

LEARNING UPGRADE AND STARLINK GHANA SCHOOL IMPACT EVALUATION REPORT 2026



**Report written by
Selorm Mensah – PhD Candidate at the University for
Development Studies, Ghana
Monitoring Evaluation Learning Specialist
Center for Prim-Data Measurement and Development**

Table of Contents

List of Tables	iii
List of figures	iv
EXECUTIVE SUMMARY	1
SUMMARY OF KEY FINDINGS.....	3
INTRODUCTION.....	4
METHODOLOGY	5
Assessment Design	5
Assessment population and Sample Size.....	5
Data collection tools and procedures.....	6
Data Analysis.....	6
Ethical Consideration	7
Limitations.....	7
DISCUSSION OF THE RESULTS	8
Balance of Observable Characteristics	8
Descriptive Statistics	9
Treatment schools versus Control schools.....	9
Comparing English and Mathematics performance between treatment and control schools	10
Treatment and Control Schools - Gender.....	11
Performance between Control and Treatment Schools.....	11
Learning Upgrade Learners’ Performance Trends in Mainstream Schools.....	12
Access to internet at Home.....	13
Device Accessibility	14
Confident in using basic computer/digital skills	15
Prior Experience with Digital Learning Tools	16
Digital skills rating.....	17
Confident in English skills – reading and writing skills	18
Mathematics skills – calculations and problem-solving	19
Motivated to improve skills in English and Math in the Learning Upgrade Program	20
Challenges to learning	21
Confident in achieving set Goals or Future Aspirations	22
Learners Future Aspirations.....	23
RECOMMENDATIONS.....	24

CONCLUSION 25

List of Tables

Table 1 Balance of Observable Characteristics	8
Table 2: Descriptive Statistics	9
Table 3: Comparing English and Mathematics performance between treatment and control schools	10
Table 4: Treatment and Control Schools - Gender	11
Table 5: Performance between Control and Treatment Schools	11
Table 6: Digital skills Rating	18

List of figures

Figure 1: Treatment schools versus Control schools	10
Figure 2: Learning Upgrade Learners' Performance Trends in Mainstream Schools	12
Figure 3: Access to internet at home	14
Figure 4: Frequency of digital device use for learning	15
Figure 5: Confident in using basic computer/digital skills	15
Figure 6: Prior Experience with Digital Learning Tools	16
Figure 7: Confident in English skills – reading and writing skills	18
Figure 8: Mathematics skills – calculations and problem-solving	20
Figure 9: Motivated to improve skills in English and Math in the Learning Upgrade Program	20
Figure 10: Challenges to learning	22
Figure 11: Confident in achieving set Goals or Future Aspirations	22

EXECUTIVE SUMMARY

The Learning Upgrade (LU) Program, implemented across six schools in four districts of the Volta Region, Ghana – West Africa (Ho West, Agortime Ziope, Adaklu, and Ho Central), was designed to strengthen foundational learning and digital skills among learners through an adaptive digital learning platform supported by high-speed internet connectivity via STARLINK devices. The program targets learners from Basic 1 through SHS 3, with a particular focus on improving literacy, numeracy, digital confidence, and learner motivation. After one year of implementation, an impact assessment was conducted to generate evidence on the program’s effectiveness and inform decisions around scale-up, replication, and future investment.

Given the absence of baseline data, the study used a quasi-experimental design, comparing learners in treatment schools (with Learning Upgrade and STARLINK) to learners in matched control schools without the intervention. The two groups were carefully matched on key characteristics such as age, gender, grade level, school type, and rural/urban location. Results confirm that treatment and control schools were highly comparable, strengthening confidence that observed differences in learning outcomes are attributable to the Learning Upgrade (LU) Program.

A total of 517 learners were assessed across Basic, JHS, and SHS levels, with deliberate inclusion of female learners to ensure gender balance. Standardized assessments aligned with the Learning Upgrade curriculum were administered under uniform conditions.

The findings show clear and meaningful improvements in learning outcomes among learners in treatment schools compared to those in control schools. Overall average scores reached 58% in treatment schools versus 44% in control schools, representing a 14-percentage point (32%) improvement. English performance increased from 47% to 61% (a 30% improvement), while Mathematics rose from 40% to 56% (a 40% improvement), making Mathematics the area of strongest impact. These gains are particularly significant given the short implementation period, indicating that Learning Upgrade is accelerating learning rather than producing marginal or incremental change.

Beyond overall performance, Learning Upgrade contributed to more equitable learning outcomes. Learners in treatment schools demonstrated more consistent performance, with reduced gaps

between high- and low-performing learners, suggesting that the intervention supports struggling learners as well as high performers. The results further indicate progress toward inclusive and gender-equitable learning outcomes. In Mathematics, gender gaps observed in control schools were fully closed in treatment schools, while in English, both female and male learners recorded strong improvements, with a slight narrowing of gender differences.

Evidence also points to sustained learning progress over time and broader developmental benefits. English scores increased steadily from 48% in Term 1 to 62% in Term 3, while Mathematics scores improved rapidly in the early terms and then stabilized in Term 3. Importantly, learning gains were observed regardless of learners' access to internet or devices at home, underscoring that success is driven by the structured Learning Upgrade curriculum rather than personal digital resources. In addition, the Learning Upgrade strengthened learners' digital confidence and motivation: 93% reported confidence in using basic digital tools, 95% were motivated to improve their English and Mathematics skills, and 92% expressed confidence in achieving their future goals or future aspirations highlighting both academic and life-skills impact.

Overall, the evidence indicates that the Learning Upgrade Program, supported by STARLINK connectivity, is making a meaningful and transformative contribution to foundational learning and digital skill development in the Volta Region. The results provide a strong case for continued investment, expansion, and deeper integration of the program into mainstream education systems.

SUMMARY OF KEY FINDINGS

- The results show that after-school digital learning initiative by FOA, OFP, and Learning Upgrade has made a significant impact raising academic performance of children in the treatment schools.
- Learning Upgrade improved literacy and numeracy outcomes by 32% across treatment schools.
- Learners in Learning Upgrade schools significantly outperformed their peers in non-Learning Upgrade schools in English and Mathematics.
- Learning Upgrade lifted low-performing learners and reduced or eliminated gender gaps, particularly in Mathematics.
- Learners achieved strong results regardless of access to devices or internet, demonstrating suitability for low-resource contexts.
- Learning Upgrade effectively reinforced classroom instruction, contributing to 14% gains in English and 6% gains in Mathematics.
- Learning Upgrade strengthened foundational digital awareness, especially among learners with no prior digital exposure, supporting long-term learning pathways.
- Learning Upgrade sessions at school are the main driver of learners' academic improvement, with evidence showing that learners perform well regardless of whether they have access to devices or internet at home.
- Learning Upgrade can be linked with enhanced confidence in learners' reading and writing skills, which is in line with observed improvements in English performance.
- Learning Upgrade significantly strengthened learners' digital confidence, with 93% of learners reporting confidence in using basic digital tools.
- Learning Upgrade has inspired learners with 95% of learners reported being motivated to improve their English and Mathematics skills and 92% expressing confidence in achieving their future goals, highlighting both academic and life-skills impact.

INTRODUCTION

The Learning Upgrade Program is currently being implemented in six (6) schools across four districts – Ho West, Agortime Ziope, Adaklu, and Ho Central in the Volta Region of Ghana. The program aims to enhance digital learning outcomes by providing learners with access to an adaptive digital learning platform (LEARNING UPGRADE) and high-speed internet connectivity through STARLINK devices. Through technology-enabled instruction and self-paced learning modules, the program seeks to improve foundational literacy numeracy and employable skills among learners.

Although the program has been operational for a year now, there is currently no empirical evidence demonstrating its effectiveness in improving learners' academic and digital performance. To address this evidence gap, impact assessment was initiated to evaluate the intermediate impact of the LEARNING UPGRADE Program and STARLINK installation on learners' learning outcomes.

The Impact assessments are essential for generating evidence on the effectiveness of educational interventions. This study is motivated by the need to:

- Assess the effectiveness of the Learning Upgrade Program – To determine whether the Learning Upgrading Program has led to measurable improvements in learners' digital and fundamental learning outcomes.
- Inform decision-making – Provide program implementers, policymakers, and funders with evidence that can guide potential decisions to expand, replicate, and allocate resources.
- Contribute to the evidence base – Demonstrate a practical approach to estimating the impact of programs in real-world educational contexts where baseline data may not be available.

Given that intervention schools were not randomly selected, a quasi-experimental design using matched treatment and control schools provides a rigorous approach to estimate program-attributable differences in learning outcomes

METHODOLOGY

Assessment Design

The study employed a **post-test-only control group quasi-experimental design**, comparing six (6) treatment schools implementing the LEARNING UPGRADE Program and receiving STARLINK devices with six (6) control schools that have not yet introduced the intervention. To enhance comparability and minimize selection bias, treatment and control schools were matched on key characteristics such as school size, location, and student demographics. Statistical controls were applied during analysis to isolate the program's effect from other confounding factors. Under this design, the control schools serve as a counterfactual proxy, representing the expected learning outcomes in the absence of the intervention.

Assessment population and Sample Size

The assessment population comprised learners in Basic 1 – 6, JHS 1–3 and SHS 1–3 across the selected districts. Both treatment and control schools were included, with learners stratified by sex (boys and girls) to ensure adequate female representation in the sample. Within each class, learners were first stratified by sex. A systematic sampling technique was then applied to select 41% boys and 59% girls. Three hundred and three (303) female and two hundred and fourteen (214) totaling five hundred and seventeen (37) learners were assessed.

This approach ensures adequate representation of female learners, who are often underrepresented in classroom participation. The sampling frame included 30% of active learners in each class. Systematic selection involved counting learners sequentially (every third student) until the target sample size was reached. The same stratified systematic sampling procedure was also applied in control schools, restricted to learners with regular attendance (operationally defined as attending at least 75% of school days in the previous month). If a stratum contained fewer eligible learners than the target, all eligible learners were included in the assessment, and proportional adjustments were applied to other strata to obtain the required number of learners to assess.

Category of Schools							
Treatment Schools	Female	Male	Total	Control Schools	Female	Male	Total
Agotime Senior High School (FOA)	40	26	66	Akorme Senior High School	41	26	67
Akpokope D/A Basic School (FOA)	14	10	24	Batume Junction School	14	10	24
Dawanu Salvation Army Basic School (FOA)	12	12	24	Kpetsu D/A Basic School	14	10	24
Goefe Basic JHS Good Life Center (FOA)	13	15	28	Saviefe Basic School	30	18	48
Impact Hub Academy Ghana (FOA)	30	16	46	Shia Senior High School	30	37	67
Tanyigbe Senior High School (FOA)	45	22	67	Sikaman Basic School	20	12	32
Total	154	101	255	Total	149	113	262

Source: Learning Upgrade Impact Evaluation (2025)

Data collection tools and procedures

Learning outcomes among the learners were measured using a standardized assessment tool designed in alignment with Ghana educational standards. The assessment had a predefined maximum (total) score for each assessment category, ensuring consistency across schools. Trained enumerators administered assessments under standardized conditions across treatment and control schools. Data quality checks ensured completeness, accuracy, and consistency of the data submitted.

Data Analysis

Data analysis was conducted to assess the impact of the Learning Upgrade (LU) Program on learners’ foundational skills in English and Mathematics by comparing outcomes between treatment and control schools. Given the absence of baseline assessment data, the analysis relied on cross-sectional comparisons supported by balance tests to ensure the validity of the counterfactual.

Descriptive statistics were first generated to summarize learner performance and background characteristics across treatment and control schools. These included measures of central tendency (mean, median, and mode), dispersion (minimum, maximum, range, and standard deviation), and proportional distributions. Descriptive statistics were used to examine overall performance patterns in English and Mathematics, as well as variations by gender, learner distribution across all grade levels (Basic 1-6, JHS 1-3, SHS 1-3), school type (public/private), and school location (rural/urban). Students

To assess the comparability of treatment and control schools, a balance analysis of key observable characteristics was conducted. Variables examined included learner gender, mean age, grade-level distribution, school type, and school location. Differences in proportions and means between treatment and control schools were tested using appropriate statistical tests, including chi-square tests for categorical variables and t-tests for continuous variables. Corresponding p-values were calculated to determine whether observed differences were statistically significant. The results indicated no statistically significant differences across these characteristics, supporting the assumption that treatment and control schools were well balanced.

Independent sample t-tests were applied to test whether differences in mean English and Mathematics scores between treatment and control schools were statistically significant. Where relevant, variance comparisons were also examined to assess differences in score dispersion. A standard significance level of 5 percent ($p < 0.05$) was used for hypothesis testing.

Ethical Consideration

Informed consent was obtained from school authorities and guardians prior to the administration of the assessment. Learner confidentiality and anonymity were ensured through the assignment of unique identification codes to each learner assessed.

Limitations

The absence of baseline data restricts measurement of within-learner learning gains and full control over pre-intervention differences. No baseline data; unobserved learner factors may influence outcomes. Limited number of schools may affect generalizability.

DISCUSSION OF THE RESULTS

Balance of Observable Characteristics

Table 1 presents a comparison of key observable characteristics between treatment and control schools. The results indicate that the two schools are highly comparable across gender, age, grade distribution, and school context variables. Both schools have similar proportions of female learners, identical mean age, and closely matched representation across Basic, JHS, and SHS levels. In addition, the distribution of rural, public, and private schools is exactly the same across treatment and control schools. This strong balance suggests minimal selection bias and supports the validity of using control schools as a counterfactual in the absence of baseline data. Consequently, observed differences in learning outcomes between the two schools can be reasonably attributed to the Learning Upgrade Program and Starlink Device Installation rather than to pre-existing differences in learner or school characteristics.

Table 1 Balance of Observable Characteristics

Variable	Treatment	Control	Difference	p-value
Female (%)	60	57	3	0.42
Mean age	14	14	0	0.76
Basic 1 - Basic 3 (%)	16	18	-2	0.69
Basic 4 - Basic 6 (%)	17	16	1	0.73
JHS 1-3 (%)	15	15	0	0.82
SHS1 - SHS 3 (%)	52	51	1	0.87
Rural schools (%)	83	83	0	1.00
Private Schools (%)	17	17	0	1.00
Public Schools (%)	83	83	0	1.00

Source: Learning Upgrade Impact Evaluation (2025)

Descriptive Statistics

The results in Table 2 show that learners in treatment schools are performing significantly better than those in control schools in both English and Mathematics. Not only are average scores higher, but more learners are consistently achieving stronger results. This suggests that the Learning Upgrade Program is helping to improve learning levels while also supporting more balanced learning outcomes across learners. In addition, the results clearly demonstrate that the Learning Upgrade (LU) Program is making a meaningful difference in foundational learning, especially in Mathematics, where learners that are participating in the LU are pulling further ahead of their peers. Also, learning outcomes in treatment schools are more consistent, with fewer large gaps between learners. This suggests that the LU is supporting struggling learners while at the same time lifting overall performance.

Table 2: Descriptive Statistics

Statistics	Control Schools		Treatment Schools	
	English	Mathematics	English	Mathematics
Count (N)	262	262	255	255
Mean (Average)	47%	40%	61%	56%
Median	47%	35%	63%	55%
Mode	33%	10%	67%	80%
Minimum	0%	0%	0%	0%
Maximum	100%	100%	100%	100%
Range	100%	100%	100%	100%
Standard Deviation	26%	28%	24%	26%

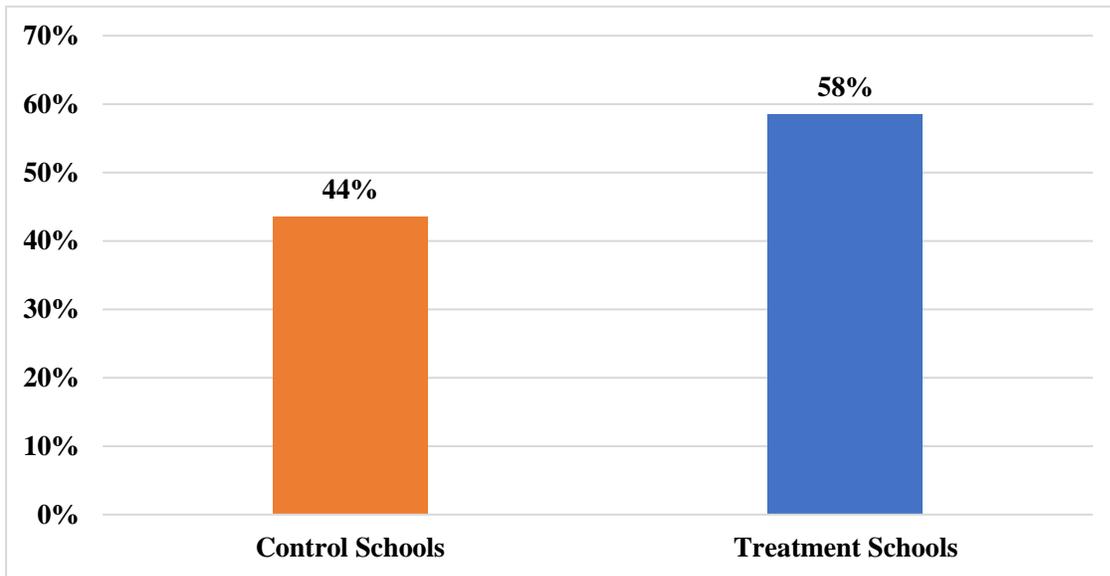
Source: Learning Upgrade Impact Evaluation (2025)

Treatment schools versus Control schools

From the figure 1, the result showed that learners in treatment schools achieved an average score of 58%, compared to 44% in control schools, representing a 14-percentage point (32%)

improvement. This indicates a strong positive impact of the Learning Upgrade Program on learners' foundational skills across primary, JHS, and SHS levels.

Figure 1: Treatment schools versus Control schools



Source: Learning Upgrade Impact Evaluation (2025)

Comparing English and Mathematics performance between treatment and control schools

From the table 1, learners' performance in English language in treatment schools reached 61%, compared to 47% in control schools. This represents a 14 percentage-point increase, equivalent to a 30% improvement. Mathematics performance showed an even stronger effect, with treatment schools scoring 56% compared to 40% in control schools. This corresponds to a 16 percentage-point increase, representing a 40% improvement. These differences indicate that learners participating in the Learning Upgrade Program are significantly outperforming their peers in both literacy and numeracy. The magnitude of these gains is notable given the short implementation period, suggesting that the program is accelerating foundational learning rather than producing marginal change.

Table 3: Comparing English and Mathematics performance between treatment and control schools

Subject	Control School	Treatment School	Point Difference	Percentage Increase
English	47%	61%	14%	29.8%
Mathematics	40%	56%	16%	40.0%

Source: Learning Upgrade Impact Evaluation (2025)

Treatment and Control Schools - Gender

Table 4 shows that the Learning Upgrade Program improved both English and math performance for both female and male learners. In English, girls in treatment schools scored 63% and boys 59%, both higher than their counterparts in control schools (50% and 43% respectively), with the gender gap narrowing slightly. In mathematics, performance increased for both sexes, with female increasing from 39% to 56% and male from 42% to 56%, thus closing the gender gap. Overall, the results indicate that the LU is not only improving learning outcomes for all learners, but also contributing to greater gender equity, particularly in mathematics.

Table 4: Treatment and Control Schools - Gender

Category of Schools	English		Mathematics	
	Female	Male	Female	Male
Control	50%	43%	39%	42%
Treatment	63%	59%	56%	56%

Source: Learning Upgrade Impact Evaluation (2025)

Performance between Control and Treatment Schools

Table 5 shows that learners in treatment schools performed better than those in control schools in English and mathematics in all individual schools. Average English and math scores in treatment schools were 61% and 56%, respectively, compared to 46% and 41% in control schools, with substantial gains in schools like Tanyigbe High School. The intervention also reduced gender

disparities, with most treatment schools showing almost equal performance between female and male learners, indicating better equity as well as better overall learning outcomes.

Table 5: Performance between Control and Treatment Schools

Category of Schools	English			Mathematics		
	Female	Male	Overall	Female	Male	Overall
Control	50%	43%	46%	39%	42%	41%
Akorme Senior High School	55%	59%	57%	62%	72%	67%
Batume Junction School	28%	32%	30%	13%	19%	16%
Kpetsu D/A Basic School	31%	24%	27%	10%	14%	12%
Saviefe Basic School	68%	69%	69%	39%	40%	39%
Shia Senior High School	42%	29%	35%	48%	44%	46%
Sikaman Basic School	54%	35%	44%	19%	13%	16%
Treatment	63%	59%	61%	56%	56%	56%
Agotime Senior High School (FOA)	60%	60%	60%	59%	75%	67%
Akpokope D/A Basic School (FOA)	42%	42%	42%	31%	32%	32%
Dawanu Salvation Army Basic School (FOA)	55%	54%	54%	47%	46%	47%
Goefe Basic JHS Good Life Center (FOA)	53%	50%	51%	37%	34%	36%
Impact Hub Academy Ghana (FOA)	68%	72%	70%	37%	32%	34%
Tanyigbe Senior High School (FOA)	73%	66%	70%	80%	81%	81%

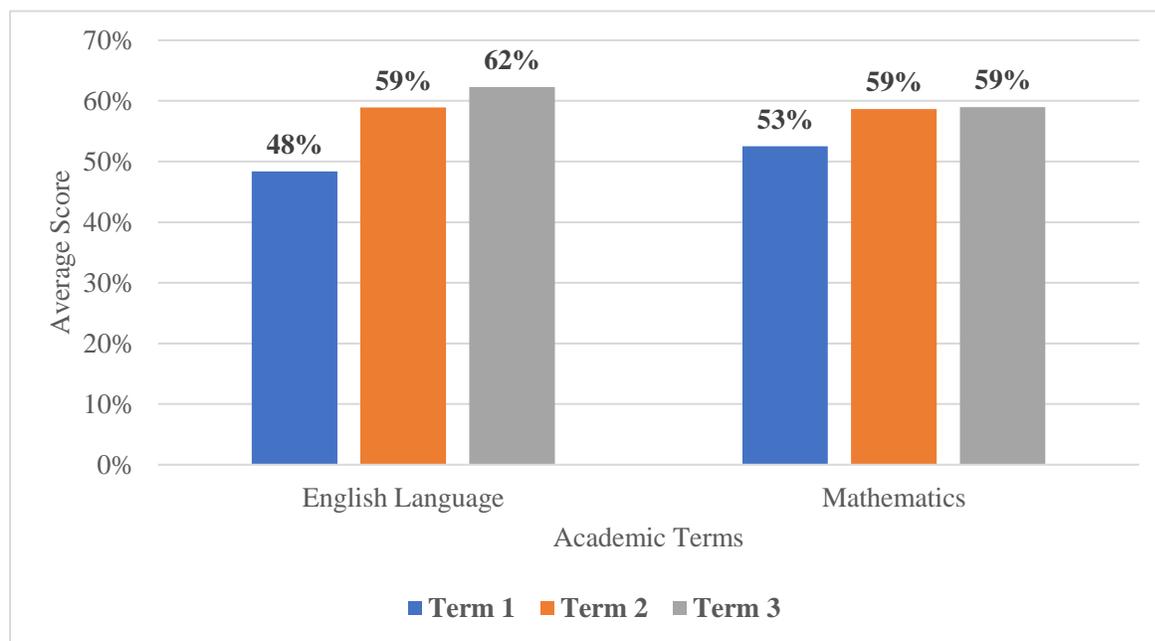
Source: Learning Upgrade Impact Evaluation (2025)

Learning Upgrade Learners' Performance Trends in Mainstream Schools

Result in Figure 2 shows that English Language scores rose steadily from 48% in Term 1 to 62% in Term 3 in the school administered end of term exam, indicating a 29% overall improvement,

demonstrating sustained gains in English language skills. Mathematics scores increased from 53% to 59% in term 2 and remained the same in term 3 suggesting that the LU had a strong initial impact on numeracy. Overall, the results suggest that the LU program has effectively reinforced classroom learning, boosts learners’ academic achievement, and supports gradual consolidation of skills, particularly in English, while additional support may be needed to sustain continued improvement in Mathematics.

Figure 2: Learning Upgrade Learners’ Performance Trends in Mainstream Schools



Source: Learning Upgrade Impact Evaluation (2025)

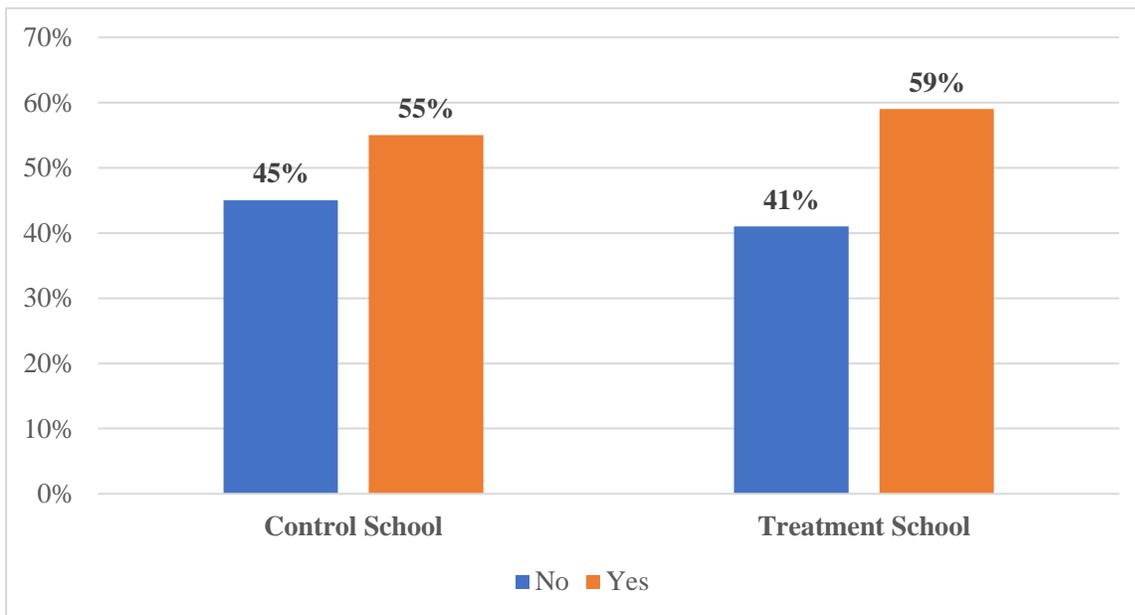
Access to internet at Home

Figure 3 shows that in control schools, 117 learners do not have internet access, while 145 learners have access to internet. This means 55% of learners have access, and 45% do not. In treatment schools, 105 learners do not have internet access, while 150 learners have it, meaning 59% have access and 41% do not. This implies that a slightly higher proportion of learners in treatment schools have internet access at home compared to control schools. However, a substantial portion of learners in both groups do not have home internet, indicating that the LU program’s success is

not solely dependent on home internet access and that in-school or after-school support likely plays a critical role.

Further analysis revealed that learners in treatment school improved their performance in both English and Mathematics regardless of home internet access. While learners with internet at home may have additional opportunities to practice and access digital learning resources, learners without home internet also demonstrated substantial gains, such as English scores increasing from 48% in Term 1 to 62% in Term 3 and Mathematics scores improving from 53% to 59%. This suggests that the structured LU program itself is the primary driver of academic improvement, though home internet access may provide supplementary reinforcement for learning.

Figure 3: Access to internet at home



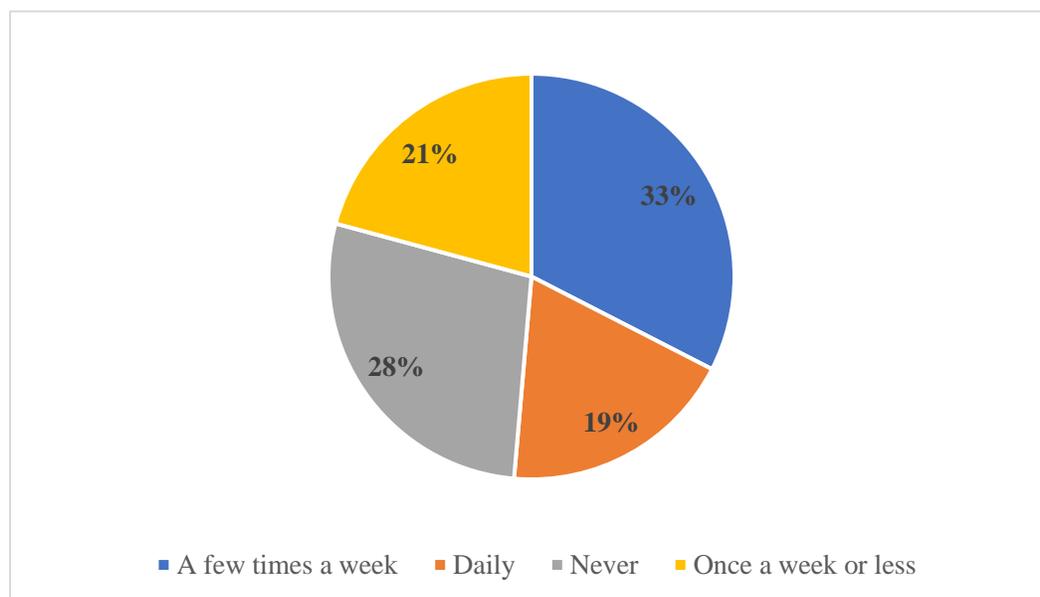
Source: Learning Upgrade Impact Evaluation (2025)

Device Accessibility

Figure 4 shows varied levels of digital device usage among learners participating in the Learning Upgrade Program. A majority of learners report some level of device use, with 33% of learners using devices a few times a week and 19% of learners using devices daily. Together, the result indicates that regular (daily or near-daily) device use is frequent among learners even though, a significant number of learners have limited or no access to devices. 21% of learners use devices

once a week or less, while 28% of learners report never using a device. This implies that Learning Upgrade program appears to be reaching learners across different levels of digital access, not only those with frequent device use. At the same time, LU is creating opportunities for more frequent device access particularly for learners who rarely or never use device and this could further strengthen learning outcomes among learners and reduce digital inequality. Generally, the findings suggest that while device usage enhances learning opportunities, the Learning Upgrade program remains impactful even for learners with limited or no regular access to digital devices.

Figure 4: Frequency of digital device use for learning



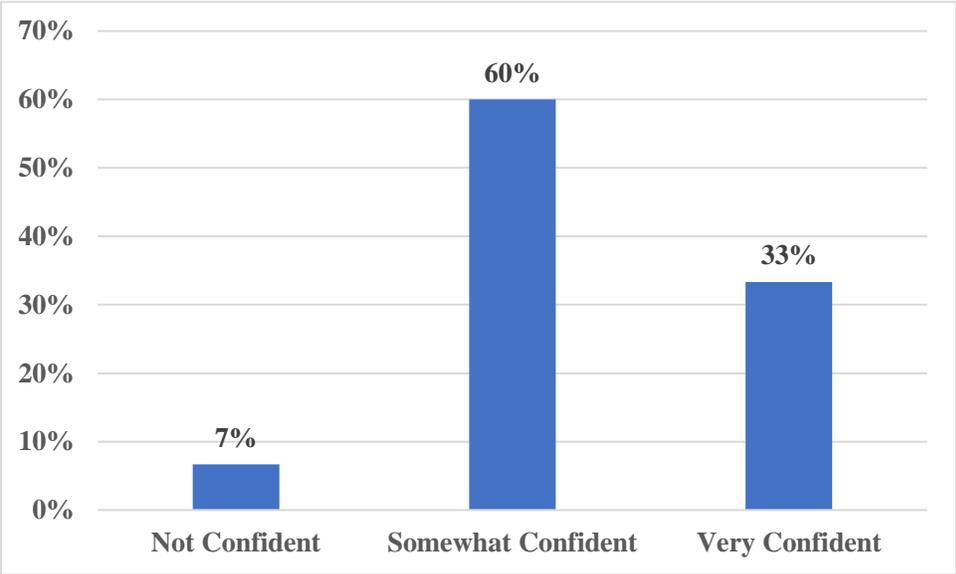
Source: Learning Upgrade Impact Evaluation (2025)

Confident in using basic computer/digital skills

The results in figure 5 shown that majority of learners in treatment schools demonstrate at least some level of confidence in using digital tools. Particularly, 60% of learners report being somewhat confident, while an additional 33% indicate they are very confident, meaning 93% of learners possess basic digital confidence. Only 7% of learners reported not being confident. This implies that learners' participation in Learning Upgrade program is associated with enhanced digital self-efficiency, even among learners who may have limited access to devices or the internet at home. In all, the findings suggest that the Learning Upgrade program is contributing positively

to learners' digital readiness, which is likely to complement academic improvements observed in English and Mathematics and support broader employability and learning outcomes.

Figure 5: Confident in using basic computer/digital skills

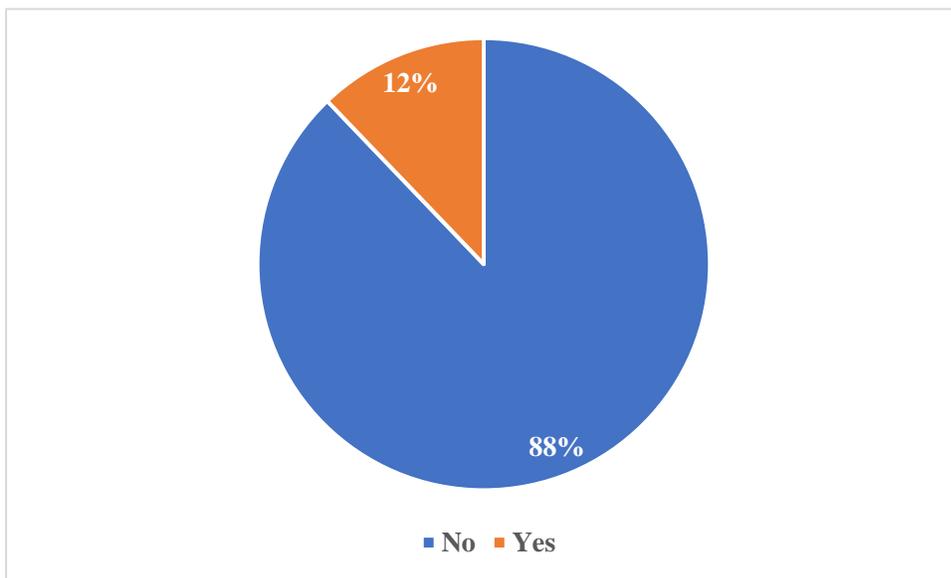


Source: Learning Upgrade Impact Evaluation (2025)

Prior Experience with Digital Learning Tools

The figure 6 shows that considerable number of learners (88%) had no prior experience with digital learning tools before participating in the Learning Upgrade program, while only 12% reported having previous exposure. This indicates that most learners entered the program with limited or no background in digital learning, highlighting a low baseline level of digital knowledge. These results suggest that the Learning Upgrade program successfully supported learners with little to no prior digital learning experience, helping bridge digital skill gaps while enhancing overall learning outcomes.

Figure 6: Prior Experience with Digital Learning Tools



Source: Learning Upgrade Impact Evaluation (2025)

Digital skills rating

Table 6 presents learners' self-assessed digital skills across six competencies in the treatment schools using a five-point scale (1 = Low, 5 = High). Generally, the results show uneven digital skill development, with stronger performance in basic computer awareness and weaker performance in applied digital tasks. Digital skills related to basic computer knowledge show relatively higher ratings. For instance, identification of basic computer parts records the strongest competency, with 55% of learners rating themselves at levels 4 or 5, indicating good familiarity with core hardware components. Also, identification of computer accessories shows moderate competence, with 39% of learners rating themselves at levels 4 or 5.

In contrast, applied digital skills such as sending an email and typing and computer navigation are rated much lower. For sending an email, 66% of learners rate themselves at the lowest level, and only 17% rate themselves at levels 4 or 5, indicating limited exposure to sending email. Typing and computer navigation also show low confidence, with 47% of learners rating themselves at levels 1 or 2 and only 28% at levels 4 or 5.

Search and document creation skills fall between these two extremes. While 43% of learners rate themselves at levels 4 or 5 in using search engines, only 28% report high proficiency in creating simple documents, suggesting that learners are more comfortable accessing information than

producing digital content. These findings implies that the Learning Upgrade program has been more effective in building foundational digital awareness than advanced or productivity-oriented digital skills. While learners demonstrate growing familiarity with computers, there remains a clear need for more hands-on practice in email use, typing, navigation, and document creation to support functional digital literacy.

Table 6: Digital skills Rating

Skills	Rating (1 = Low, 5 = High)				
	1	2	3	4	5
Sending an email	66 %	10 %	7%	9%	8%
Using Google or other search engines	35 %	9%	13%	17%	26 %
Creating a simple document (e.g., in a word processor)	44 %	12 %	16%	10%	18 %
Identification of basic computer parts	8%	12 %	25%	22%	33 %
Identification of computer accessories	17 %	13 %	32%	26%	13 %
Typing and computer navigations	27 %	20 %	25%	21%	7%

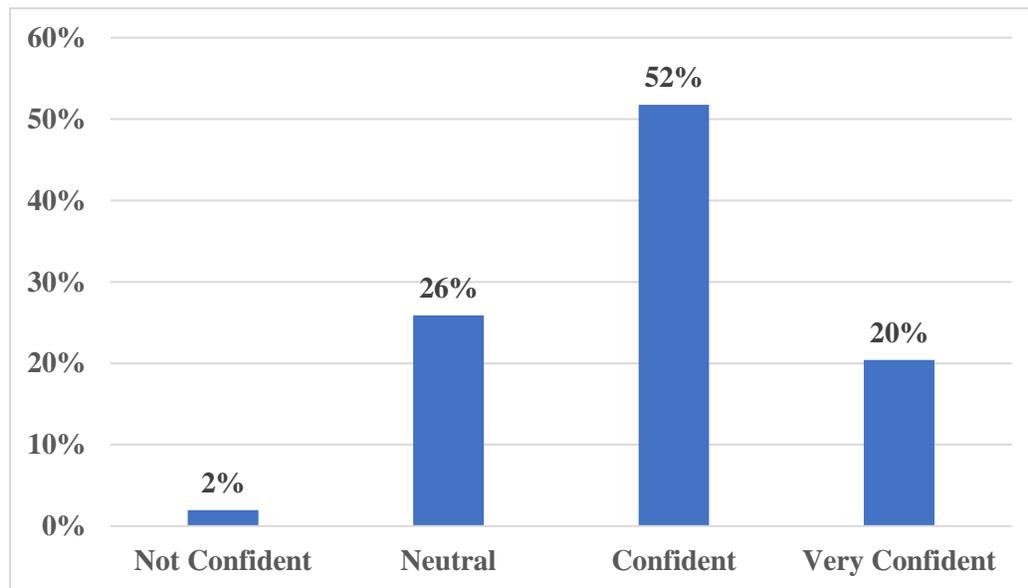
Source: Learning Upgrade Impact Evaluation (2025)

Confident in English skills – reading and writing skills

The results from figure 7 shown that a most of the learners in treatment schools indicated positive confidence in their reading and writing abilities. 52% of learners identify as confident, while an additional 20% indicated being very confident, meaning 72% of learners demonstrate high self-confidence in reading and writing skills. More also a proportion of learners (26%) indicated being at neutral level of confidence. Lastly 2% of learners stated not being confident, suggesting that low English literacy confidence is relatively uncommon among participants. In all, the findings

implies that participation in the Learning Upgrade can be linked with enhanced confidence in learners reading and writing skills, which is in line with observed improvements in English performance.

Figure 7: Confident in English skills – reading and writing skills

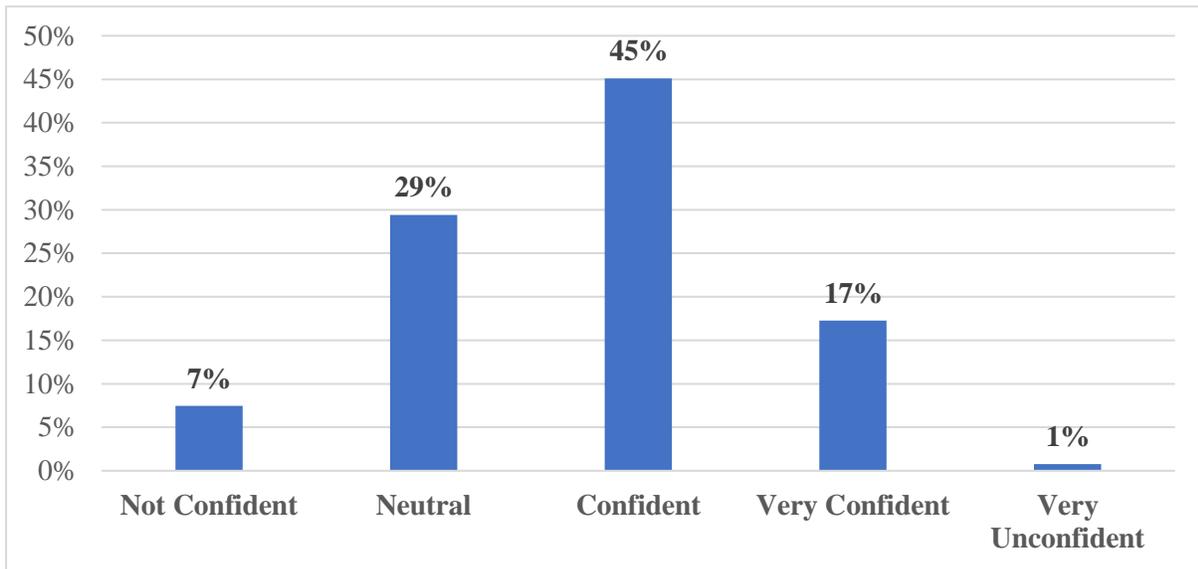


Source: Learning Upgrade Impact Evaluation (2025)

Mathematics skills – calculations and problem-solving

The results from Figure 8 shown that a majority of learners indicated positive confidence in their Mathematics skills. Noticeably 45% of learners indicate they are confident, while 17% indicated being very confident, meaning 62% of learners demonstrate high confidence in calculations and problem-solving abilities. However, a notable percentage of learners remain less certain, with 29% stating a neutral level of confidence and 8% expressing low confidence (7% not confident and 1% very unconfident).

Figure 8: Mathematics skills – calculations and problem-solving

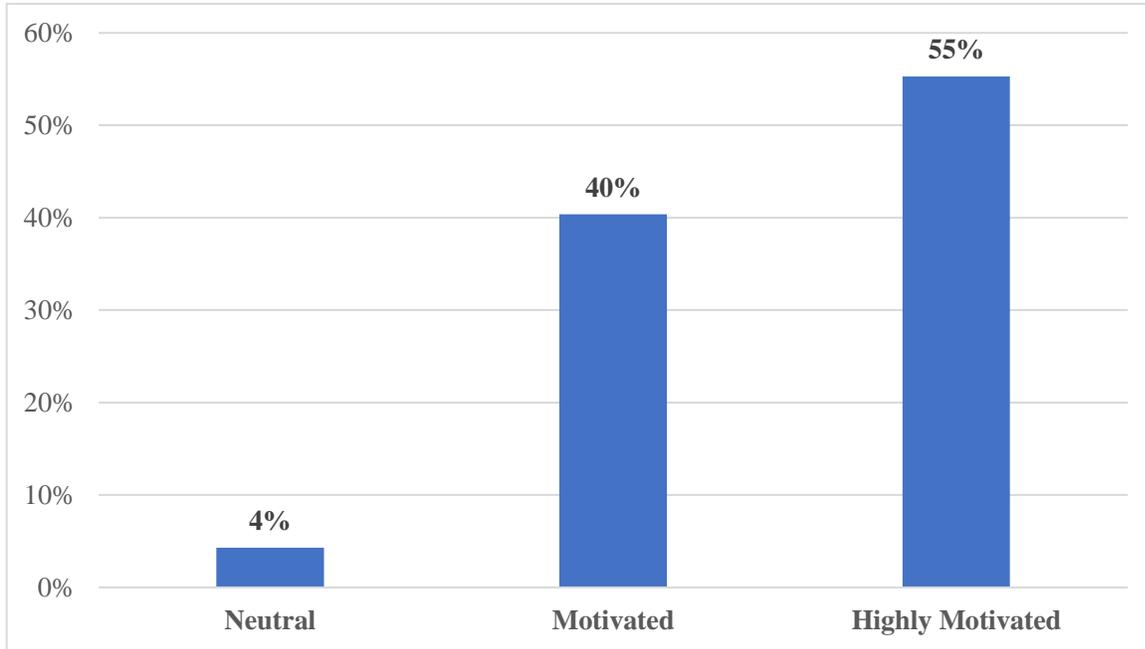


Source: Learning Upgrade Impact Evaluation (2025)

Motivated to improve skills in English and Math in the Learning Upgrade Program

The results from figure 9 indicated very high levels of learner motivation to improve English and Mathematics skills through participation in the Learning Upgrade program. A combined 95% of learners indicated being either motivated (40%) or highly motivated (55%), representing strong engagement and willingness to learn. Only 4% of learners report a neutral level of motivation, and none report low motivation.

Figure 9: Motivated to improve skills in English and Math in the Learning Upgrade Program

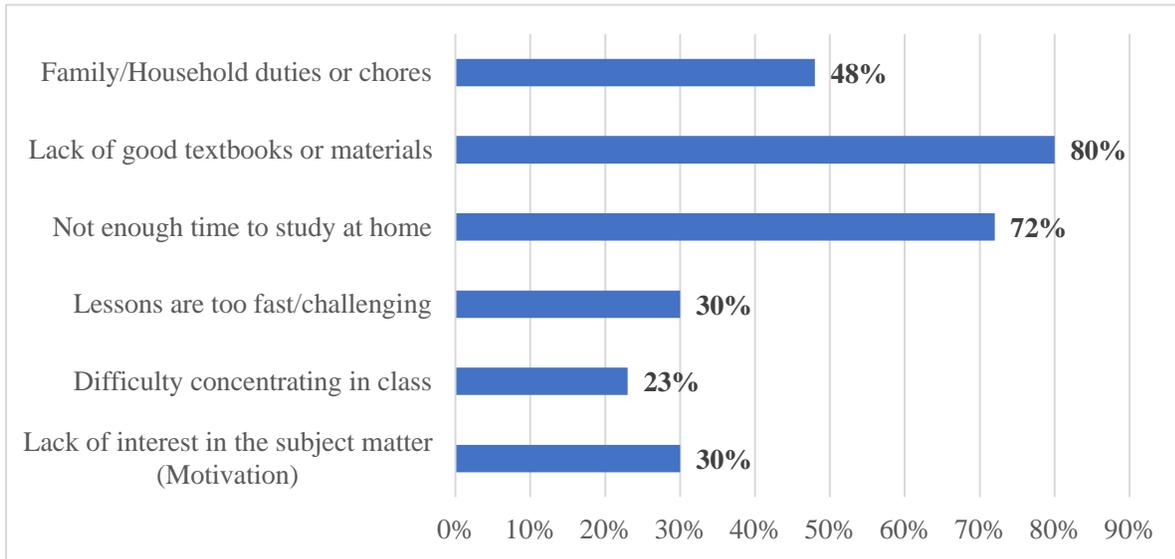


Source: Learning Upgrade Impact Evaluation (2025)

Challenges to learning

The result from figure 10 shown that most of the learners stated lack of good textbooks or learning materials (80%). This is closely followed by not enough time to study at home (72%). Household responsibilities also play a major role, with 48% of learners reporting family or household duties as a barrier to learning. In contrast, learner-related factors such as lack of interest in the subject matter (30%) and lessons being too fast or challenging (30%) are less prevalent, while difficulty concentrating in class (23%) is reported by fewer learners.

Figure 10: Challenges to learning

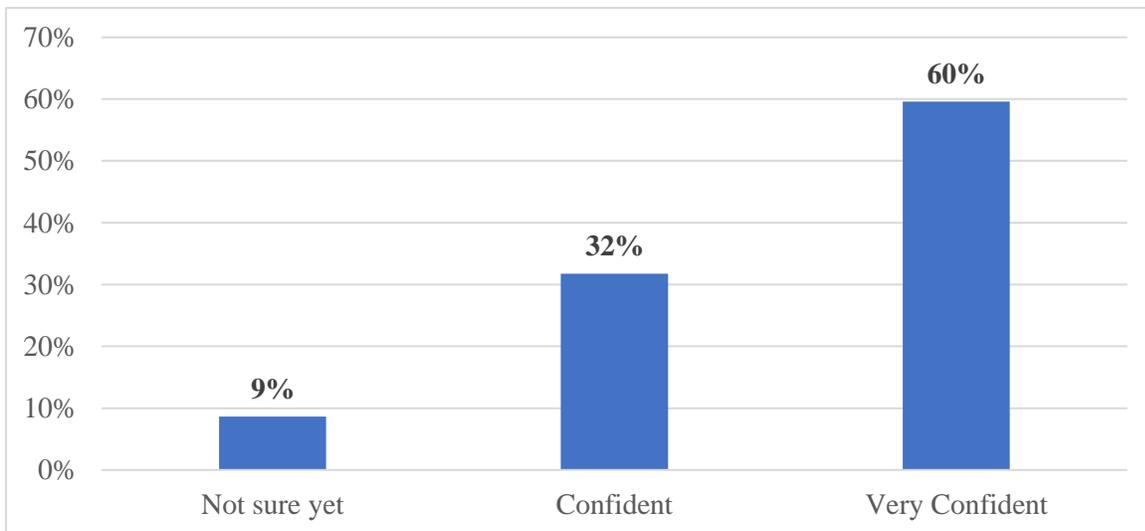


Source: Learning Upgrade Impact Evaluation (2025)

Confident in achieving set Goals or Future Aspirations

The result from figure 11 shown that most of the learners stated that they are confident and very confident (92%) in achieving their future aspirations. Only 9% that indicated that they are not sure of achieving future their aspirations.

Figure 11: Confident in achieving set Goals or Future Aspirations



Source: Learning Upgrade Impact Evaluation (2025)

Learners Future Aspirations

Future Goal	No. of Learners	Future Goal	No. of Learners	Future Goal	No. of Learners	Future Goal	No. of Learners
ACCOUNTANT	2	Computer software engineer	1	Footballer	10	Nutritionist	1
Actor	1	Contractor	1	Graphic Designer	2	Physician	1
ADMINISTRATOR	1	Dancer	1	Hair stylist	1	Pilot	6
Archeologists	1	Dietician	2	Hardware Engineer	1	Police	9
Artist	2	Doctor	37	IT Programmer	1	Police Officer	1
Auto Engineer	1	Driver	2	Journalist	3	Policeman, footballer	1
Bank Manager	3	Economist	1	Lab Technician	1	Scientist	1
Banker	2	Electrical Engineer	1	Lawyer	11	Software Developer	1
Builder	1	Electrician	1	Medical Doctor	9	Soldier	20
Business Woman	2	Engineer	6	Military Nurse	1	Surgical Doctor	1
Carpenter	1	Farmer	1	Military Officer	8	Teacher	29
Computer Engineer	2	Fashion Designer	8	Musician / Journalist	1	Teaching	1
Computer Scientist	1	Fire Fighter	1	Nurse	49	Transport Officer	1
Vetenary Doctor	1						

Source: Learning Upgrade Impact Evaluation (2025)

RECOMMENDATIONS

- Establish baselines before scale-up to accurately measure learning gains and program impact when expanding Learning Upgrade and STARLINK to new schools.
- Establish monitoring and learning systems to support adaptive management, real-time learning, and evidence-based decision making.
- Track learner progress over time through a longitudinal performance system to sustain gains and detect early learning gaps.
- Deepen teacher engagement and curriculum alignment to reinforce classroom learning and ensure long-term sustainability.
- Provide targeted support where needed, including focused assistance for struggling learners, girls, and underperforming schools such as Akpokope D/A Basic School.

CONCLUSION

This impact assessment provides compelling evidence that the Learning Upgrade Program, supported by STARLINK internet connectivity, is making a meaningful contribution to improving foundational learning and digital skills among learners in the Volta Region of Ghana.

Despite the absence of baseline data, the use of carefully matched control schools and rigorous balance checks ensured a credible comparison. The results consistently show that learners in treatment schools outperformed their peers in both English and Mathematics, with gains of 14-16 percentage points after just one year of implementation. These improvements were observed across Basic, JHS, and SHS levels, demonstrating the program's relevance across different stages of learning.

Importantly, the impact extends beyond average performance. Learners in treatment schools exhibited more consistent learning outcomes, indicating that the Learning Upgrade supports struggling learners while raising overall achievement. The intervention also contributed to greater gender equity, particularly in Mathematics, where performance gaps between girls and boys were effectively closed.

Beyond academic outcomes, the program has strengthened learners' digital confidence, motivation, and aspirations. The majority of learners entered the program with little or no prior exposure to digital learning tools, yet most now report confidence in using basic digital skills and strong motivation to improve their learning. Notably, learning gains were achieved even among learners without home internet or regular device access, underscoring the effectiveness of the structured Learning Upgrade model rather than reliance on personal resources.

While the findings are encouraging, some limitations remain. The lack of baseline data and the relatively small number of schools mean results should be interpreted as strong indicative evidence rather than definitive causal proof. Nonetheless, the consistency of findings across multiple outcomes, subgroups, and schools provides a solid basis for confidence in the program's effectiveness.

In conclusion, Learning Upgrade demonstrates strong potential as a scalable, equitable, and technology-enabled solution for improving foundational learning in low performing schools. The evidence from this assessment supports continued investment, refinement, and expansion of the

program to reach more learners and deepen its impact, particularly through sustained support for Mathematics learning and advanced digital skill development.