model: df= 1, N=395, p<.05; Indicator: B=10.593, S.E = 5.050, p<.05.
[496] Model: df= 1, N=395, p<.05; Indicator: B=10.593, S.E = 5.050, p<.05.
[497] Model: df= 1, N=715, p<.05; Indicator: B=8.016, S.E = 3.433, p<.05.
[498] Model: df= 1, N=715, p<.05; Indicator: B=8.687, S.E = 3.263, p<.05.

Cash transfers were impactful and cost-effective but not sustainable.

GES determined that it was unlikely to be able to continue the cash transfer program after the conclusion of the MGCubed project. National-level education sector officials from GES said that they did not provide direct cash transfers to their students in the same way the MGCubed project does[499].

Figure 42. Cost of Activities as a Proportion of Total Cost[500]



MGCubed's special investments to support girls who did not speak the language of instruction were very effective.

The project had found that girls from different linguistic groups were less included in classrooms because they could not speak the language of instruction. To support these girls, MGCubed recruited language assistants from the Kotokoli, Likpakpa and Guan language groups to assist MGCubed facilitators in the delivery of remedial lessons and after-school clubs.

Likpakpa and Kotokoli girls had significantly lower attendance than their peers at midline but caught up with the general group by endline. This signals that the language assistant adaptation led to improvements in attendance for this group of girls.

MGCubed was successful in adapting its activities to contextual changes, such as COVID-19.

The project addressed both supply-side and demand-side barriers to learning and transitions and made additional investments whenever necessary. For example, because of COVID-19 school

[499] KII with National-level Education Sector Official, GES.
[500] Figure 42 shows the cost of each project activity as a percentage of total cost. Some activities, like teacher training and remedial lessons, share common investments, such as classroom-based technology. In these cases, the overlapping costs were split equally between activities.

closures, the project extended cash transfers for girls in P5, P6, JHS1 and JHS2, pregnant girls, young mothers, and children with disabilities[501].

The project conducted phone surveys[502] with approximately 400 households and found that roughly 64% of treatment households had access to a TV[503]. To narrow the technological gap and promote access to broadcast materials during school closures, the project distributed over 2,565 TVs and 2,650 satellite decoders to girls and boys with disabilities to facilitate access to GLTV broadcasts[504].

The project also distributed a total of 7,760[505] learning packs to girls and boys, including children with disabilities and young mothers.

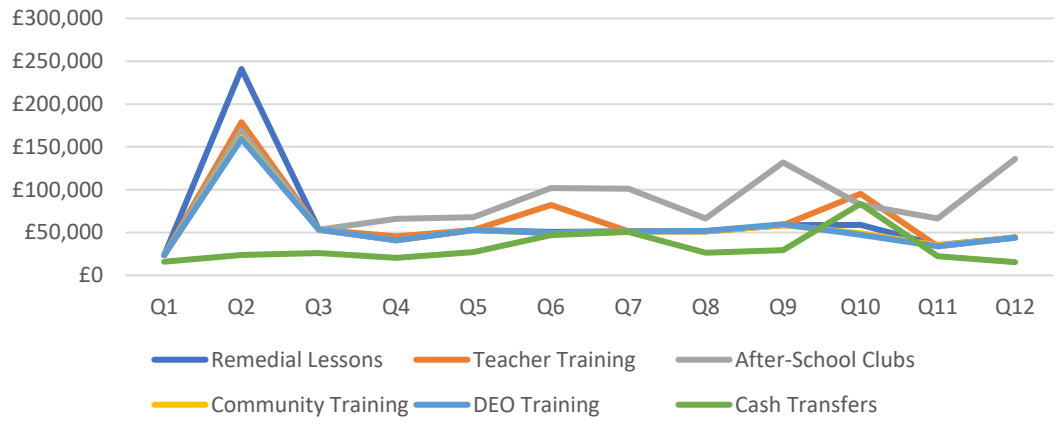
From October 2020 onwards, MGCubed also trained facilitators to support and monitor learning at home[506]. In qualitative sessions, many girls mentioned that GLTV and learning packs helped them stay up to date with their studies, which impacted improvements in attendance and learning.

These investments ensured that all girls could continue learning at home, regardless of technological access, and increased the project's effectiveness and VfM.

The project's costs diminished over time while increasing its total coverage, demonstrating good efficiency.

The project made **efficiency** gains over time and increased program coverage as it absorbed a new cohort of students entering primary school every year. MGCubed required a strong initial investment, but yearly costs significantly reduced over time[507].

Figure 43. Estimated Project Cost by Activity Over Time



[501] The project distributed cash transfers to a total of 6,578 girls over the course of the project. 957 girls who received cash transfers in Q11 received an additional transfer during the pandemic. Therefore, 5,621 unique girls received cash transfers, which exceeded initial targets.
[502] As part of the Medium-Term Response, the project decided to launch a phone-based household survey for the treatment group to understand the possible effects of the pandemic, parents' capacity to support at- home learning, and access to technology.
[503] Phone Survey Results
[504] Project Staff, Inception meeting.
[505] 4,656 girls, 3,104 boys, 19 children with disabilities (13 girls and 6 boys), and 56 young mothers.
[506] MGCubed Quarterly Report (Q15).
[507] See Figure 43.

Increases in Q2 expenditures are due to the investments made into technology assets for schools. These assets were used for a variety of activities, including delivering after-school clubs, remedial lessons, and continuous professional development to teachers in rural schools. The fact many activities utilized this technology speaks of an efficient allocation of resources and good VfM.

MGCubed's partnership with the MoE to deliver educational content nationwide through GLTV demonstrated excellent VfM and extended the project's reach.

A key achievement of the project was to support the MoE with the development of GLTV curricular content during school closures. Given that the project had already made the appropriate investments in studios through a partnership with NaCCA, the project delivered educational content to thousands of students nationwide with minimal additional investment. A national-level GES official said that they would not have been able to run GLTV without MGCubed's studios, which helped record content and broadcast to TV stations nationwide[508].

Teaching and learning materials were a good VfM investment.

School leaders and teachers believed that the project's methodology and teaching and learning materials will be used at their schools after the project ends. Therefore, the methodology of remedial lessons and clubs represent good VfM regardless of whether distance learning technology is used.

Many project schools were still not inclusive for girls with a disability and future programming can better consider their needs.

The VfM assessment demonstrated that more work is required to achieve **equity.** While girls with disabilities said that MGCubed facilitators provided reasonable accommodations for them in classrooms[509], they also explained that they were mistreated by non-MGCubed teachers and that they felt excluded from community activities[510]. Some girls also said they faced difficulties moving around the school due to inaccessible infrastructure[511].

Only half of project school had SPIPs in place with objectives or strategies to support inclusive education and children with disabilities, revealing that many schools still lacked commitment towards inclusive education at endline.

The project explicitly targeted only 27 girls with disabilities[512]. Evaluators estimate that at least 566 girls in project sites could have disabilities. Therefore, the number of girls with disabilities was likely underreported in both project schools and project participant estimates.

[508] KII with national-level stakeholder.
[509] Such as repeating themselves when girls asked or sitting children with difficulties hearing or seeing in the front of the classroom.
[510] KII with a girl with a disability, Oti #1
[511] KII with a girl with a disability, GA
[512] Roughly 4.4% of the evaluation sample reported having some form of disability.

Ghana currently lacks a system to diagnose children with disabilities[513]. Project staff said that there was no explicit training for MGCubed facilitators or teachers on what to do if they suspect a student has a disability.

However, the project trained facilitators to individualize instruction according to the needs of students, which girls with disabilities recognized as an important achievement of the project. Quantitative findings also indicated that girls with disabilities did not have significantly lower outcomes than their peers, suggesting that they benefited from the project as much as other girls.

Cash transfers could be more gender-equitable and relevant if they included boys.

While GEC's focus was to improve the transitions and learning of marginalised girls, this evaluation found boys' caregivers also struggled to afford education costs, resulting in many boys seeking jobs and finding it difficult to attend school. National-level data from UNESCO showed that boys have had similar, if not slightly lower, net enrolment rates than girls in both primary and secondary school since 2019, which suggests they would benefit from financial support.

In qualitative sessions, boys and caregivers noted cash transfers were not gender-equitable because they did not include boys. Boys stated they were putting effort into the project but believed girls were unfairly favoured because they were given cash transfers. Some boys said this discouraged other boys from participating in the clubs[514].

PTAs and SMC participants reiterated that boys face similar financial barriers to education as girls and should be supported with similar interventions[515].

These findings should be interpreted alongside clear evidence on how gender norms affect the distribution of resources, girls' aspirations, and how girls are valued. Therefore, social protection interventions targeting only girls remain relevant. Findings do, however, highlight the importance of continued work and messaging around equity and equality within communities.

By focusing on building knowledge and skills among all project participants, MGCubed promoted sustainable change.

The project's improvements in teaching practice will likely continue to benefit MGCubed schools in the long-term. According to the Teacher Survey, 99% of respondents[516] said the MGCubed training supported them to develop their skills as a teacher. Qualitative evidence suggests that the training addressed many shortcomings related to teacher knowledge gaps, and 98% of facilitators[517] applied what they learned in their lessons. 87% of MGCubed facilitators said they were confident preparing lessons without support from MTTs.

[513] Hayes (2019) Identifying students with disabilities in Ghana: Challenges and opportunities, available at: https://www.inclusivedevpartners.com/contact-us-identifying-students-with-disabilities-in-ghana-challenges-and-opportunities
[514] FGD with Boys, Oti
[515] FGD with PTA and SMC Kadjebi DA Primary School
[516] n=195
[517] n=92

Improvements in caregivers' attitudes will also likely last in the long-term as individual attitudes toward girls' education often relies on changes in greater value systems. At endline, 84% of caregivers had positive attitudes towards girls' education, and interviewed caregivers attributed these changes to project activities.

The project made key investments to enhance sustainability, which have important implications for sustainability and scale-up.

MGCubed began a Trainer of Teachers (ToT) program to train GES members on pedagogy and running remedial lessons and clubs, with the goal of equipping facilitators with the necessary guidelines, skills, and experience to continue training teachers and school leaders on MGCubed activities

To ensure that this can be done even without the use of distance learning technology, the project delivered ToT training and developed a set of training manuals for MGCubed schools. The manuals provided school teachers and DEOs with the resources and skills to support the continuation of MGCubed methodologies and approaches in project schools, as well as sharing them with other schools in the district[518].

Overall, MGCubed had good VfM.

The project delivered a set of interventions that had good VfM. This is evidenced by the impact of project interventions on the learning and transitions of marginalised girls, including remedial lessons, after-school clubs, cash-transfer program, and school leadership trainings.

Despite initially high expenditures, the yearly costs of the project reduced over time.

Many of the project's outcomes are likely to be sustained, especially those that focused on changes in attitudes, knowledge, and skills. The project made additional investments so that those inheriting the project's technology can continue activities after the project's conclusion. This will strengthen the sustainability of the project and, therefore, its VfM in the long run.

[518] The training manuals focused on 1) implementing MGCubed activities in schools, 2) safe schools and supporting at-home learning, 3) teaching for understanding – numeracy and literacy, and 4) after-school club curriculum. The training manuals (provided in both hard and digital copies) were complemented by 10 short videos modelling key MGCubed interactive classroom strategies. The project also provided participants with a set of MGCubed PPT modules on key sessions delivered on after-school clubs, community training, school leadership, numeracy, literacy, and teacher training courses. ToTs were MGCubed facilitators with 5-7 years of experience working with the project.

7. Conclusions

Girls gained confidence in mathematics and English through remedial lessons.

In qualitative sessions revealed the theme that remedial lessons helped girls gain confidence in doing mathematics and reading and speaking English. This is because remedial lessons used student-centred learning strategies that facilitated learning.

For example, girls explained that lessons helped them understand phonetics and how to pronounce words in English. According to girls, this increased their confidence with the language.

For mathematics, girls and facilitators explained that remedial lessons used created methods such as relating math to girls' experiences. This diminished the anxiety girls experienced when doing mathematics.

The project's methodology effectively delivered teaching and learning in a student-centred way, with or without the use of the technology.

Children, caregivers, and teachers had overwhelmingly positive views of remedial/MGCubed lessons teacher methods and literacy/numeracy outcomes. Qualitative evidence shows that the project's methodology effectively delivered teaching and learning in a student-centred way that could be scaled-up[519] with or without the use of the classroom technology.

In qualitative sessions, teachers demonstrated mixed views on the value of the remedial lessons based on MTT lessons versus regular class lessons. It is not necessary to choose one method over the other, but it can be helpful to examine which elements worked, in each context, and how challenges can be overcome. These included:

- Maintaining motivation and autonomy of facilitators/teachers when the lesson is 'delivered' by broadcast
- Technological barriers – internet and equipment, as well as limitations of video-format
- Speed of lessons and making sure that lessons match learner needs

The project supported MGCubed facilitators and teachers to adopted child-centred learning strategies.

Both regular teachers and facilitators appreciated many of the project's student-centred teaching strategies and adopted new teaching methodologies. This signal's the project's positive influence teachers, pedagogy, and learning opportunities for pupils.

[519] For example, through teacher training, mentoring, and support.

Teachers readily adopted groupwork, Think-Pair-Share, brainstorm, and roleplay. These elements the most widely applicable across teaching contexts because they directly meet the learning needs of children.

- 98% of teachers and facilitators felt either very prepared or somewhat prepared to teach in their school after the MGCubed training.
- The majority of teachers and facilitators applied MGCubed strategies in their classes.
- When asked what strategies they applied in lessons, 92.2% respondents said Think-Pair-Share, 88.7% said group work, 63.2% said role play, and 88.7% said brainstorming.

These findings present a positive adoption of core, child-centred learning strategies by both teachers and facilitators.

Cash Transfers improved attendance and transitions.

Cash transfers were an extremely relevant and impactful intervention with positive effects on attendance outcomes.

In qualitative sessions, girls mentioned that they used cash transfers to buy uniforms, books, sandals, sanitary pads, and other investments that supported them to attend school.

Stakeholders of the project also recommended that cash transfers be extended to boys who are members of Boys clubs in order to make this intervention more gender equitable.

On the whole, cash transfers were effective in improving attendance and transition and had good VfM. However, cash transfers are not sustainable without external funding.

GLTV Broadcasts supported learning during school closures and kept girls motivated to attend school after they re-opened.

GES leveraged MGCubed's studio-based technology to broadcast educational content in English, mathematics, and science to children nationwide. GLTV broadcasts ensured children could learn at home during COVID-19 school closures.

When children watched GLTV during closures, they had higher attendance rates at endline.

GLTV also contributed to improved parental attitudes towards girls' education, which was an unintended positive effect[520].

After-school clubs effectively supported girls to improve their self-efficacy, ability to self-advocate, and challenge gender stereotypes.

Significant qualitative evidence from the evaluation indicates that after-school clubs supported girls to improve their academic self-efficacy and ability to self-advocate. Additionally, clubs were

[520] According to regression analyses ($p<0.05$)

effective at promoting gender equality, challenging gender stereotypes, promoting girls' empowerment, and improving relationships between girls/boys and girls/parents.

Wonder Women clubs improved attendance by teaching girls how to manage menstrual hygiene.

In qualitative sessions, many girls mentioned that Wonder Women clubs taught them how to manage their menstrual hygiene with dignity and without discomfort or fear. Before the project, many girls mentioned that this was among the most important lessons they learned from the project.

MGCubed promoted a safe return to school during the COVID-19 pandemic.

The project's support for project to schools after COVID-19 was very relevant. Interventions included the provision of PPE and disinfection equipment.

Girls shared that radio broadcasts informed them about the return to school and receiving PPE equipment diminished their fears about getting infected with the virus at school.

8. Recommendations

Plan International and other education sector stakeholders in Ghana and the project regions should consider the following recommendations based on evaluation findings:

1. Continue to support interpersonal and key life skills through after-school clubs, given that these outcomes contribute to improvements in wider quality education gains for adolescent girls in project areas.

The evaluation provided significant quantitative evidence that resilience and academic self-efficacy are mutually reinforcing, and that academic self-efficacy supports self-esteem, literacy, numeracy, and attendance outcomes. Interpersonal skills were shown to support learning and transition outcomes. Leadership skills were demonstrated to support literacy outcomes. These findings indicate that targeting academic self-efficacy, self-esteem, leadership, and interpersonal skills among adolescent girls will likely result in wider quality education gains.

The evaluation also found that after-school clubs were effective at supporting girls to improve their self-efficacy, ability to self-advocate, and challenge gender stereotypes. Girls emphasized the benefits of accessing remedial time after school in supporting them to feel confident and improve their literacy and numeracy schools. These and other activities should be considered in future project designs.

2. Continue to promote student-centred learning techniques to support girls' academic self-efficacy, participation, and learning. in project areas.

There is some evidence that the project successfully supported both facilitators and regular teachers to adopt student-centred techniques and participatory pedagogical approaches. As seen in the lesson observations conducted at endline, project training on these approaches was particularly successful in promoting practices adoption.

It is also likely that the employment of student-centred techniques supported girls to feel more confident participating in class given there was a noteworthy improvement to girls' feeling confident answering questions in class.

3. Review benefits of broadcast and regular lessons and consider use of hybrid delivery where broadcast lessons can be differentiated to different ability levels.

While broadcast lessons were effective at exposing children to different teaching strategies and keeping children motivated through a participatory approach, this did not work for all children. There were some reports of children only passively engaging with the video lessons. However, using the distance learning approach for remedial lessons enabled the project to deliver standardised, high quality lesson content to a wide group of learners in need of learning support

The technological infrastructure established in schools is an asset that could enable synergistic gains from both broadcast and regular lesson delivery.

Future projects should more closely consider a hybrid model of delivery. For example, altering the sequence of lessons done by broadcast and in-person and more closely testing hybrid effectiveness with curriculum specialists, teachers, and children could yield improvements.

Lessons under this model should be adaptable to account for differences in pacing per context, and teachers should be equipped to make these adaptations. Feedback from qualitative research also suggests that the project could benefit from strengthening the extent to which a broadcast lesson can be differentiated according to student ability levels.

Future projects should also strengthen technological infrastructure in schools to support delivery of quality teaching. Stakeholders reported challenges with technological maintenance and reliability. Additional technical training should be provided to schools to ensure these issues can be addressed in the future. Investments in additional technology in schools would also support access to distance learning.

4. Continue to target boys through mixed activities and Boys' Clubs to support sustained changes to gender norms in project areas.

Evidence from endline suggests Boys' Clubs supported boys to change their perceptions of the rights of girls and supported girls to attain those rights. Mixed clubs also provided settings for girls and boys to engage in healthy and safe peer relationships where they can speak about differences or norm changes.

Club activities with boys worked to challenge negative conceptualisations of masculinity, interrogate conceptions of male and female gender norms, and discuss how to build healthy relationships between boys and girls. To ensure changes achieved by the project are sustained, it is necessary to engage both boys and men in future activities to shift harmful gender norms and practices.

5. Review teacher training on corporal punishment and consider additional approaches to reduce corporal punishment in schools in project areas.

While there was a reduction in the rate of corporal punishment reported by girls in project schools between midline and endline, a large proportion of girls reported witnessing their teacher administer corporal punishment in the last month (48% of girls in project areas).

The MGCubed project was designed to primarily engage Head Teachers and 3 facilitators in each project school. Facilitators were provided with intensive CPD through face-to-face and online training and mentorship. Regular teachers in project schools did not receive the same level of supports from the project.

Findings on corporal punishment suggest a whole school and community approach would be beneficial to address this barrier and ensure a change in teachers' norms and behaviours around discipline. Continuous Professional Development directed at teachers should more broadly address discipline practices and safeguarding considerations considering these findings. Plan has

responded to this recommendation by revisiting project schools and conducting additional safeguarding training with teaching staff.

To fully address this barrier, future project designs should promote changes in teacher practices and the whole school culture, better equip girls to report cases of corporal punishment, strengthen district officials' ability to monitor the use of corporal punishment and strengthen the documentation of cases of corporal punishment administered in schools.

6. Review strategy to support inclusive education and non-discrimination of children with disabilities in project areas and consider wider messaging on this through continuous professional development provided to teachers.

Children and other project stakeholders report that children with disabilities face significant stigma in schools and communities and are often excluded from participating in school and community activities. Children with disabilities also reported harassment from their teachers in project schools in some cases, although reports are that these teachers are not MGCubed facilitators. In addition, quantitative evidence indicates that parents of children with disabilities were less likely to support them to join the after-school clubs, likely due to parents and caregivers' fears that their children will be stigmatised.

Future projects should review strategies to support non-discrimination and inclusion in schools and communities and consider more widely addressing this through continuous professional development provided by teachers. As outlined, MGCubed primarily worked with Head Teachers and 3 facilitators in each project school and based on these findings a deeper and whole school approach is needed to fully support the inclusion of children with disabilities. Inclusive practices could be cultivated by working with all relevant stakeholders including teachers, schools, children without disabilities, children with disabilities and parents and caregivers to identify specific initiatives to reduce discrimination more widely.

7. Continue to address harassment faced by girls in project schools and communities.

There is significant evidence that after-school clubs supported girls and boys to learn about their rights, sexual abuse, and the risks of early marriage. There is also significant evidence that school leadership training delivered to PTAs, SMCs, and headteachers on safeguarding was relevant and valued.

However, several girls reported harassment by boys, suggesting that harassment remains a barrier in project schools. While most girls feel safe at school, some reported being teased by boys or being touched or verbally harassed. Future actors should strengthen awareness and accessibility of reporting mechanisms and review whether support is sufficiently promoting changes in norms.

8. Support parents and caregivers to make the home environment conducive to learning and consider wider distribution of home learning activity repository.

Several quantitative analyses and qualitative findings indicate that girls who had access to help from someone at home better maintained or improved their learning outcomes between schools closing and re-opening. This evidences that girls' home learning environments influenced learning outcomes, particularly during school closures. Future projects targeting girls' education outcomes in project areas should incorporate activities with parents and caregivers to continue sensitizing them on how to provide a conducive home learning environment. Continued work on gender norms and on school engagement and participation in learning would further these goals. The project can also consider how it can more widely distribute the existing repository of home lessons and learning activities created during COVID-19.

9. Continue to promote SRH knowledge, attitudes and practices and continue to support young mothers and pregnant girls in project areas.

Significant evidence from the evaluation suggests that young mothers and pregnant girls face additional barriers to quality education outcomes including learning, attendance, and transition.

Project supports for young mothers introduced in response to midline findings, likely contributed to improvements in literacy outcomes between midline and endline. Future interventions should consider how to continue supporting these groups of young women, given the prevalence of barriers reported by parents, caregivers, girls, headteachers, teachers, and other stakeholders.

The project supported most girls to raise levels of SRH knowledge, measured by SRH knowledge tests. However, 1 in 5 girls did not know different ways pregnancy can be prevented, or that their first intercourse can result in pregnancy. This suggests that activities promoting healthy SRH knowledge, attitudes, and practices in project areas will remain necessary for adolescent girls.

10. Support CENDLOS with identifying funding opportunities to cover maintenance costs of the studio-based technology and future production of educational programming.

CENDLOS is willing and committed to continuing to operate the studios in the future. MGCubed will continue to provide technical advice to CENDLOS for one year. However, CENDLOS will need to identify additional funding sources to cover the costs of maintenance of the studios. By supporting CENDLOS to identify future funding opportunities, learners and teachers and other actors within the education system will continue to benefit from the investments made in establishing the studios as well as the existing technical knowledge of operating the EdTech components of the MGCubed project.

11. Continue to utilise cash transfers alongside a wider package of interventions to address economic barriers to girls' education and support attendance, transition, and learning in project areas.

Quantitative and qualitative evidence suggests that cash transfers, in concert with wider project activities, are highly effective at supporting adolescent girls to confront barriers preventing their attendance and transition in school. Endline evidence confirmed that economic and financial barriers affected girls' learning and cash transfers played a role in supporting girls living in households facing economic hardship to experience improvements in attendance and transition.

The evaluation also found that attendance and transition in school support literacy and numeracy learning.

The success of cash transfers was supported by other activities targeting girls' motivation to attend school, including improvements in the teaching and learning environment and through the life skill curriculum delivered to girls in afterschool clubs.

Project staff report that cash transfers cannot be implemented more widely by the MoE in a sustainable way for a larger population of girls. However, findings from the evaluation suggest that they can be used in a targeted manner to support the most marginalised girls to readdress economic barriers to attendance and transition. Future projects should continue to utilise cash transfers in concert with other interventions such as after school clubs in order to promote synergistic gains in these key outcomes.

GEC-T Endline Report Annexes

Of For the Endline Evaluation of the MGCubed Project

December 2021

V2

Prepared by One South

GEC-T Endline Report Annexes

Version 0.2, issued 16 September 2020

As part of the GEC-T Endline evaluation, in addition to submitting an endline report, projects and External Evaluators (EE) should use this template to complete the following annexes which are required for Fund Manager (FM) processes.

Please note: Depending on the endline design not all annexes will be relevant as several tables are linked to learning test data or household survey data, which may not have been collected due to access or ethical concerns as a result of Covid-19.

Endline Evaluation Submission Process

Please submit all Endline reports and accompanying annexes via Teamspace, an online file-sharing platform. Both the External Evaluator (EE) and Project should have access to their respective Teamspace folders, however please reach out to your Evaluation Officer (EO) if you do not.

Some annexes can be uploaded to Teamspace for FM review separately and before the endline report analysis is completed, e.g. datasets for replication. This should be discussed with your Evaluation officer.

Contents

Annexes

Annex 1: Project Design and Interventions

The following table consists of the details of the interventions, intermediate outcomes, and outcomes they fed into, start and end dates of activities and the target beneficiary groups.

Table 1. Project Design and Interventions

Intervention types	What is the intervention?	What output will the intervention contribute to?	What Intermediate Outcome will the intervention will contribute to and how?	How will the intervention contribute to achieving the learning, transition and sustainability outcomes?
Teaching inputs	This aspect of the intervention related to Output 1, the core content of the project in terms of volume of hours. Using the Varkey Foundation's interactive distance learning technology, during term time 72 schools receive two hours of Literacy and Numeracy per day. This takes place afterschool and involves all the GEC cohort. Some schools have opted in for additional by-grade lessons which take place during the school day. Two hours of Maths and English lessons are offered for grades P3-JHS 1 in 40 of the 72 schools every day. The content for these lessons are derived from the Master Teachers based in Accra, and delivered by the same. All lessons are fully aligned to the	This intervention will contribute to Output 1.	IO1 (Attendance): The experience of attending MGCubed lessons will, the project holds, provide an incentive for pupils to continue attending school. This is not to make light of the other significant factors that affect pupil attendance, however: the project recognises that providing engaging lessons that stimulate interest in young people is only part of the story. The other element of the relationship between O1 and IO1 is about the experience pupils have when they attend MGCubed lessons: the quality of the content and teaching instruction, combined with the effects of working with peers in a group, ensures that pupils are able to progress towards lesson objectives and ultimately ensure each lesson is rewarding.	**Learning**: Improved attendance and the associated quality experience of attending class (IO1, IO2) promotes quality learning. This is reflected in improved learning outcomes in Literacy and Numeracy. **Transition**: When young people are learning, and feel themselves to be developing, they are incentivised to stay at school. They are also – due to better academic performance – less likely to have to repeat grades (i.e. prevented from transitioning). In addition, when teacher staff are role models it offers a clear aspirational pathway. The project predicts that more pupils will want to become

Intervention types	What is the intervention?	What output will the intervention contribute to?	What Intermediate Outcome will the intervention will contribute to and how?	How will the intervention contribute to achieving the learning, transition and sustainability outcomes?
	Ghanaian curriculum and the full Scope of Work (SoW) is shared with the Ghana Education Service (GES) for review each term.		IO2 (Teaching Quality): This relationship has two aspects. The first is that exposure to Master Teachers in the Accra studio has a profound effect on "facilitators" (designated teaching staff who facilitate MGCubed classes in school) who benefit from the modelling practised by Master Teachers. This reinforces much of the teacher training content in IO2. Secondly, teacher quality amongst Master Teachers improves as a result of the Varkey Foundation's ongoing quality assurance mechanisms. These are designed to ensure the quality of every class delivered, and to support each member of the instructional team in their professional development journey. As the quality of Master Teachers is both assured and developed, so is quality learning and the professional development of in-school teaching staff.	teachers, and thus be incentivised to stay in school. **Sustainability:** This outcome is best served by IO2, whereby long-term changes are seen amongst core teaching staff. This has ripple effects for years to come as more and more pupils benefit from exposure to these teachers.
Teacher education	This aspect of the intervention related to Output 2. Using the Varkey Foundation's interactive distance learning technology, during term time 72 schools receive 2 hours	This intervention will contribute to Output 2.	IO1 (Attendance): Quality teaching – which occurs as a result of teacher education – is a critical factor in driving attendance and ensuring young people are incentivised to attend school.	**Learning:** Without attending school and without quality teaching within well-managed schools pupils will struggle to learn. The project therefore relies heavily

Intervention types	What is the intervention?	What output will the intervention contribute to?	What Intermediate Outcome will the intervention will contribute to and how?	How will the intervention contribute to achieving the learning, transition and sustainability outcomes?
	of teacher training centred around student-centred learning per week. The content for the training is derived from the Train for Tomorrow (T4T) project; and adapted and delivered by the Master Teachers based in Accra, and delivered by the same. Further, School Leaders are offered an average of one hour of training per week specifically to develop School Leadership and Management skills. The sessions cover areas such as Child Protection, Monitoring, Gender Sensitive school environments, and Continuous Professional Development Practice. All content is fully aligned to the teacher standards developed by the Ministry of Education, and the Scope of Work is shared with the Ghana Education Service (GES) for review each term.		IO2 (Teaching Quality) and IO4 (School Governance) : The inputs in Output 2 are assumed to have a direct effect on teaching quality and the quality of school leadership. Training offered aims to transform classroom-based pedagogy, in order to promote student-centred gender-equitable classroom environments. This is supported by school leaders, who drive continuous school improvement which has quality teaching and teacher professional development at its heart. It also helps to ensure that student-centred, gender-equitable classrooms are located within student-centred, gender-equitable schools.	on these two IOs to guarantee the OI learning targets of 0.25 sd. **Transition**: Schools have a major role to play to promoting education, particularly for marginalised girls. A core part of the training content in Output 2 is designed to help teachers and school leaders develop ways to promote the continued education of girls, with a particular focus on transition to JHS from P6. **Sustainability**: This outcome is best served by IO2, whereby long-term changes are seen amongst core teaching staff. This has ripple effects for years to come as more and more pupils benefit from exposure to these teachers.
Safe spaces, female voice	This aspect of the intervention related to Output 3. Using the Varkey Foundation's interactive distance learning	This intervention will contribute to Output 3.	IO3 (Lifeskills): This set of inputs relate directly to an improvement in the lifeskills (e.g. empowerment, leadership, financial literacy, personal qualities	**Learning**: The project assumes that there may be a link between improved lifeskills and improved learning outcomes. It is

Intervention types	What is the intervention?	What output will the intervention contribute to?	What Intermediate Outcome will the intervention will contribute to and how?	How will the intervention contribute to achieving the learning, transition and sustainability outcomes?
	technology, during term time 72 schools receive four hours of Afterschool Clubs per week: Wonder Women Basic; Wonder Women Advanced; Mixed Club; and Boys Boys. The content of these sessions aims to develop lifeskills such as confidence, positive gender relations, respect for peers and community, responsible citizenship, personal hygiene, and financial literacy. Overall the sessions is designed to promote empowerment of girls on the one hand, and the promotion of safe spaces for girls on the other. These take place afterschool and involves all the GEC cohort. The content for the sessions are derived from the Master Teachers based in Accra, and delivered by the same.		that drive future success). The clubs provide an opportunity for girls and boys to participate in safe spaces for single-gender discussion and promote mixed engagement on issues ranging from sexual health, gender relations, and the world of work. Though arguably the most difficult IO to measure, this is also an area the project understands to be the most transformative. IO1 (Attendance): Through improved Lifeskills (IO3) the project expects to see improved attendance.	definitely assumed that the associated improvement in attendance through improved lifeskills will impact on learning outcomes. **Transition**: The project assumes that there is a link between improved attitudes to education, empowerment (including aspirations and confidence), and girls continuing on their educational journeys. **Sustainability**: GECT cohort pupils will ultimately drive perceptions of education – and girls-education - for years to come and become ambassadors for quality teaching and learning.
Community Initiatives	This aspect of the intervention related to Output 4. Using the Varkey Foundation's interactive distance learning technology, during term time the community members in communities where the 72 MGCubed schools are located receive an	This intervention will contribute to Output 4.	IO5 (Community Attitudes and Perceptions): Through targeted training designed to build awareness and understanding of the importance of education and ways in which parents can support their children to navigate their educational journeys, Output 4 has a direct impact on community	Learning: Learning outcomes are potentially improved if pupils have the support of caregivers and the community, for instance they are encouraged to attend school, to study at home, and not to drop out of school.

Intervention types	What is the intervention?	What output will the intervention contribute to?	What Intermediate Outcome will the intervention will contribute to and how?	How will the intervention contribute to achieving the learning, transition and sustainability outcomes?
	average of one hour of training per week. The sessions aim to drive community-based attitudinal and behavioural change amongst community members, who act as the gatekeepers to a girl's education. Areas covered as part of the training include Child Protection, Girls' Education, and Gender Equality. The content for the sessions are derived from the Master Teachers based in Accra, and delivered by the same.		attitudes and perceptions about education, addressing the multiple barriers these attitudes and perceptions pose to young people. As a result of changed attitudes and perceptions the project assumes that community members will support pupils in their education.	Transition: Transition is promoted if pupils have the support of caregivers and the community, by being encouraged not to drop out of school. If learning outcomes are improved, the project holds that so might the likelihood of transition. Sustainability:
Government capacity building	This aspect of the intervention related to Output 5. Using the Varkey Foundation's interactive distance learning technology, the Varkey Foundation offers leadership training to officials in the 7 district level GES offices where the project is operational. For an average of one hour per week, GES staff cover a number of areas including Child Protection, Monitoring, Gender Sensitive school environments, and Continuous Professional Development Practice. The content for these lessons are derived from the Master Teachers	This intervention will contribute to Output 5.	IO2 (Teaching Quality) and IO4 (School Governance) : The inputs in Output 5 are assumed to have a direct effect on teaching quality and school governance. Training offered aims to enable school leaders to create and sustain positive learning environments through well-managed schools providing teachers with the opportunity to teach to the best of their ability IO5 (Community Attitudes and Perceptions): The training provided to school leaders on Child Protection and School governance via Output 5 has a direct impact on community attitudes and perceptions	**Transition**: The project assumes that there is a link between strong school governance and positive community perceptions and the likelihood of creating a positive school environment that fosters transition. **Sustainability**: The provision of training to School Leaders and Government officers at district level will equip them with the tools to facilitate school management and governance.

Intervention types	What is the intervention?	What output will the intervention contribute to?	What Intermediate Outcome will the intervention will contribute to and how?	How will the intervention contribute to achieving the learning, transition and sustainability outcomes?
	based in Accra, and delivered by the same.		about education, ensuring schools are safe spaces for children.	
Financial inputs	This aspect of the intervention related to Output 6. Using mobile provider Togo, a cash transfer of 291 GHS will be offered to households when a girl in that household transfers to JHS. The intention is that the amount goes towards the associated costs of transition, e.g. uniform.	This intervention will contribute to Output 6.	IO5 (Community Attitudes and Perceptions): The provision of a small cash transfer to subsidise the costs of girls transitioning to JHS is intended to mitigate some of the challenges girls face in making this transition. This is linked to the aims of Output 4, through which the project aims to transform community attitudes and perceptions of girls' education. A cash transfer will not do this alone, but based on the available evidence on the effects unconditional cash transfers can have on school attendance the project has added this aspect in order to test the efficacy of this approach in the Ghanaian context.	Learning: By potentially facilitating transition, this input promotes continued learning Transition: This input directly affects transition by engaging caregivers through a financial incentive. Sustainability: This aspect of the project is the least sustainable, i.e. it is unlikely to be adopted in a future scaled model led by the government. That said, it functions to potentially demonstrate the value of girls' education to their future, e.g. potential earnings, which promotes continued community support for education.

Annex 2: Endline evaluation approach and methodology

Whilst the main report can include a summary version of the methodology for readability purposes, please outline the detailed approach taken for the endline evaluation in this annex. The details should not be limited to the below areas but guidance has been provided for key FM areas of interest for review purposes.

Evaluation methodology

The endline evaluation adopted a mixed-methods approach under the framework of contribution analysis to understand how the project contributed to desired outcomes.

This evaluation relied on multiple sources of both qualitative and quantitative data to demonstrate results and to generate learning for similar projects in the future. In line with contribution analysis, this report does not intend to provide definitive proof of impact, but rather, to offer enough evidence and a line of reasoning from which one can draw a plausible conclusion with some level of confidence that the project has made an important contribution to the documented results.

The evaluation considered and implemented the four evaluation principles identified by the GEC Fund Manager to guide its design and was supported by the continued feedback of the Evaluation Steering Committee, including members of Plan International UK and Plan International Ghana. The Steering Committee regularly consulted with the GEC-T Fund Manager Evaluation Officer.

The midline evaluation relied on a Randomised Control Trial to understand project impact, and this was used to demonstrate impact on key outcomes between baseline and midline. At endline, however, a meaningful comparison group could not be established because (1) it was not clear how the COVID19 pandemic might have affected different regions and (2) there were concerns that subjecting children to learning assessments immediately after returning to school could induce test anxiety and cause them harm, particularly in groups not directly benefiting from the project.

The endline and midline datasets were merged horizontally, following a cohort-tracking design. This allowed the exploration of individual and aggregate level differences among sub-groups using multiple sources of data and statistical analyses.

GESI minimum standards incorporated into the evaluation to allow measurement of changes in gender dynamics and efforts to ensure social inclusion of girls across the range of characteristics, including disability. This was done by:

- ✓ Ensured an equal representation of men and women in the research team, at both management, research, and data collection-levels.

- ✓ Gained commitment from all members of the research team on both Plan's International and One South's Policy for the Prevention Of Sexual Exploitation, Abuse And Harassment (PSEAH) and Child Protection (CP).
- ✓ Trained the research team on ethical protocols and doing research with children and vulnerable populations, including the gathering of informed consent. Trained the research team on how to conduct research with children with disabilities and on how to ensure the equal participation of all children in the research.
- ✓ Ensured that interviewers were women whenever a survey, interview, or focus group discussion involved girls.
- ✓ Tracked all girls from the midline achieving a minimum of 5% attrition, which enabled the study to capture whenever girls drop-out from school and study whether these reasons were GESI-related.
- ✓ Included boys as main sample quotas in qualitative sessions and disaggregated primary and secondary quantitative data whenever possible.
- ✓ Used the short set of Washington Group Questions on disability[1] to disaggregate all data according to disability status and impairment type for all children with disabilities.
- ✓ Used survey data to consider other social identities and characteristics (e.g. young mothers, girls who have been pregnant, and girls who do not speak the language of instruction) in the disaggregation of data.
- ✓ Conducted separated analyses for children with a disability and its different impairment-type sub-groups as well as test comparisons to the main group. We presented all findings that yielded significant test results and discussed these in relation to all categorical outcomes of the project.
- ✓ Engaging a GESI specialist to study how Plan's International mainstreamed gender across the project's theory of change and its activities and code the qualitative data. This included an analysis of project documents such as annual reports and Plan's UK gender marker tool. The study presented key highlights from this analysis in the narrative of the report.
- ✓ Made explicit whenever the project addressed gender and social inequalities or situations that take advantage of gender. Discussed when these actions led to the transformation inequalities in the long-term for all children despite gender, disability, or other characteristic.

Endline data collection process

In this section, outline the process taken to collect endline data (both quantitative and qualitative). Provide details on the following areas. Highlight changes since midline and why they occurred.

[1] C.f. US National Center for Health Statistics (2020) Washington Group on Disability Statistics; available at https://www.washingtongroup-disability.com/

Pre data collection

Sampling framework adaptations. At endline, the sampling framework was adapted by dropping the control group from the study. All schools were visited, and girls were selected from the midline sample to participate in the study or replace cases were lost to cohort tracking design (See Annex 12 for further details on the sampling framework).

Research Tools. The evaluation used a mixed methods research design based on several research tools. This enabled the study to fully triangulate, complement, expand on, and challenge findings from either quantitative or qualitative research. Research tools have been annexed to this report. These tools were designed by the evaluation team and signed off by Plan UK and the FM.

Table 2. Summary of Research Tools Used in the Study

Method	Evidence Source	Description and Use
Quantitative	Household Survey (HHS)	A comprehensive Household Survey (HHS) was conducted with heads of households and caregivers. Its aimed to measure families' socio-economic status, educational status, living conditions, vulnerability, attitudes towards education, the child's exposure to learning opportunities provided by the project and official education providers, and other project dimensions. Questions about the head of the household were also included. The household survey was closely reviewed to ensure it measured core assumptions of the project's theory of change, including components related to parental and community attitudes conducive to accessing school and learning.
	Girls' Survey (GS)	The Girls' Survey measured girls' attitudes towards school, their perception and feeling about teaching quality, reading habits, psycho-social domains, school safety and facility use, experiences of a stimulating home learning environment and life skills. This included measures of self-esteem, self-efficacy, resilience, and leadership.
	In-School Assessments	In-school assessments are non-standardized forms of assessment that take place in at the end of every term (3 times per year). Results for English and mathematics were gathered from school records.
	Attendance and Re-Enrollment	While all sampled girls were expected to be out-of-school for a large period of 2020 due to the pandemic, project partners wished to know what percentage of children returned to school re-opening in January 2021 compared to pre-COVID-19 attendance levels. Therefore, school attendance was measured to study the quality of the transition back to school. Attendance was defined as the difference in net attendance rates (NAR). Historical attendance data was obtained[2] from school registers for every February from 2018-2021. Individual-level data on (re)*enrolment* was obtained from two items in the HHS, namely (1) "What was (girl's name) doing last year?" and (2) "What is (girl's name) doing this year?" triangulated with NARs and midline data to confirm whether the child has re-enrolled in school, and if so, still attends school.

[2] Attendance records made available by school authorities during school visits or via phone.

Method	Evidence Source	Description and Use
	Monitoring Data	We pivoted all monitoring output data available including a reference to any analysis conducted by the project and triangulated it with our own data. This included the project's workplans and results frameworks.
	Teacher Survey	The Teacher Survey captured MGCubed facilitator and teacher attitudes towards and knowledge of improved instructional practices, including specific components of the project.
	Headteacher Survey	This survey was used to assess school governance outcomes and school governance stakeholders' commitment to intervention components. The survey served as one of the sources of evidence for assessing the project's contribution to teaching, sustainability, and related log-frame outcomes.
	Lesson Observations	Lesson observations were conducted to assess the extent to which MGCubed facilitators and teachers maintained instructional practices, including project approaches, in both remedial and regular lessons after they returned to school.
	DEO Survey	A survey was conducted with members of the District Education Offices of Greater Accra and Oti where the project was implemented. The survey investigated whether DEOs would continue using MGCubed monitoring strategies.
Qualitative & Participatory	Performance Story Workshop	This was a highly participatory workshop with project staff, used to collect their views on the barriers witnessed during implementation, outcomes of project activities (beyond the log frame), and positive and negative influencing factors affecting output achievement. It informed tool development and the project's initial impact narrative.
	Key-Informant Interviews	Key-informant interviews (KIIs) followed a purposive sampling approach with key project participants. Informants helped to contextualize the intervention, investigate individual experiences and perspectives, and assess the theory of change. Other KIIs followed a snowball sampling approach and helped to identify success and failure stories as well as the conditions where impact did or did not occur. Some KIIs were specifically designed for children, such as life map exercises.
	Focus Group Discussions (FGD)	FGDs were used to study a range of opinions and dynamics between young girls and boys, teachers, families, and members of the community.
	Validation Workshop	A two-day validation workshop with stakeholders was organized to confirm all parts of the performance story and gather additional data and feedback for the report. The workshop was participatory and invited stakeholders to challenge and complement findings. This ensured that stakeholders accepted the narrative and were made aware of recommendations for future programming.

Tool revision and adaptation at Endline. From the midline, the evaluation team and the project revised the Household Survey, Girls' Survey, and Lesson Observation Tool to ensure it was updated according to the most recent logframe indicators and could provide key insights to answers the endline research questions. Core questions from the GEC's midline template for the HHS and the Girls' survey were preserved to ensure the comparability of findings.

Selection and Training of Field Staff. *Quantitative enumerators* were selected through a formal application. An emphasis was given to candidates with strong experience in gender, development, education, or journalism and with experience facilitating qualitive and/or quantitative sessions for evaluation projects. Applicants were required to fill in a standardized application form detailing their past experience working with similar research instruments, in similar contexts, and/or with similar populations. Enumerators with experience with qualitative researchers in education or similar backgrounds were invited to participate in two rounds of interviews and recruited as qualitative researcher. The *lesson observation team* was recruited specifically for this assignment and consisted of education specialists. Two of them were teacher trainers at the teacher training colleges and another was both a teacher and headteacher.

Training Structure. Two participatory Online Training Workshops were conducted online via Zoom for 6 days for all field research staff. In total, 22 enumerators participated in the online training, including 2 reserve enumerators. 80% of enumerators were female. Researchers were based in each of the two regions of the intervention. Our Online Training makes use of the opportunities brought by technology as much as possible, integrating the use of digital accelerators and mind maps such as Miro and Jamboard to enhance virtual collaboration. Each session is shorter, to decrease the feeling of fatigue, and foster participation using *breakroom* discussions[3]. Training also included opportunities to learn and reflect outside sessions of the workshops (asynchronous learning) by completing pre-works related to each of the sessions. The pre-work consisted of off-session exercises that presented a way to learn and reflect on key-topics at the enumerators' own pace. The take home messages from this pre-work presented in depth by the consultant in the Lecture, followed by a Q&A. A special *pilot session* to train them specialists on the lesson observation was organised by the in-country partner. This session was designed to test and calibrate observations before the field.

The modules included in the 5-day training workshop were:

- Project Overview & Evaluation Scope
- Qualitative and Quantitative Research Principles
- In-depth discussions on qualitative tools
- Ground Rules, Data Collection Skills & Techniques
- Cohort Tracking & Replacement
- Field Protocols & Logistics
- Girls Questionnaire
- Household Survey
- Research Ethics, Informed Consent, Child Protection & Safeguarding
- Pilot Exercise in School

[3] A breakroom splits Zoom participants in two groups, allowing the team to learn in working groups.

The pilot exercise in schools served to pilot lesson observations and to make adaptations around clarity and structure to the tool following the recommendations from the research specialists, the project, and the FM. The tool was then calibrated and re-piloted in a special session for final testing.

During data collection

Dates of Data Collection. The endline evaluation corresponds to the final evaluation point of three periods: baseline (March 2018), midline (March 2019), and endline (March to June 2021). At endline, lesson observations, teacher and head teacher surveys were carried out in March 2021. Following the Ghanaian school break in early April, the study gathered data for girls and households in mid-April 2021, and initiated the qualitative research, which concluded in June 2021.

Ethical Protocols. One South upholds the guidelines of the British Sociological Association for Ethical Practice in Research. All consultants were expected to familiarise themselves with these principles and practice them throughout all engagements. Principles included:

1. **Autonomy:** It is a moral requirement that individual participants should (1) be treated as autonomous agents and (2) that persons with diminished autonomy are entitled to protection. One South will respect the autonomy of participants by giving weight to autonomous persons' considered opinions and choices while refraining from obstructing their actions unless it is detrimental to others. One South selected locations for interviews and group discussions that are accessible to all participants, and that appropriate adaptations are made to data collection processes to accommodate the needs of participants with special requirements.

2. **Competence:** All team members abided by the principles set out in this ethical framework. Given the sensitivities arising from research of vulnerable populations all field staff received training from One South representatives or affiliates to ensure adoption of best practices. 80% of the research team was female to ensure these power dynamics do not skew the research. All researchers interacting with girls were female and trained on child safeguarding and protection by Plan's team. In the case where research activities involved speaking to children, all One South staff and affiliates were required to agree to and uphold the relevant Safeguarding and Prevention of Sexual Harassment, Exploitation and Abuse policies from Plan International UK and from the firm.

3. **Understanding, Consent and Voluntariness:** All participants were expected to provide oral or written informed consent before research takes place. Participation in all research activities was voluntary. Participants were given the information that they need to make an autonomous and informed decision about taking part in any research study, with consideration given to age-appropriate assent processes.

4. **Inclusion:** All participants, including those with disabilities, were given an equal chance to participate in the study. As such, the short-set of the Washington Group questions for disability research will be used to screen for disabilities and provide reasonable accommodations

whenever necessary. The research team was trained on how to do so, including the necessary actions that they should take once a particular disability is identified. We understand that this set is not meant to diagnose or identify disabilities but is a rather used as a form to identify if reasonable accommodations can be provided at the time of the research.

5. **Beneficence and non-maleficence:** The principle of beneficence asserts the duty to help others further their important and legitimate interests. One South is aware of the possible consequences of research activities. Wherever possible studies attempted to anticipate, and to guard against, consequences for research participants that can be predicted as harmful. This is important where research gives rise to intrusive conversations, uncalled-for self-knowledge, or unnecessary anxiety. Where possible, proxies in survey indicators were used to provide sensitive item formulations.

6. **Justice:** The selection of subject participants for the study follow project participation status, which ensures that the sample data was meaningfully chosen for reasons directly related to the problems being studied. One South understands that assessment carried out throughout research activities will help the wider public understand issues of risks and vulnerability and how these affect the lives of marginalized populations. One South understands justice as the ability to provide advantages to these groups outside the present study. Participants were given information on how to access research results and conclusions and obtain further information.

7. **Anonymity and Disclosure:** One South ensured the anonymity of all respondents using pseudonyms in any narratives as well as a unique ID for each participant for all assessments. Separate files containing ID numbers attached to personal information were kept separate, and password protected with restricted access in the servers of Plan International. Pictures containing images of people used in photovoice sessions was deleted after the exercise.

Ensuring the Safety of the Research Team. To ensure the safety of the research team, the evaluation team leased vehicles to transport all personnel to research sites. All research participants also carried a welcome letter from officials that was used to access communities and benefited from community guides to support them whilst in the field. This ensured the research team had support whilst in the community and travelling to it.

Recontacting Protocols. The study aimed to track a cohort of 740 girls who were interviewed at Midline. After three failed attempts to locate the original midline girl, the girl was replaced by randomly selecting another girl from the same list of Midline participants using a one-for-one replacement rule and a lottery method. If this could not be done, a new girl was randomly selected following the same principles. While this is an endline study, we used historical transition and learning data so scores could be reproduced for replacement cases at endline.

Sampling Strategy and Stratification

1. **Girls' Survey, Attendance Records, In-school Assessments, and Household Survey.** At baseline, the evaluation team collected data from all 72 schools involved in the project with the intention of tracking the same sample of girls longitudinally at future evaluation points. At endline, the evaluation sampled girls from midline, following the same tracked cohort of girls in the two regions, namely Oti and Greater Accra.

   We randomly selected a sub-sample of midline girls. Two key project characteristics were considered for the sampling design, including the regional split (how the project is spread across Ghana) and the project's exposure across different grade-levels. There are 36 schools in each region: Oti and Greater Accra, for a total of 72 schools.[4] The number of schools per district varies. Children starting P3 in January 2021 recently entered MGCubed cohort so the project did not advocate for them being included in the sample. Children starting P4 in January 2021 only had 6 months of exposure to MGCubed interventions before schools closed for COVID19 so they were not included; therefore, only grades P3 to JHS1 at ML were sampled at endline. This means most of the sample will be found in P5-JHS3 at endline (accepting that some students could have repeated grade levels and therefore found in P4 and even in P3 at endline).

   This is summarized in the following table:

Table 3. Grade Level Considerations

Grade at Midline	Grade at Endline	Considerations
Primary 3	Primary 5	Key portion of the sample
P4	P6	
P5	JHS1	
P6	JHS2	Some children in JHS2 also attend after-school clubs.
Junior Highschool 1 (JHS1)	JHS3	Girls who were in JHS2 last year and are starting JHS3 in January received Cash Transfers in November. This group is just out of direct MGCubed exposure.
JHS2	SHS1	Captured through Qualitative Sample only

   To keep design effect biases as low as possible, the study sampled girls from all project schools, used the smallest feasible cluster size, used a constant cluster size rather than a variable one, and sought to increase geographic dispersion as much as possible. The girls'

[4] MEL Framework

head of household and caregiver were administered the household survey and their data was merged horizontally with that of the girls'.

2. **Teacher Survey and Lesson Observations.** The maximum possible was 80 lesson observations which were split in 2 amongst the regions, 40 for Oti and 40 for Greater Accra; and then again between regular and MGCubed Remedial Lessons. Regular day lessons were half in Primary 6 and half from from Primary School 5. We chose these grades because that is where the majority of the cohort was found. Lesson observations occurred in randomly sampled schools visited in each region. There were one or two remedial lessons observed at each school depending on the availability and feasibility. Lesson observations will occured from March 19th to April 2nd, 2021. All teachers participating in lesson observations were also surveyed with the teacher survey. All other teachers were randomly sampled from the midline list of teachers or newly sampled in the grade levels of the girls.
3. **Head Teacher Survey**. All headteachers from project schools were sampled.
4. **DEO Survey.** 46 DEOs from participating Districts were surveyed. DEO officials were either Circuit Supervisors or Girls' Education Officers.

Sample sizes were calculated with the objective of drawing generalizations about girls and households targeted by the project at the aggregate level and for each of the two regions. The sample size reached has a confidence level of 95% and a margin of error of 5%. It was calculated for a population size of 9,109 girls engaged by the project. According to sample size calculations, the minimum sample size for these parameters is 369. To produce results that are representative of the two regions, the study doubled the sample size by a factor of two[5]. This yielded a minimum sample size of 738 girls. The evaluation reached a sample size of 740 girls.

Sample Attrition. At endline sample attrition was 12%. This is because, of the 740 girls that were sampled, 69 girls in P5 in GA and 70 in Oti were planned to be newly sampled to meet the desired sample proportions (total of 139 girls). Therefore the number of trackable girls was set out to be 601 before the study. After data collection, the study had successfully tracked 524 girls between midline and endline periods. This meant that the endline sample attrition was 12%[6]. This is well within expectations and the minimum sample size and did not affect the analysis of learning, transitions, and attendance, which were based on historical data. For other assessment, the sample is representative of the general project population. The following table shows that the sample was achieved at adequate proportions for all grade-levels and both regions. 41% of the sample was taken from primary schools and 59% from secondary schools.

[5] Turner (2003) Sampling Strategies in *Handbook on Designing of Household Sample Surveys. United Nations Secretariat.* Available at: https://unstats.un.org/unsd/demographic/sources/surveys/Handbook23June05.pdf

[6] Tracked Cohort. At midline, no new girls in Primary 3 and 4 were sampled, so a booster sample was taken from Primary 5 and 6 at endline to be able to disaggregate findings by these grade-levels. This is because the project's interventions occur in upper primary school, including in JHS1.

The evaluation also drew from evidence collected through assessments with other project stakeholders. Representative sizes for each of these stakeholder groups were calculated using the same parameters discussed above.

Table 4. Sample Sizes for Other Instruments

Evidence Source	Description and Use
Household Survey (HHS)	740
Girls' Survey (CS)	740
Attendance and Re-enrollment	740
MGCubed Facilitators Survey	144 (from a total of 216 facilitators)
Survey with School Authorities (headteachers and SMC members)	150
Lesson Observations	80
DEO Survey	46

Quality Assurance

Survey Checks and Data Entry. To ensure all tools were completed successfully and correctly prior to data entry, One South conducted a two-stage quality check on paper surveys. For each enumerator, eight full cases were selected randomly from the paper copies from each enumerator. In stage 1 these cases were checked for completeness and correctness by the Ghana management team. This involved a check that all responses were filled in correctly across all surveys. Enumerators were then given the opportunity to make corrections on the data-entry platform based on their mistakes through entering the data onto a second online version of the survey. In stage 2, the eight cases were checked against the final endline dataset produced by the electronic data entry with adaptations made to the dataset for data entry mistakes. If two copies had consistent errors in stage 1 and 2, an additional eight paper copies would be checked from the same enumerator until no mistakes were found. The final stage was carried out by international consultants at One South and consisted of thorough data verification and validation process to produce a communicable and accessible version of the dataset. Once the quantitative data was entered, One South performed extensive data quality checks as part of the verification and validation process. Checks included:

1. Range checks to ensure that all variables in the data have a valid range of values.
2. Skip checks to verify whether skip rules and other filtering patters were followed correctly by data collectors.
3. Consistency checks to verify that the information provided to one question is consistent with the information provided for related questions.
4. Typographical checks to identify typographical mistakes occurring during data entry such as digit transposition.

5. Label checks to ensure scales follow the appropriate coding method.

All qualitative transcripts were checked for correct and consistent grammar by the in-country partner if they have been translated and random checks were done on recordings to ensure that transcriptions were done verbatim. Depending on the language, these checks were done by the national or international consultant.

Data Storage and Security. Data was stored in Plan International servers as per general data protection and regulation (GDPR) policy. To ensure the anonymity of participants, the main data set does not include personal information attached to survey or learning responses. Instead, we employed a reference system based on unique IDs to connect participant results to personal information in separate, password-protected, and secured file. This file is known as the cohort tracking dataset and should contain all relevant tracking information for the participant. During data collection data was also stored in KoboToolbox servers in Ireland and protected under general data protection rules. Our team has been instructed to only use Plan's servers when handling participant data.

Quantitative Analyses. The endline and midline datasets were merged horizontally, following the cohort tracking design. This allowed the exploration of individual- and aggregate-level differences amongst sub-groups using multiple sources of data and statistical analyses. Analyses included group and individual comparisons as well as time comparisons (through paired and independent sample t-tests), association tests (through chi-square tests), and predictive tests (through linear and logistic regression analyses). We reported whenever significant test results were found at the 1% ($p<.001$) or 5% levels ($p.<05$). Because the study met the minimum sample size, this evaluation allows for the demonstration of results and development of recommendations through observations that are both representative project sites and empirically sound. We also tested the reliability and construct-validity of all psychometric scales used using inter-item reliability (through Cronbach's alpha) and construct validity (through factor analysis).

Qualitative Analyses. All transcripts were read and coded by the research team following a descriptive code and by our education and GESI specialists from their own critical angle. The analysis consisted of drawing the main categorical discussions from the interviews and presenting them through quotes in the study. The analytical objective was to draw the main themes from these discussions to triangulate and complement findings or explore new topics and dimensions. These were presented alongside the main findings of the report.

Transcription and Translation. Our standard is to transcribe conversations verbatim in the local language and translate them into English, so we may check the original transcription should inconsistencies arise. However, due to the level of expediency required between phases and the fact that several local languages are not traditionally expressed in writing in Ghana, it is not possible to translate all research tools into the multiple languages. In Ghana, the common research practice is to use a glossary of terms that can be translated into the six languages used by participants of the evaluation. This glossary consisted in several words from tools chosen by enumerators in a series of joint sessions and then translating those terms with a certified translator. Enumerators then used this glossary to deliver the surveys during data collection. For

terms that may not be easily translated, transcribers were tasked with including a footnote of the word, written phonetically, so that we me review it with our in-country team and the correct translation is used. Transcriptions were also spot-checked by the UniDec team against the recording to check the fidelity of the transcription. Qualitative data is presented in the form of transcripts in MS Word format, accompanied with its recording.

Challenges in endline data collection and limitations of the evaluation design

Identified limitations and challenges and mitigating actions, included:

1. The sample was stratified and drawn from project schools and sites that are predominantly rural. Therefore, results do not represent the overall population of Ghana or in any project region. Rather, results are representative of target project populations in areas where the project was active. Interpretations from this data can only be made for MGCubed project participants and relevant stakeholders such as their caregivers, school leaders, and district authorities that engage with the project.
2. Findings within project areas are not necessarily representative or generalizable to out of school girls given that all girls tracked by the evaluation were in project schools. This was a result of initial biases in the sample taken at baseline.
3. The midline design did not sample girls in Primary 3 and Primary 4, and therefore, most girls that could be longitudinally tracked were in secondary school. To enable the disaggregation of historical learning and transition data by grade-level, the evaluation team collected a booster sample of around 190 girls in Primary 5 and 6.
4. To prevent children from feeling additional stress and anxiety induced by literacy and numeracy assessments upon return to school after the pandemic[7], school-level assessment data served as a proxy for learning. This measure was considered more ethical and safer for children than learning assessments in the context. However, school level term grade data is likely not comparable between years due to teacher and assessment standard differences. The strengths of conclusions made using grade data over multiple years should therefore be cross-referenced with other evidence sources.
5. Due to concerns about including a comparison group of children who did not receive any project interventions and had experienced recent disruption due to protracted school closures and other COVID-19 response measures, the study did not use a control group[8].

[7] KII with Evaluation Advisor at Plan UK.

[8] Terms of Reference, MGCubed Evaluation; Additionally, a meaningful comparison group could not be established because different locations would have been differently affected by the pandemic, which was an exogenous shock that was not present during the baseline sampling. As such, it could not be factored in sampling selection, thereby introducing a bias in the sample at endline. As communities were differently affected by the pandemic, the progress of the counterfactual would not have been the same as that of the treatment group over time without the intervention (parallel-trend assumption). It is, therefore, questionable whether the control group chosen at baseline is still truly like the treatment group, all things equal. The inability to construct a true counterfactual at endline raises the question of whether the parallel-trend assumption of the RCT or DiD methods would still hold.

6. The midline evaluation relied on a quasi-experimental difference-in-difference approach to assess project impact between baseline and midline. At endline, the evaluation relied on a holistic approach that used multiple evidence sources to assess and respond to evaluation questions.
7. According to the midline report, "*OOSG girls were not involved in baseline data collection*"[9] suggesting that the data might be more representative of girls who are generally in school. To complement this, the evaluation collected historical transition data from all girls by asking them what they were doing in each program year. Key-informant interviews were also conducted with out-of-school girls. This enabled the estimation of drop-out rates for all evaluation periods and the inclusion of out-of-school girls' perspectives in the study.
8. An inherent limitation of several sources of quantitative data is that it relies on retrospective self-reported data. Therefore, there is the possibility that participants had difficulties recalling important information or that they provided socially desirable responses to sensitive items, leading to respondent bias. Whenever possible, quantitative findings were triangulated and complemented with qualitative evidence.
9. The endline follows a midline evaluation that was conducted by a different external evaluator. As such, several indicators and survey items changed between midline and endline periods because some midline calculations and indicator definitions did not produce valid or reliable measures. Decisions on indicator measurement were made in close consultation with the project. Whenever possible, the endline evaluation team recreated indicators to measure changes between periods using common indicators from the midline data. However, in cases were these measures were not valid or reliable, additional scales or items were constructed to capture meaningful performance indicators based on the original intentions of the measurement framework.

Representativeness of the learning samples, attrition and matching of intervention and comparison groups. As seen above, sample sizes were met for the tracked cohort since midline, which allows for individual-level comparisons across time and merging datasets horizontally. At 12%, sample attrition falls within expectations and did not have an impact on the reliability of findings. The sample is therefore fully representative of the wider beneficiary population. No adjustments needed to be made to the estimation of the learning outcomes.

Table 2.1: Endline learning sample and attrition

Cohort group	Endline sample (treatment)	Recontacted (treatment)	Attrition (treatment)	Sample Booster in P5
Endline	601	524	12%	139

Table 2.2: Evaluation sample breakdown (by region)

Region	Intervention (recontacted)

[9] MGCubed ML Report.

Greater Accra	273
Oti	251
Girls sample size	524

Table 2.3: Evaluation sample breakdown (by grade and region)

Grade at Endline	Greater Accra		Oti		All	
	n	%	n	%	n	%
Out-of-School	3	0.8%	3	0.8%	6	0.8%
Primary 4	1	0.3%	0	0.0%	1	0.1%
Primary 5	75	20.3%	71	19.2%	146	19.7%
Primary 6	76	20.5%	75	20.3%	151	20.4%
JHS1	70	18.9%	75	20.3%	145	19.6%
JHS2	72	19.5%	71	19.2%	143	19.3%
JHS3	73	19.7%	75	20.3%	148	20.0%
All	**370**	**100.0%**	**370**	**100.0%**	**740**	**100.0%**

Table 2.4: Evaluation sample breakdown (by age)

Age Group	n	Percent
Aged 6-8 (% aged 6-8)	2	.3%
Aged 9-11 (% aged 9-11)	56	7.6%
Aged 12-13 (% aged 12-13)	145	19.6%
Aged 14-15 (% aged 14-15)	238	32.2%
Aged 16-17 (%aged 16-17)	198	26.8%
Aged 18-19 (%aged 18-19)	83	11.2%
Aged 20+ (% aged 20 and over)	18	2.4%
All Girls	740	100%

Table 2.5: Evaluation sample breakdown (by disability)

Group	Tracked since ML		Endline Only		Total		Variable name
	n	%	n	%	n	%	

Girl has a Disability	No	497	95.6%	205	95.8%	702	95.6%	DISABILITY
	Yes	23	4.4%	9	4.2%	32	4.4%	
Difficulties Seeing	No	516	99.0%	210	97.7%	726	98.6%	DSEEING
	Yes	5	1.0%	5	2.3%	10	1.4%	
Difficulties Hearing	No	521	99.4%	215	99.5%	736	99.5%	DHEARING
	Yes	3	0.6%	1	0.5%	4	0.5%	
Difficulties Mobility	No	520	99.2%	214	99.1%	734	99.2%	DMOBILITY
	Yes	4	0.8%	2	0.9%	6	0.8%	
Difficulties Concentrating	No	515	98.3%	211	98.1%	726	98.2%	DCONCENTRATION
	Yes	9	1.7%	4	1.9%	13	1.8%	
Difficulties Self-Caring	No	519	99.0%	213	98.6%	732	98.9%	DSELFCARE
	Yes	5	1.0%	3	1.4%	8	1.1%	
Difficulties Communicating	No	518	99.0%	215	99.5%	733	99.2%	DCOMMUNICATING
	Yes	5	1.0%	1	0.5%	6	0.8%	

The approach adopted by the GEC and by this evaluation was that a child identified as having a disability is one who is recorded as having a 'lot of difficulty' or 'cannot do at all' in one or more domain. This applies to the Washington Group Short Set of Questions. Girls may have two or more disabilities. Therefore, the overall group is not an average of the other categories or a sum, but rather a % of girls who have at least one disability.

Table 2.6: Evaluation sample breakdown (by disability severity) – Intervention group

Sample breakdown (Girls)		Some Difficulty % (n)	A lot of difficulty % (n)	Cannot do at all % (n)
WG Child functioning questions	Domain of functioning			
Difficulty seeing	Seeing	11% (193)	1.8% (31)	0% (0)
Difficulty hearing	Hearing	3.4% (60)	1% (17)	0.1% (2)
Difficulty walking or climbing steps	Walking	3.1% (55)	0.5% (9)	0.1% (2)
Difficulty with self-care	Cognitive	2.2% (39)	0.1% (2)	0.1% (1)
Difficulty with communication		3.4% (60)	0.6% (11)	0.2% (3)
Difficulty remembering or concentrating		17.2% (303)	2.8% (49)	0.3% (6)

Annex 3: Learning Outcome Data Tables

Table 4.5:Tracked Cohort grades and ages

		Beneficiary grades & ages	
	Baseline	*Midline*	*Endline*
Grade	Grade 2	Grade 3	Grade 4
Age	6-7	7-8	8-9
Grade	Grade 3	Grade 4	Grade 5
Age	7-8	8-9	10-11
Grade	Grade 4	Grade 5	Grade 6
Age	8-9	10-11	12-13
Grade	Grade 5	Grade 6	JHS1
Age	10-11	12-13	14-15
Grade	Grade 6	JHS1	JHS2
Age	12-13	14-15	16-17
Grade	JHS1	JHS2	JHS3
Age	14-15	16-17	17-18

Learning outcomes estimation:

62% of girls maintained their English literacy levels between Term 2 of the 2019-2020 academic year and Term 1 of the 2021 academic year. 62% of girls also maintained their mathematics levels between these periods. There are no statistically significant differences between mean mathematics or English term grades for girls between academic year 2019-2021 and the first term of the 2021 academic year , indicating mean levels of these outcomes between the two periods did not change.

Learning data tables: No learning data was captured using the early reading assessment (EGRA) or early mathematics assessment (EGMA) at endline.

Annex 4: Characteristics and Barriers

Populate Table 5.1 below with the proportion of girls in the sample with each of the characteristics listed in the table (where this data has been collected via survey). Evaluators may have collected additional information on other characteristics. These should be appended to the bottom of the table.

To find out the extent to which sub-groups are represented in the sample, the evaluation relied on the HHS, Girls' Survey, and midline data to identify girls according to different marginalization criteria. This allowed evaluators to disaggregate data and run analyses that compared outcomes for groups[10]. Surveys changed between periods, therefore only endline data is presented.

Table 6. Girls' characteristics

Characteristics	Count	Endline %
Girl has a disability[11]	32	4.4%
Difficulties seeing	10	1%
Difficulties hearing	4	0.5%
Difficulties with mobility	6	0.8%
Difficulties concentrating	13	2%
Difficulties self-caring	8	1%
Difficulties communicating	6	0.8%
Was at some point OOS during the project	25	3%
Was pregnant at some point during the project	21	3%
Pregnant at the time of interview	7	0.9%
Young mother	17	2%
Married girls	4	0.5%
Girl is from a special linguistic group (Likpakpa, Kotokoli, or Guan)	74	10%
Likpakpa	10	1%
Kotokoli	56	8%
Guan	8	1%
Rural HH	601	81%
Peri-urban HH	107	15%
Urban HH	32	4%
Single orphan	264	11%
Double orphan	25	1%
School is 30 min or more walking distance from school	128	17%
Households with more than 3 children per adult	83	11%
Total Sample	**740**	**100%**

[10] See **Error! Reference source not found.**.

[11] This means girls with at least one disability or scoring 3 or more in the short set of Washington Group Questions to measure disability. Given that girls can have more than one disability, individual counts of persons by disability group do not add to the total of girls with a disability.

Table 7. MGCubed School Characteristics

School Characteristics	Region					
	Greater Accra		Oti		Total	
	n	%	n	%	n	%
School is rural	17	57%	36	86%	53	74%
School is peri-urban	11	37%	5	12%	16	22%
School is urban	2	7%	1	2%	3	4%
% Schools with female headteachers	6	20%	7	17%	13	18%
Schools' headteacher has at least a bachelor's degree	27	90%	33	79%	60	83%
School has enough seats for students	29	97%	39	93%	68	94%
School has no textbooks	19	63%	27	64%	46	64%
School has a chalkboard or whiteboard	29	97%	42	100%	71	99%
School has a PTA	30	100%	41	98%	71	99%
School has a SMC	30	100%	39	93%	69	96%
School has a school feeding program	23	77%	17	41%	40	56%
School has an electricity source available most of the time	21	70%	25	60%	46	64%
School has piped water access	19	63%	22	52%	41	57%
School has separate toilets for girls and boys	18	62%	39	93%	57	80%
School has an accessible toilet	1	3%	4	10%	5	7%
Girls' toilets are fully covered by walls for privacy	25	100%	37	88%	62	93%
Boys' toilets are fully covered by walls for privacy	25	100%	35	83%	60	90%
School has toilet units lockable from the inside	16	64%	24	57%	40	60%
School has handwashing facilities with working water	21	70%	30	73%	51	72%
School has handwashing facilities near girls' toilets	12	40%	20	50%	32	46%
School has handwashing facilities near boys' toilets	10	35%	20	48%	30	42%
School has soap available near handwashing facilities	24	92%	26	81%	50	86%
School has a place where girls can wash their sanitary wear	6	20%	6	14%	12	17%
School has a source of drinking water	15	50%	22	52%	37	51%
School made adaptations for children with disabilities	11	38%	9	21%	20	28%

Barriers

Table 5.2 below lists potential barriers to learning and transition. This table allows projects and evaluators to see the prevalence of barriers across treatment and comparison schools/communities, and at subsequent evaluation points, and explore how these have changed over time.

Demand side barriers includes low attendance, low academic achievement, lack of parental support, early marriage, pregnancy, and finance. These restrictions are assumed to prevent girls from accessing education and to negatively impact girls' confidence, motivation, and breadth of agency within social, familial, and educational realms[12].

Table 8. ***Potential barriers to learning and transition***

Characteristics	Count	Column N %
Girl works in family business/farm	196	7%
Spends more than 1 hour a day on household chores	367	50%
Girl has very low attendance to school	83	11%
Girl's family experiences hardship	160	22%
Girl has low academic self-efficacy	16	2%
Girl does not have homework support from caregivers	392	15%
Caregivers do not support girls' education	84	11%
Girl does not have 60% correct SRH knowledge	554	75%
Girl has low self-esteem (<0.3)	45	6%
Girl works or is employed	17	0.6%
Girls witnessed corporal punishment in schools	339	48%
Total Sample	**740**	**100%**

Supply-side barriers include a lack of quality teaching and inclusive learning environment for girls[13]. Pre-implementation gender-related barriers to learning identified by the project team were being pregnant and/or being a young mother, and – at a wider level – being female.

Key subgroups by learning scores:

The following tables presents key outcome data cut by target subgroups at the aggregate score.

[12] Midline variables changed between evaluation periods after reviews. See Table 8.
[13] MEL Framework.

Table 9. Main Outcome Data by Key Subgroup

Sub-Group		Endline Mathematics Score		Endline English Score		Net Attendance Rate (endline)		Transition Rate (endline)			
								Unsucc.		Succ.	
		Mean	n	Mean	n	Mean	n	n	%	n	%
Girl has a Disability	No	52.71	702	53.13	702	95	702	24	96.0%	678	95.6%
	Yes	75.64	32	73.86	32	96	32	1	4.0%	31	4.4%
Was Pregnant	No	53.55	716	53.98	716	95	716	21	84.0%	695	97.6%
	Yes	71.67	21	67.33	21	85	21	4	16.0%	17	2.4%
Young Mother	No	53.92	720	54.31	720	95	720	22	88.0%	698	98.0%
	Yes	62.17	17	58.33	17	84	17	3	12.0%	14	2.0%
Married Girls	No	54.05	733	54.40	733	95	733	23	92.0%	710	99.7%
	Yes	53.00	4	42.00	4	73	4	2	8.0%	2	0.3%
Girl is from a Special Linguisting Group (Likpakpa, Kotokoli or Guan)	No	55.91	663	56.17	663	95	663	24	96.0%	639	89.7%
	Yes	38.79	74	39.63	74	95	74	1	4.0%	73	10.3%
Likpakpa	No	53.84	727	54.16	727	95	727	25	100.0%	702	98.6%
	Yes	74.25	10	74.25	10	91	10	0	0.0%	10	1.4%
Kotokoli	No	55.44	681	55.73	681	95	681	24	96.0%	657	92.3%
	Yes	39.29	56	39.91	56	96	56	1	4.0%	55	7.7%
Guan	No	54.65	729	54.94	729	95	729	25	100.0%	704	98.9%
	Yes	7.00	8	10.00	8	96	8	0	0.0%	8	1.1%
Experiences Hardship	No	50.36	573	50.98	573	95	573	19	79.2%	554	78.1%
	Yes	64.44	160	64.19	160	95	160	5	20.8%	155	21.9%

Annex 5: Logframe

Logframe and Medium-Term Response indicator framework for Covid-19 adapted activities included.

Annex 6: Outcomes Spreadsheet

No learning tests were collected suitable to the GEC-T outcome spreadsheet.

Annex 7: Beneficiaries tables

The following are the beneficiaries of MGCubed as reported by the project.

Table 10. Direct beneficiaries

Beneficiary type	Total project number	Total number of girls targeted between midline and endline	Comment
Direct learning beneficiaries (girls) – girls in the intervention group who are specifically expected to achieve learning outcomes in line with targets. If relevant, please disaggregate girls with disabilities in this overall number.	Total number of direct beneficiaries worked with over the lifetime of the project.	This may equal the total project number or may be less if girls 'graduated out' after a certain grade.	If the total project number has changed since baseline or midline provide an explanation of why (e.g. didn't reach all girls planned, larger class sizes then previously accounted for etc)
Direct learning beneficiaries (girls)	14,132	5,356	The original target estimate for the total project reach was 14,400. However, number of students in targeted grade level reduced marginally following the long school closures due to the pandemic

Table 11. Other beneficiaries (Total over lifetime of the project)

Beneficiary type	Number	Comments
Learning beneficiaries (boys) – as above, but specifically counting boys who will get the same exposure and therefore be expected to also achieve learning gains, if applicable.	11,435	These boys also attended remedials and after-school clubs, and received support during the school closures
Broader student beneficiaries (boys) – boys who will benefit from the interventions in a less direct way, and therefore may benefit from aspects such as attitudinal change, etc. but not necessarily achieve improvements in learning outcomes.		
Broader student beneficiaries (girls) – girls who will benefit from the interventions in a less direct way, and therefore may benefit from aspects such as attitudinal change, etc. but not necessarily achieve improvements in learning outcomes.		
Teacher beneficiaries – number of teachers who benefit from training or related interventions. If possible /applicable, please disaggregate by gender and type of training, with the comments box used to describe the type of training provided.	Online only: 734 (294 female and 440 male) Online blended with face-to-face: 251 (108 female and 143 male)	Those who benefitted from both online and face-to-face training were those teachers selected to facilitate project sessions in the school. All other teachers benefitted from only studio-based teaching
Broader community beneficiaries (adults) – adults who benefit from broader interventions, such as community messaging /dialogues, community advocacy, economic empowerment interventions, etc.	15,740 (7,083 female and 8,657 male)	These were caregivers whose children directly benefitted from the project

Tables 7.3 to 7.6 provide different ways of defining and identifying the project's target groups. They each refer to the same total number of direct beneficiary girls, but use different definitions and categories. The numbers in the first two rows refer to the status at the start of the project.

Table 12. Target groups - by school

School Age	Project definition of target group (Tick where appropriate)	Number targeted through project interventions	Sample size of target group at endline
Lower primary	Primary 3	5,236	
Upper primary	Primary 4,5&6	12,296	
Lower secondary	JHS1,2&3	16,707	
Upper secondary			
Total:		34,239	

Table 13. Target groups - by school

Age Groups	Project definition of target group (Tick where appropriate)	Number targeted through project interventions	Sample size of target group at endline
Aged 6-8 (% aged 6-8)		567	
Aged 9-11 (% aged 9-11)		5372	
Aged 12-13 (% aged 12-13)		7400	
Aged 14-15 (% aged 14-15)		6256	
Aged 16-17 (%aged 16-17)		4227	
Aged 18-19 (%aged 18-19)		1326	
Aged 20+ (% aged 20 and over)		419	
Total:		**25,567**	

Table 14. Target groups - by sub group

Social Groups	Project definition of target group (Tick where appropriate)	Number targeted through project interventions	Sample size of target group at endline
Girls with a disability	√	**41 (the project only identified children with physical disabilities)**	**32**
Girls from low-income households		**3109 (based on proportion of girls whose families experience hardship in the endline sample)**	**160**
Other (Young mothers)		**707**	**17**
Total:		**3,857**	

Table 15. Target groups - by school status

Educational sub-groups	Project definition of target group (Tick where appropriate)	Number targeted through project interventions	Sample size of target group at endline
Out-of-school girls: have never attended school			6
Out-of-school girls: have attended school, but dropped out			
Girls in-school		14,132	736
Total:		14,132	

Annex 8: External Evaluator's Inception Report

Inception Report uploaded

Microsoft Word Document

Annex 9: Data collection tools used for Endline

Data Collection Tools Uploaded.

Annex 10: Datasets, codebooks and programs

Datasets uploaded to Plan's servers.

Annex 11: Learning test pilot and calibration

No learning test was piloted or calibrated at endline. In-school assessments were used as proxy for learning instead.

Annex 12: Sampling Framework

Provide updated and final excel file. The final selection of the schools/communities for the endline evaluation should be clear.

Microsoft Excel Worksheet

Annex 13: External Evaluator declaration

Name of Project: Making Ghanaian Girls Great! (MGCubed)

Name of External Evaluator: One South, LLC

Contact Information for External Evaluator: 1140 3rd Street NE, 2nd Floor, Washington, DC 20002, USA

Names of all members of the evaluation team: Andres O. Navarrete, Tariq Omarshah, Joanna Seth-Smith, and Mark Thorpe

I, Andrés Navarrete certify that the independent evaluation has been conducted in line with the Terms of Reference and other requirements received.

The following conditions apply to the data collection and analysis presented in the endline report:

All data was collected independently by the EE and all data was provided by the project for analysis. Data analysis was conducted independently by the EE and provides a fair and consistent representation of progress.

Data quality assurance and verification mechanisms agreed in the terms of reference with the project have been soundly followed (Initials: ANB)

The recipient has not fundamentally altered or misrepresented the nature of the analysis originally provided by One South (Company) (Initials: ANB)

All child protection protocols and guidance have been followed ((initials: ANB

Data has been anonymised, treated confidentially and stored safely, in line with the GEC data protection and ethics protocols (Initials: ANB)

Andrés Navarrete

(Name)

One South, LLC

(Company)

06/11/2021

(Date)