MIDLINE I

Report on Midline I Classroom Observations and Focus Group Discussions for IDP Foundation, Inc. and Sesame Workshop's Techniques for Effective Teaching

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1 Introduction

This report evaluates the emerging impact of Sesame's Techniques for Effective Teaching (TFET) program on teachers' understandings, perceptions, and application of new pedagogic techniques. The report considers the 14 program modules and is based on data gathered through classroom observations and focus group discussions. Classroom observations were carried out in three schools, two of which are part of the TFET program and one that has received no training. In each school two teachers were observed for a full school day. This research aimed to consider program uptake in classrooms as well as identify key similarities and differences between the treatment and control school classrooms. To enhance findings from classroom observations, eight focus groups were carried out shortly after the observations. Focus group discussions reveal the extent to which teachers understand program content and the main successes and challenges in applying new program techniques.

Taken together, the observation and focus group data reveals some indication of program uptake and understanding, though this is largely at a superficial level. Moreover, findings reveal significant challenges that impede pedagogical change in these schools. The report begins with a summary of key findings followed by a more detailed analysis of classroom observations and focus group discussions and concludes with recommendations for program development. The primary research questions are:

- *To what extent do TFET trained teachers demonstrate uptake of program techniques in classrooms?*
- *How do program participants understand, perceive, and apply TFET techniques?*
- *What are the main implementation challenges and successes for TFET trained teachers?*

1.1 Key Findings

Classroom Observations

- Teaching techniques across all three schools are more similar than different.
- The dominant style of pedagogy in all schools is communalizing, where the teacher works with the class as a homogenous group and little to no differentiation or individual attention given to learners or groups of learners
- The dominant classroom discourse style entails chorusing, chanting, repetition, and recitation.
- There are some indications of surface-level and partial program uptake, especially in the use of LEGOs, display of materials, and activities that make the classroom fun and interactive.
- All teachers display teaching and learning materials on classroom walls, but these are not used in any lessons as tools for teaching and learning.

Focus Groups

- Participants positively view the training as practical and hands-on.
- Timing and duration of training are important concerns that impact on participants' learning experience.

- Challenges to adopting pupil-centered literacy techniques include a lack of 1) textual resources (e.g. storybooks, Big Books, etc.) and 2) teachers' knowledge of teaching reading.
- Although the provision of texts is not part of the TFET program, it is the most frequently cited resource need by focus group participants.
- Differentiation, teaching with low-cost resources, and positive discipline are the most frequently positively cited modules - reported as practical, useful, and empowering.
- Some participants regard positive discipline as an ineffective approach (and caning, tapping, etc. as more effective).
- Proprietors report a lack of teacher education and dominance of traditional teaching approaches impede the use of new pupil-centered techniques.
- Focus group participants displayed a number of misunderstandings and misconceptions of program content, which likely impedes program impact and effective teaching. How material resources support conceptual development and how to differentiate instruction emerge as important program clarification areas.

In general, teachers seem to focus on the more concrete and experiential aspects of the program, rather than those concerned with instructional content and concepts. The tendency to teach how one was previously taught emerges as a central challenge in the uptake of new TFET program approaches that contrast sharply with traditional methods.

2   Classroom Observations

2.1   Methodology

To examine the emerging impact of the TFET training program on teachers' pedagogy, classroom observations were conducted in two treatment schools (School 1 and School 2) and one control school (School C). Appendix H presents a range of characteristics of the three schools based on data collected as part of the baseline for the evaluation of the TFET program. All three schools are located in the Greater Accra region, have classes from crèche to junior high school and are registered with the Ghanaian Education Service. They are all housed in brick buildings with access to electricity and water and the inside spaces are clean and in good condition. The proprietors of all three schools mention the financial situation of parents as a key challenge. Although School C charges higher fees, learning outcomes and social-emotional skills are relatively similar across the three schools.

Teachers at the two treatment schools received step-down training, while teachers at the control school received no program training. The relatively small sample size of 6 teachers allows for an in-depth qualitative analysis of teaching and learning in each classroom during a full school day. The sample is not representative of all TFET trained teachers, but it does provide some indication of the emerging impact of the program and similarities and differences between trained and untrained teachers. Moreover, findings of this report will feed into a more comprehensive Midline II study (conducted in June 2019) in which the sample will be expanded to 16 schools (32 teachers).

Table 1 below shows the details of the classrooms observed over six days. At each school, a full day of lessons in KG2 and P2 classrooms was observed with the exception of School 2. At School 2, the P2 teacher was newly hired, so a TFET trained P3 teacher was observed instead. The other class observed at School 2 is multi-grade, comprised of both KG1 and KG2 learners.

Table 1. Classroom observation school sample

School No.	School 1		School 2		School C	
Teacher No.	T1.1	T1.2	T2.1	T2.2	TC.1	TC.2
Grade	KG2	P2	KG1/KG2	P3	KG2	P2
Learners	19	13	24	12	34	30

Table 2 shows how much time was spent on different lessons throughout the day. On average, teachers spent 3 hours and 38 minutes on teaching and learning activities. The total length of the school day did not vary significantly between the treatment and control schools. Teachers allocated about 1 hour to lunch and break time during the day with Teacher 1.2 allocating the most amount of time (1 hour, 55 minutes) and Teacher 2.2 allocating the least (35 minutes). Most teachers taught a Religious and Moral Education (RME) and/or a literacy lesson at some point during the day. The structuring of lessons (what content was covered and for how long) varied across the six classrooms ranging from 35 minutes on a Religious and Moral Education (RME) lesson (T1.1) to 2 hours and 5 minutes on a literacy lesson (T1.2). In some cases, learners were left without directions and waiting for extended periods of time for the teacher to mark students' work.

Table 2. Outline of observed lessons

School 1		School 2		School C	
T1.1	T1.2	T2.1	T2.2	TC.1	TC.2
10:20: Literacy	09:00: RME	08:45: Rhymes	08:50: Math	08:30: Rhymes	08:50: Math
11:40: Circle Time	10:15: Break	09:00: RME (KG2)	10:25: Break	09:00: Math	09:40: Literacy
11:50: Rhymes	10:45: Twi Literacy	10:15: Break	11:00: Math	09:30: Literacy	10:20: Break
12:00: Lunch	12:00: Lunch	11:00: PE (KG1)	11:15: LEGO play	10:00: Break	10:50: Literacy
13:00: RME	13:25: Literacy	12:15: LEGO Play	12:00: RME	10:45: Science	11:30: RME
13:35: LEGO Play	14:15: Arts	12:30: Lunch	13:00: End	11:10: Classwork	12:45: Lunch
		13:00: LEGO Play			13:40: ICT

At each school, classroom observations focused on teacher uptake and implementation of TFET techniques for the 14 program modules. Appendices A-F provide summaries of the six classroom observations, describing the main lesson topics and teaching techniques.

Based on classroom observation data, this report examines *key similarities and differences* across the three schools to evaluate the extent to which teachers at Schools 1 and 2 demonstrate uptake of TFET program techniques in their classrooms.

2.2   General Analysis of Teaching Across Treatment and Control Classrooms

Across the three schools, teachers are mostly young and untrained though display commitment to their work. Teachers were generally observed to treat children with kindness and encourage their efforts. Across classrooms, similarities emerge from observations relating to three main areas: resources, classroom management, and pedagogy. Indicators of similarity are discussed below under each category.

Resources

In observed classrooms, all learners have a seat and appear to be physically comfortable with enough space to move around. There is sufficient light in the classroom for learners to read. Boards at the front of the classroom are the primary teaching resource. Teachers at Schools 1 and 2 use a chalkboard and chalk while teachers at School C have a whiteboard and markers. All teachers have their own desk and chair. Few teaching texts are present in classrooms with no evidence of storybooks or other kinds of children's books. Observed teaching and learning resources include pupils' exercise books (for copying text off the board), a *Superphonics* text to teach a phonics lesson (T1.1), a textbook on Information and Communications Technology (ICT) to teach a lesson on "double-clicking" a computer mouse (TC.1), and a text to teach grammar/nouns (TC.1). The lack of walls at Schools 1 and 2 enabled noise from other classes to permeate the observed lessons. Although all teachers displayed some form of teaching and learning materials on classroom walls, teachers did not use these resources during lessons.

Classroom Management

Throughout all lessons in all three schools, teachers frequently used the "Clap for him/her…" strategy when a student performs or answers a question correctly:

Teacher:	This story was about who, about who, and about who? Yes?
Learner:	The bird.
Teacher:	The bird. Clap for her. *[Children clap]*

There is no evidence of classroom rules displayed on the walls. All teachers used some form of negative discipline during the day. Negative discipline strategies included shouting, threatening, and shaming. For instance, Teacher 2.2 read aloud pupils' marks on math homework and TC.1 threatened the use of her cane by repeatedly slamming it on students' desks. Generally, all classrooms displayed a sense of order and routine that is controlled by the teacher. Spaces for teaching and learning are demarcated clearly in the positioning of desks, boards, and organizing of pupils into rows or at tables. Children are treated as a homogenous grouping with occasional opportunities to share individual ideas when prompted and/or called on by the teacher. When conflict arises between learners (e.g. during T2.1's LEGO activity), there is no evidence of collective problem-solving or conflict resolution (likely due to an absence of class rules).

Pedagogy

English is the primary medium of instruction in classrooms, and teaching is based on lesson plans prepared ahead of time. Across the three schools, the most commonly observed lessons were Literacy and Religious and Moral Education (RME). Four out of six teachers taught a literacy lesson and an RME lesson. Literacy lessons focused on phonics, spelling, and grammar (especially nouns) with little to no opportunities for students to read extended text (e.g. storybooks). RME lessons focused on various topics, including the attributes of God and concept of creation (T1.2), morals of friendship and kindness (T2.1), caring for the environment as created by God (T2.2), and the creation of plants and animals (TC.2). Three of the six teachers taught a Math lesson during the school day. These lessons focused on addition and/or subtraction and required learners to count using their fingers or stones. In some classrooms, the subject of lessons being taught was not clearly discernable. At School 2, for example, T2.2 taught an RME lesson on exercising the body, though it was unclear how the content of this lesson aligned with the RME subject area.

The level of cognitive demand was at times inappropriate for the grade level observed. Several teachers taught content below or above grade level. For instance, Teacher 1.2's P2 literacy lesson required students to copy down lists of nouns from the board and then group the words into categories (e.g. people, places, animals, objects), a task easily carried out by learners. Observations suggest teachers need support in organizing and sequencing curriculum content at different instructional levels.

Generally, teachers' explanations of concepts during lessons (e.g. creation, borrowing (math), universe, nouns, mouse, etc.) were unclear and/or weakly defined with few examples given. For instance, Teacher C.1 taught an ICT lesson on "double-clicking" a computer mouse. The teacher used a textbook with simple illustrations of a computer to talk about the mouse, what it looks like, its parts, and what a mouse is used for. Children then chorused the definition of icon: "Icons are the small pictures on a computer." The teacher then showed students examples of icons on her smart phone. Finally, students were told to take out their exercise books and draw and label a computer mouse. This lesson exemplifies the general lack of clarity around concepts observed across teachers' classrooms.

Feedback on learner responses to questions (why an answer is/is not correct) is generally unclear, limited, and/or absent. For example, during a math lesson by Teacher 2.2, students struggled with the concept of "borrowing" and "carrying over;" there were limited attempts made by the teacher to explain these concepts with examples. The teacher tried to get students to correct their own mistakes and praised learners who achieved correct answers. Children who made mistakes on their math exercises received no support and were told to do corrections on their own.

Teachers asked students questions throughout lessons to assess learning, although these questions were typically lower-order recall questions requiring students to recall information (e.g. "Who can tell me where the hunter lived?"). The discourse of classrooms is dominated by teacher-talk - teachers do most of the talking and students passively listen and respond when called on. Classroom discourse is also dominated by student chorusing, chanting, and repetition

after the teacher. For instance, at School C, the teacher spent 75 minutes speaking about animals with students listening and repeating definitions in chorus. There was no indication that students understood what they were chorusing and repeated definitions many times.

The following extract exemplifies student chorusing in Teacher 1.1's KG2 classroom during a phonics lesson:

The teacher introduces a text, "Superphonics." Each page in the text is dedicated to a letter of the alphabet. After pointing to images and words from a distance, the teacher uses repetition and chorusing to teach students multiple letter sounds. The following is an example of this pedagogic approach (which is common across other observed classrooms and schools).

Teacher:	Letter D
Learners:	Duh
Teacher:	Again
Learners:	Duh
Teacher:	Again
Learners:	Duh

Students continue pronouncing letter 'd' sound [duh] in chorus multiple times...

Teacher:	D as in
Learners:	Dog *[in chorus]*
Teacher:	Dog. D as in?
Learners:	Duck *[in chorus]*
Teacher:	Duck
Learners:	Duck *[in chorus]*
Teacher:	Duck
Learners:	Duck *[in chorus]*

Students continue pronouncing 'duck' multiple times without their own text to reference the letter sound relationships.

Teacher:	Come and write letter 'd'

Two students come to the board one at a time to write 'd'

Teacher:	Clap for him.

Students clap. The teacher repeats this process for about half of the letters of the alphabet. This lesson is followed by a handwriting exercise of individual letters.

Teachers did not differentiate between students on the basis of ability or organize students into groups for completing activities. One exception was observed at School 1, when T1.1 allocated a different independent task to four students in the class. This is discussed in further detail below as an indicator of the TFET program. Across the three schools, the pacing of lessons was slow. Teachers spent a significant amount of time writing on the board and marking students' work.

Pupils often waited to be given further directions if they completed their exercises before the other students.

In summary, these six teachers observed in Schools 1, 2, and C demonstrate teaching and learning techniques that are *more similar than different*. Lessons are largely teacher-directed with little engagement with students' ideas and interests. Content is taught at a slow pace, and there is a lack of clarity in the explanations and examples introduced in the lesson. Traditional forms of pedagogy are observed, which tend to include recitation, group chorusing, and chanting. Discourse patterns are teacher-initiated call and chorused learner response. There is little to no feedback on individual student responses to questions and very little differentiation. However, classroom observations do reveal some partial, surface level indications of program uptake. The following section evaluates the presence and application of TFET techniques in classrooms.

2.3   Application of Program Techniques

To measure the extent to which TFET trained teachers demonstrated uptake of program techniques, a list of program indicators was first generated based on TFET materials for the 14 modules. Using these indicators, a classroom observation instrument with closed-ended items was generated to measure the presence and absence of techniques. In addition, an observation narrative and video recording were created during each observation to capture the observed teaching processes during the school day. Data was collected at each school by a teaching and research specialist with support from two trained fieldworkers. At the point of analysis, the closed-ended instrument was read together with the observation narrative and the video record of the lessons. These data were then used to identify similarities and differences between the schools, the use of TFET techniques, and the processes involved in uptake.

The table below summarizes the presences and absences of TFET techniques associated with the 14 modules. Use of LEGOs is also listed here as a program component as its use spans multiple modules. Where (+) indicates the presence of at least one technique associated with a module, a blank space indicates an absence of techniques from that module. Importantly, the presence of a technique does not necessarily mean its uptake is effective, carried out as intended by the program, or understood by the teacher. Rather, the presence (+) of a technique signals its uptake in some way, shape, or form.

Table 3. Evaluation of TFET technique uptake across schools

	School 1		School 2		School C	
TFET Modules	T1.1	T1.2	T2.1	T2.2	TC.1	TC.2
MOD 1: Fundamentals of teaching						
MOD 2: Child-friendly learning space				+		
MOD 3: Positive discipline			+	+		
MOD 4: Low-cost resources	+			+		
MOD 5: Pupil-centered literacy			+			
MOD 6: Pupil-centered mathematics						
MOD 7: Time management			+	+	+	
MOD 8: Fun and interactive classrooms	+	+	+			
MOD 9: Differentiated instruction	+					
MOD 10: Assessment and evaluation						
MOD 11: Girls education and inclusion						
MOD 12: Inclusive learning		+				
MOD 13: Early childhood development	+					
MOD 14: Learning through play	+					
LEGOs	+		+	+		

Findings from Table 3 indicate a relatively greater presence of TFET program techniques in the treatment schools, Schools 1 and 2, compared to the control school, School C. The use of LEGOs and making classrooms fun and interactive (Module 8) stand out as techniques with the greatest uptake in classrooms. In addition, while Teachers 2.1 and 2.2 demonstrate some evidence of positive discipline strategies in their classrooms, this finding is contradicted by the simultaneous presence of negative discipline techniques (e.g. shaming). Most techniques observed demonstrate a superficial (surface-level) uptake and do not indicate any kind of fundamental change in pedagogy in the direction of the TFET program principles.

Display of TFET Program Materials

All four treatment teachers visibly display both Sesame-generated and teacher-generated posters on walls, including the LEGO IDP Village mat; the cone of experience; star chart; happy/sad faces poster; charts outlining shapes, body parts, dates, clothes, and fruit; and letters and numbers strung with rope across the classroom. Several of these materials were modeled during the TFET training and outlined in the teachers' training manual with 'how to make' instructions. Although the presence of Sesame and other resources stands out as a significant difference between the treatment and control schools, the usage of these materials during lessons was limited or absent. Hence, most teachers did not actually demonstrate "developing and teaching with creative low-cost resources" as it is presented in Module 4.

A detailed evaluation of how teachers implement program techniques within each school is discussed in the sections that follow.

School 1 (treatment)

Teacher 1.1

Teacher 1.1 stands out as the only teacher in this sample of schools who differentiates students on the basis of ability. This teacher groups the "strongest" four learners along the wall who complete more advanced exercises in their workbooks (i.e. writing isolated words versus practicing handwriting the letter 'J'). In this way, the teacher demonstrates some understanding of ability grouping as it is presented in Module 9.

During a Religious and Moral Education lesson focused on exercising the body and games, Teacher 1.1 incorporated games familiar to students, such as Ampe and Oware. This technique demonstrates one indicator of Module 8 on practical ways to make the classroom fun by incorporating student interests and Module 14 on learning through play. Children played "tug of war" with the skipping rope (boys versus girls) and also played musical chairs, which they enjoyed. The content of this lesson was appropriate for this level and drew on the children's interests, as a number of the games were drawn from students' lives. However, the teacher did not exploit the learning potential of these games. For example, she did not help them write up the rules for musical chairs or use Oware to do simple math counting. No scaffolding in the form of simple explanations was given about the games, and children were not drawn in to talk about the games and how they play them. This lesson represented a missed opportunity for learning. Of concern as well was the teacher's conflation of 'exercise' and 'game'.

In line with Module 13 on early childhood development, Teacher 1.1 carried out 'Circle Time' on a mat to offer deep breathing exercises, opportunities to interpret Biblical images with storytelling, and singing and movement. At the end of the day, the teacher organized students into two groups for two LEGO activities. In some ways the second LEGO activity resembled the Memory Game from Module 4's LEGO Icebreaker. One student observed the teacher's LEGO construction and then returned to their group to explain how to build it from memory.

In summary, Teacher 1.1 was observed to use some techniques from Modules 4, 8, 9, 13, 14, as well as the use of LEGOs. In some cases (LEGOs and games), activities are truncated and are therefore unlikely to enhance learning (or effective teaching). In the case of differentiation, this teacher successfully creates an ability group and allocates different content to a group of learners.

Teacher 1.2

During a Creative Arts lesson on 'Basic Dance Movement', Teacher 1.2 demonstrated several techniques from Module 8 on making the classroom fun and interactive. The teacher invited individual students to choose their favorite song, perform it for the class, and share how they felt when they danced. Later, the teacher performed a rap to contemporary music while children expressed their individual dance styles. This approach demonstrates the incorporation of student interest and alternative methods for exploring topics (e.g. singing/performing). One of the

learners in this classroom displayed special learning needs. Teacher 1.2 made efforts to accommodate this learner during lessons. The teacher's warm and supportive behavior is one indicator of an inclusive environment (Module 12).

In summary, Teacher 1.2 demonstrated techniques from Modules 8 and 12. The teacher created a fun and interactive lesson by incorporating movement and students' interests and a more inclusive learning environment by tending to a students' special needs.

School 2 (treatment)

Teacher 2.1

Before each lesson, the teacher explained to students what they were going to do. As a result, pupils knew what to expect in a lesson, a component of Module 7 on time management. During a Religious and Moral Education lesson, the teacher recited a folk story orally about "the ant, the bird, and the hunter." Although this lesson did not incorporate a storybook or text, the teacher demonstrated a few pupil-centered literacy techniques outlined in Module 5. These include telling a story with expression and animation and asking pupils a variety of recall questions to test their comprehension. During the story, the teacher also asked pupils, "You know what happened?" This question may be interpreted as a technique to promote suspense; however, learners were not encouraged to provide any elaborated responses (sharing their own ideas) to predict what might happen next when they simply responded, "No:"

Teacher:	There lived a hunter who lived far away in the bush. Do you know the bush? [inaudible] Yes, so the hunter lives in the bush. There is a bird and an ant. They were very very good friends. They were what?
Learners:	Very very good friends *[In chorus]*
Teacher:	You know what happened?
Learners:	No *[In chorus]*
Teacher:	You know what happened?
Learners:	No *[In chorus]*
Teacher:	One day the bird and the ant were going to find some food to eat…

(A longer extract of the lesson transcript is presented in Appendix H). In line with Module 8, the teacher incorporated drawing to make the lesson creative and fun. Students drew pictures to apply moral concepts from the story (e.g. "Draw yourself showing kindness in the classroom"). Teacher 2.1 used the happy/sad faces chart to manage behavior and distributed candy as rewards, indicators of positive discipline from Module 3. Of concern, however, were several missed opportunities to resolve pupil conflict due to the absence of classroom rules. Lastly, students used LEGOs to build something while the teacher marked student work. The LEGO activity exhibited no clear learning objective and resulted in conflict amongst pupils over LEGOs.

In summary, Teacher 1.2 demonstrated techniques from Modules 3, 5, 7, and 8 and the use of LEGOs. However, this teacher did not fully realize the purpose of several techniques. Questions were used without invoking students' own ideas and imagination to support comprehension of the story. The use of LEGOs resulted in conflict rather than achievement of learning objectives, e.g. developing fine motor skills or cooperative play.

Teacher 2.2

During a mathematics lesson, Teacher 2.2 incorporated stones to teach subtraction as a form of low/no-cost teaching and learning materials from Module 4. Students carried out 2, 3, and 4-digit calculations and used stones to calculate simple sums (e.g. 7 – 2) and to solve complex problems (e.g. 705 – 247). Teacher 2.2's explanation of borrowing, carrying over, and distinguishing between addition and subtraction symbols was confusing to the learners. Using stones to subtract 3 and 4-digit numbers is inappropriate. The distinction between using stones for smaller numbers and using place value (borrowing and carrying) for larger numbers was not clear to the teacher or students. The activity demonstrated the teacher's limited understanding of how teaching and learning materials (e.g. stones) support number concept development, foreclosing learners' ability to acquire the concepts and skills and practice them in the activity.

Other indicators of techniques in this lesson included students serving as classroom helpers to fetch/roll up the mats (Module 7), praising students for high achievement on math homework (Module 3), and incorporating students' ideas into an RME lesson on the environment to drive discussion on the mat (Module 2). This teacher also incorporated a LEGO activity by organizing students into groups to "build something," although this activity included little instruction as to how to go about this and no clearly stated learning objectives.

In summary, Teacher 2.2 demonstrated some techniques from Modules 2, 3, 4, and 7, as well as the use of LEGOs. However, the use of these techniques did not effectively enhance student learning, especially in the use of stones as a teaching and learning material for subtracting small and large numbers. The lesson inhibited opportunities to apply mental math and develop a conceptual understanding of place value.

School C (control)

Teacher C.1

Evidence of elements from the TFET modules was also sought in the control classrooms. What stands out from this teacher's lessons was making learning activities explicit to students before a lesson begins. This teaching technique forms part of Module 7 on time management and was also present in Teacher 2.1's classroom at School 2.

Teacher C.2

Observations reveal an absence of teaching techniques explicitly covered within the TFET training program and materials.

2.4   Conclusion

Using classroom observation data from 2 treatment schools and 1 control school, this section examined 1) the *presence/absence* of TFET program techniques and 2) the *application* of techniques to support pupil-centered learning. Findings reveal some evidence of program uptake in the treatment schools, particularly teachers' use of LEGOs and techniques to make classrooms fun and interactive (e.g. incorporating pupils' interests). Other observed techniques include positive discipline and time management. Teachers at School 2 demonstrate a relatively more pronounced uptake of techniques across a variety of modules compared to School 1. While some program techniques were present in classrooms, uptake from the 14 TFET modules was partial and mostly superficial. There was little evidence of teachers' in-depth understanding of the particular element and how it connects to learning. Overall, the TFET techniques were not seen to present a challenge to more traditional teaching styles and entrenched patterns of teacher-led discourse. Chorusing, chanting, repetition, and recitation dominated. Generally, teachers' pedagogic approaches across Schools 1, 2, and C are more similar than different (despite the presence of some techniques in treatment classrooms). The teacher-led, communalizing approach across these classrooms impedes pupil-centered teaching because all children are treated as 'the same' with limited opportunities for individual pupils to share ideas, ask questions, and receive individualized feedback on tasks. This may be one reason why differentiation and student grouping is mostly absent across classrooms. In addition, all six teachers display materials on the walls, but these were not used during lessons as tools for teaching and learning.

The following section explores a broader sample of TFET participants' understanding of program techniques and perceptions. Focus group remarks offer several practical reasons for the partial and surface-level uptake of the TFET program techniques in classrooms.

3   Focus Groups

Focus groups discussions occurred about six months after the master and step down trainings and shortly after classroom observations (discussed above). Eight focus groups revealed participants' understandings and perceptions of the TFET program. The table below presents a summary of the focus group participant sample.

Table 4. Summary of focus group participants

Area	Group	Total participants	Teachers	Proprietors	Master trained X1	Master trained X2	Step-down trained
Cape Coast	G1	6	6	0	2	1	3
	G2	9	5	4	2	6	1
	G3	8	8	0	0	6	2
	G4	10	10	0	3	5	2
Accra	G5	8	8	0	1	4	3
	G6	7	6	1	1	3	3
	G7	8	2	6	1	6	1
	G8	9	9	0	1	5	3
TOTAL	**8**	**65**	**54**	**11**	**11**	**36**	**18**

3.1 Methodology

Of the 65 focus group participants, 54 are teachers and 11 proprietors. The majority (83%) participated in at least one master training. Focus group discussions generally lasted about two hours.

Moderation of focus group discussion targeted four main areas:

- General program impressions
- Understandings of module content
- Application of techniques in classrooms
- Perceptions of program usefulness

What follows is a thematic analysis within each of the four areas.

3.2 General Program Impressions

Positive, practical, and hands-on training

Across all focus groups, participants generally express positive impressions of the program as a whole. One-word program descriptions include "fantastic," "excellent," "effective," and "involving." Nearly all participants reported learning how to teach more effectively, particularly in the early grades. Participants appreciate the practical nature of the training approach with hands-on activities, small group tasks, and active application of techniques, such as sourcing and creating low-cost materials and going into a classroom to carry out a lesson: "We experienced everything for ourselves" (R2, G7). Trainers are described as friendly, experienced, and "communicating at the level of the children" (R1, G7). These findings suggest some alignment between participant impressions and trainer demonstration of pupil-centered approaches.

Program timing and duration

The primary criticism of the training by participants is program timing and duration. Participants expressed concern over the short duration of the program, the requirement to arrive early and stay late, and the overlapping of training with school-based teaching responsibilities. Participants request all future master and step-down training to be carried out over holidays and not during the school year. Some participants live a far distance from the master training venues and found it difficult to arrive early and on time, impacting on their learning experience.

Of significance is participants' collective concern with inadequate time for in-depth content coverage. This is partly due to program duration and the amount of time spent creating "make and take" materials. As one participant explains: "The activities are packed…packed like how they have packed sardines in the market. There are a lot of things to do within the shortest possible time" (R1, G3). One participant suggests extending the training to one month (i.e. 2 shorter days spent on each module).

In summary, participants generally find the TFET training experience practical but need additional time to cover program content in greater depth.

3.3   Understandings of Module Content

Across the eight focus groups, the following modules surface most frequently throughout participant discussion:

- Differentiated instruction
- Developing and teaching with creative low-cost resources
- Positive discipline and classroom management

This is not to say that other modules and concepts were not discussed but rather, participants collectively espouse an attraction to these ideas as useful and relevant in their classrooms. These modules focused on changing social relationships in classrooms and using concrete materials (as opposed to the content/principles of how children learn). This finding aligns closely with that of the training report, it seems that teachers focus on the more concrete and experiential aspects of the program, rather than those concerned with instructional content and concepts. There was, however, variation across focus groups in participants' understanding of content as well as some misconceptions of what concepts mean.

Understanding Differentiated Instruction

Differentiated instruction is reported as both a useful and somewhat challenging technique that teachers are trying to implement in classrooms. Grouping students by "ability" is cited frequently as the way to differentiate. A participant explains:

> "[Differentiated instruction is] where a teacher delivers a lesson taking into consideration the various abilities of the students in the class… knowing well that all students are not on the same level so you are catering for the below average, average, and above average" (R6, G3).

Participants are generally able to articulate the idea of grouping by ability and a few offer examples of tasks for different abilities. These examples tend to reference the quantity of tasks (e.g. writing 2 sentences instead of 5) and/or type of activity (e.g. tracing, writing, and coloring). In general, participant remarks reveal a limited grasp of how to measure "ability," what tasks are appropriate for which "ability" levels, and how differentiated grouping aids learning. Understanding of the complexities of modifying content appropriately and aligning accommodations with student needs were not expressed in the discussion.

The other major component of the Understanding Differentiated Instruction module is grouping by student interest. The TFET materials present "interest" as a basis for grouping, although some participants discuss "interest" as something to find out from students (e.g. during break time) and incorporate into whole class lessons. Examples of student interests include "singing," "football," "favorite colors," and "writing." Some participants grapple with the connection between interest and learning, for instance, one asks: "How do I inculcate [their favorite color] in a mathematical lesson most especially if I am not teaching colors?" (R9, G2). Similarly, R6 asks: "If I should use their interests to teach them, how am I going to get to that [required] 50 exercises?" (G8). Confusion around what constitutes an interest also emerges. According to R4, "I teach based on [student] interest… my class for instance they like listening to stories so mostly I use stories when teaching" (G3). Another participant similarly sings to her students because many of her students are interested in singing.

This confusion over what constitutes an interest and integrating interests into lessons emerges across focus groups, suggesting a lack of understanding and need to clarify more clearly in program materials and training how harnessing interests supports learning.

Understanding How to Develop and Teach with Low-Cost Resources

Creating and teaching with low-cost resources is one of the most frequently cited modules perceived as useful and highly relevant to teachers' classroom needs. Participants express feelings of empowerment in the recruitment of local low-cost materials due to the prior financial burden of buying expensive materials. This suggests the importance of aligning modules with teachers' everyday instructional needs.

Focus group remarks on TLMs demonstrate some alignment with those examples provided in the videos. Moreover, participants tend to describe the collection and use of local materials as an indicator of pupil-centered teaching. According to one participant:

> The practical aspect taught us that we the teachers are not supposed to do everything for the children in the school. We have to allow the children to go out there and go and look for things especially with counting of things in the classroom. We need to let the children go out there and bring things and come and count things for themselves (R6, G4).

These remarks also illuminate a limited understanding of the teacher role as "not supposed to do everything." Facilitating active, pupil-centered learning (such as recruiting resources from the environment) still requires thoughtful planning and preparation linked to an intended learning objective.

Across focus groups, participants tend to recall the video example of children collecting objects outside to solve math problems, e.g. using stones as counters to teach addition and subtraction. This particular technique was observed in Teacher 2.2's classroom (described in Section 2.3). Some participants also recall using sticks to write in the sand (or "sun tray"), inviting community members to teach a lesson, and using flash cards to teach letters and numbers. Although a few participants make connections between resources and hands-on activities, and describe examples of how to recruit materials from the environment (e.g. bottles, milk tins, sticks, etc.), there is little evidence that participants understand how these material resources aid learners' conceptual development in literacy and mathematics. Findings suggest teachers' understanding of how *materials* support *concept development* requires further attention (e.g. how to use stones to develop learners' concept of number).

Understanding Positive Discipline and Classroom Management

Commonly cited positive discipline strategies include using the happy/sad faces chart, conflict resolution, positive remarks ("walk" instead of "don't run"), and cues for getting students' attention (e.g. clapping). Some participants also discuss the benefits of positive discipline on teacher-student relationships: "I realize when the child doesn't fear the teacher, he is able to open up and learn, and he is able to express himself freely in the class" (R3, G7). However, other

participants raise an issue with this module as ineffective for their children and teaching context. For instance, one participant explains:

> Sometimes we should make the children undergo some punishment instead of just a happy face and a sad face…I remember when we went to one of the schools, I have forgotten the school. Somebody misbehaved, and I put his face on the sad face, Eeei he was so sad the whole day, the whole day…he didn't participate in class but if I had just tapped him once he would have gone on, so I think we should balance the African way of doing things and whatever way of doing things" (R1, G6).

In several focus groups, participants explain why the positive discipline strategies do not work for them (e.g. learners are non-responsive) and why "kneeling," "caning," and "tapping" are more effective approaches to managing pupil behavior. For these reasons, several participants admit to the continued use of corporal punishment. These discussions illuminate the challenge of disrupting dominant cultural understandings of discipline as well as the limitations of this module in changing these.

Summary: Understanding of module content

The analysis of the focus group data presented above reveals participants' somewhat shallow understanding of module content (especially the principles of pupil-centered learning). This finding may be related to a combination of the fast pacing of the program training and the wide scope of content presented there. This finding may also explain the surface level uptake of techniques revealed from classroom observations. However, both the observations and the focus group responses also reveal the wide gap between teachers' current understandings and practices and the expectations of the TFET program.

3.4 Application of Program Techniques

The TFET materials present pupil-centered literacy as an important skill for navigating the world and places an emphasis on reading. However, Midline I classroom observations reveal most teaching time spent on spelling, grammar, and/or phonics rather than engagement with written texts. When asked why minimal reading was taking place in classrooms, the following explanations surfaced across focus groups:

- A lack of books, textbooks, and resources inhibits reading lessons
- Children need to learn phonics and grammar before they can read
- Pressure from parents and proprietors on children speaking English well
- Changes in local curriculum requirements

Lack of Books for Reading

The lack of material resources, including textbooks and storybooks, inhibits teachers' ability to teach reading. In some schools, parents are asked to purchase books for their child, although these requests tend to be ineffective. Hence, participants report an instructional emphasis on phonics and grammar, as it is easier to present letters and isolated words on the board (as opposed to transcribing more lengthy passages). In some cases, children share a small number of

texts, or a single text will be read aloud to the class by the teacher or by a student. Children's books are one of the most frequently cited resources teachers need across focus groups.

Teacher Misconceptions of Literacy Teaching

Participants express a limited and varied understanding of how children learn to read as well as misconceptions of how to teach reading. As one participant explains: "When you are using grammar and spelling to teach the children, it helps them to capture everything you are teaching. It even helps them to pronounce small and big words" (R6, G1). Participants generally view learning to read as a linear, sequential process, where children learn "letters," "phonics," "spelling," "grammar," and "[word] identification" in the early grades and read (comprehend) texts in the later grades. There is little evidence that modeling reading or shared reading activities are part of early reading development in these schools (both techniques outlined in Module 5). Participants also explain that because children in the early grades "can't read" and that reading (comprehension) takes too much time, teachers tend to focus on those skills children can do (e.g. spelling). A few participants report using books to teach "comprehension," although it is not clear whether teachers understand how to support the development of this skill. A participant explains:

> During reading, one of my students, I gave him storybooks to read, but he was not able to read and he was looking at the pictures. I told him that if you want to change your storybooks then you have to come and narrate it to me…so he came to tell me that madam this, this, this. He is not good in comprehension and he said it to me that he will not be able to read (R8, G4).

Modifying the reading level of the text or designing shared or group-guided reading activities are all possible ways to support this student's needs (as well as understanding that interpreting pictures is a crucial part of learning to read). However, this requires access to sufficient textual resources as well as knowledge of how to teach reading. It is unlikely that participants in the program will benefit from the literacy module and apply those pupil-centered techniques (e.g. making predictions about a text, reading of everyday items, etc.) without a foundational understanding of how children learn to read and how to teach reading, and most importantly, without access to texts.

External Pressure on Literacy Teaching Techniques

What emerges from focus groups are two external (outside) forms of pressure on literacy teaching in classrooms: "It is the society that we find ourselves or that we are in, that shows what we can teach and what we cannot teach" (R1, G1). First, participants report that private school reputations depend on pupils' ability to *speak* English well. Hence, teachers place an emphasis on grammar lessons to support pupils' oral communication. A school's reputation is partly based on how parents perceive the quality of English language learning at that school. For instance, R2 explains: "Most of the private schools here are interested in their children speaking English… the child can speak every word but give that child a book to read or paper to write, he or she can't try it, and parents are happy when their children speak English" (G4). Parental pressure on speaking English well is a recurring theme across focus groups.

Other forms of external pressure cited by participants include recent changes to curriculum policy and an emphasis on phonics instruction by the local education directorate. The focus group comprised of proprietors expressed greater understanding of broader education system factors as they manage the school and mediate between the outside and what goes on in classrooms. One proprietor explains: "With the phonics and grammar, now GES, especially Ga South here, the directorate is enforcing on that because we have come to realize that when the children are able to enforce on the sounds and blend them together, it prepares them better for reading" (R8, G7). Proprietor participants also explain that recent changes to curriculum and how subjects are constructed (including a new syllabus or pacing guide) confuse some teachers who do not understand how to "separate out" the different literacy skills.

Use of LEGOs

Based on focus groups discussion (and classroom observations), LEGOs are generally being used by teachers in four ways:

- To keep children occupied in the mornings, after school, or while the teacher is busy with other work, especially marking
- To observe student creativity (e.g. what can the learners create on their own with the LEGOs?)
- To motivate students to complete other tasks (i.e. LEGOs used as a reward)
- To teach colors, counting, and shapes

Some participants report not using LEGOs at all. Findings suggest most teachers do not understand how to purposefully design hands-on LEGO activities around a particular learning objective, including the development of fine motor skills, cooperative play, creativity, and problem solving.

Variation in Mathematics Teaching Techniques

Participants were asked about the use of games in mathematics teaching. Remarks reveal significant variation in how games are/are not used for learning. The most frequently cited "game" for learning in math is Hopscotch, a strategy covered in the TFET training program. A few participants talk about creating their own active learning techniques. R4 explains: "For instance if we are doing addition, okay 2 + 2 so two people will stand here and two people will stand here, and then they will join themselves together, then they recount it again and find the answer." This particular example suggests some understanding of applying active learning approaches to conceptual learning in math.

Other teachers report using similar strategies to those modeled in the video, especially gathering objects outside for counting and drawing numbers in the sand.

What also emerges from some participant explanations is a lack of hands-on learning in math and the tendency to teach how teachers were previously taught in school:

So it is easy for you to do something that you have seen done so since they taught us, they wrote it on the board and the teacher told us to copy it in our books. It is easier for us to also teach the children that way especially when you don't have exposure, based on how your teacher teaches you that is how you are going to teach other people (R1, G3).

This finding is not only relevant to mathematics teaching techniques, but also to the application of other TFET program approaches (such as positive discipline strategies) that contrast sharply with traditional methods that teachers experienced themselves in school.

3.4 Perceptions of Program Impact
Lesson Planning

Across focus groups, participants report a positive impact from training on their lesson planning. Most teachers report designing lesson plans ahead of time, either individually or collectively with other teachers, which supports their classroom teaching. Learning objectives, student abilities, and how TLMs will be used in lessons are frequently reported as important and useful parts of the lesson plan. For instance, according to R6:

> At first I will just prepare a general lesson note for everybody I am going to teach, but now I consider the abilities, strength and interest of every single student in the class so that everybody will pick up what I am giving them as a teacher (G3).

Others report allocating more time for play in their lessons and giving students more opportunities to talk and share ideas. At some schools, head-teachers or headmasters "vet" lesson plans ahead of time, and at other schools, teachers collectively reflect on lessons and discuss what did/did not go well. Some participants report feeling more prepared and planning better quality lessons.

Instructional Monitoring and Support

According to proprietors, some teachers at their schools find it difficult to change their instructional approach and do not understand how to translate the new techniques into practice. Moreover, teachers have little reason to maintain the new approaches in their practice and tend to gravitate back to traditional forms of teaching a few weeks following the step-down trainings. Creativity and willingness to change one's practice are cited by participants as key factors influencing the impact of the TFET program on teaching. According to R2, "A teacher may go through a lot of formal training, but sometimes they are difficult to mold" (G7). Participants also explain that part of the problem stems from untrained teachers who have not received any kind of formal teacher training or teacher education. Proprietors stress the importance of monitoring teachers regularly as important to sustained program impact. According to R4:

> [Sesame] shouldn't be discouraged about what they saw in classrooms in our various schools because this thing is a new thing and we are trying to introduce it to our teachers who are most untrained so it will take time (G7).

These findings suggest the importance of sustained instructional monitoring and support for teachers in implementing program content. Several teachers also mention contradictions between the TFET techniques and what headmasters expect to see in classrooms. One teacher specifically asked for someone to come and encourage her and tell her whether she is teaching well. Another asked for Ghanaian Sesame trainers who are more easily accessible to support step-down training than those who travel from Nigeria. This further suggests the need for instructional support through sustained coaching or mentoring, *and* for tailoring this on-going development for *untrained* teachers.

Resource Needs

Across focus groups, *the most frequently cited resource need is more texts*, which includes textbooks, storybooks, big books, nonfiction books, picture books, and activity books.

Aside from texts, participants also express a need for:

- Technology (e.g. computers, videos, video equipment, etc.)
- Resources to create their own TLMs (e.g. scissors, glue, markers, cello tape, etc.)
- Furniture (e.g. desks and chairs)
- More LEGOs
- Hands-on toys and objects to incorporate into lessons
- Posters and charts for the classroom

Although some of these resources were provided to TFET program participants, they nonetheless emerged as important needs across focus groups.

3.5   Conclusion

Focus groups generally espouse positive perceptions of the TFET training program but reveal significant differences in understanding and impressions of program content. Developing and teaching with low-cost resources, differentiated instruction, and positive discipline are the most frequently cited (attractive) ideas that teachers find interesting, empowering, and useful. However, focus group remarks (and classroom observations) reveal a partial and mostly surface-level understanding of module content and some reluctance toward the uptake of positive discipline techniques. The lack of formal teacher training (education) and dominance of traditional pedagogic approaches ("teaching how one is taught") emerge as central impediments to changing teachers' practice. In addition, a lack of textual resources, misconceptions about how children learn, and external pressure from parents and education institutions influence teachers' capacity to teach as the program intends. More needs to be done to bridge the gap between the TFET program expectations and the reality of teachers' pedagogic understandings and practices. Far more support to teachers is required for them to meaningfully take up new techniques in their classrooms.

4.1　Conclusion

Midline I findings demonstrate some evidence of surface-level uptake of a limited number of techniques proposed by the program. There is also variation in participant understanding and perception of program content. Indicators of program uptake include the display of TLMs, verbal elaboration of module techniques, and use of activities to make classrooms more pupil-centered, fun, and interactive. There are also major impediments to pedagogic change in these schools resulting from a lack of material and cognitive resources and from traditional teaching approaches that conflict with the principles of pupil-centered pedagogy. The following section outlines recommendations to address these challenges and promote further uptake of effective teaching techniques.

4.2　Key program recommendations

Based on classroom observations and focus group discussions, findings suggest several ways in which the TFET training program could be developed to address uptake challenges and content misconceptions.

- Provide teachers with a variety of textual resources, including fiction and non-fiction texts (e.g. storybooks, Big Books, workbooks, textbooks, etc.). Textual resources could include some combination of single texts to build a diverse classroom/school library as well as text sets for the teacher and pupils to have their own copies.
- Incorporate in-depth, sustained training and coaching on how to teach reading. This training could align with Module 5 and incorporate program-based resources (e.g. class set of readers and workbooks with a teacher guide). Because most teachers are untrained, they need support in developing their content knowledge of how children learn (to read).
- Provide teachers with a set of lesson plan exemplars for literacy and numeracy and elaborate on program content in trainee workbooks. Teachers need supporting textual resources to reference program concepts during lesson planning (e.g. "differentiation"). These resources could include a "how to" section with multiple examples (e.g. "how to incorporate student interests into a lesson").
- Consolidate program content in line with teachers' pedagogic needs, especially how to teach reading and math and use TLMs to promote pupils' conceptual development. It is likely teachers would demonstrate greater understanding and uptake if the program focused on fewer topics and covered these in greater depth.
- Incorporate on-going program coaching of proprietors, head teachers, and teachers. School-level uptake requires commitment, monitoring, and support by all staff members.
- Reassess TFET program expectations, especially in light of teachers' existing practices and pedagogic understanding.
- Schedule all master and step-down training during school holidays. Extend training sessions to a minimum of one day per module (6-7 hours).

Appendix A – Data Description: School 1, Teacher 1.1

Class: K2

The classroom was small, had a zinc roof, no ceiling or windows. There were 19 children in the class. Four of them that the teacher has identified as the strongest, sat together in a row along one wall and at one point did more advanced work (alone). The rest of the children sat in groups at 3 tables. The teacher is very young.

The classroom had a blackboard and a cupboard and the teacher had a desk and chair. The children had exercise books and the teacher handed out pencils when they had to write. There were alphabet and number handmade posters on the walls, a shape chart, fruit and vegetables and clothes chart, plus the Sesame/IDP market scene chart.

We watched the class from 10.20, when the teacher led the children in a Welcome song for us, in English. Then she asked them "What do we do now?" and they chorused, "Phonics!" Then students recited the alphabet in unison: "'A' as in apple…"

She then took out a book called "Super Phonics" which has a colorful illustration of a cartoon scene across a double page spread, with labeled pictures of items around the main image. The teacher moved around from table to table, showing the small pictures – but no engagement with the main color picture on each page - asking children to read or repeat words. It was not clear if students understood what they were decoding e.g. words like 'dandelion'. Children were called to write single letters on the board.

The children seemed relaxed and happy to answer and seemed to have a good vocabulary range, for example they knew a lot of flower names such as lilac and hibiscus. It is likely this content has been covered before.

The teacher asked some questions around a range of topics, e.g. whether an animal was domestic or wild. The teacher taught the whole class as a group all the time. Then, she moved to talking about initials and children had to volunteer their initials. Some students struggled with this activity. When learners provided responses, there was no explanation offered as to why something was right or wrong. There was a lot of repetition and chorusing back of answers that the teacher gave. The more advanced learners wrote words in their exercise books while the rest did hand writing practice of the letter 'J'. Many students finished and waited with their heads on the desk. The whole session took about an hour.

At 11.40 the children rolled out grass mats and all crowded onto them for 'Circle Time'. They did some deep breathing to start. The teacher then held up a small poster with pictures of a Biblical story, David the shepherd, and the children had to say what was happening and identify things in the pictures. Students struggled to describe the picture, possibly language was a barrier. The teacher did some code-switching between English and Twi. Both boys and girls had a chance to answer questions and then the teacher asked a boy to summarize the story, which he did in Twi. This all took about 10 minutes. Then the class stood up and chose most religious songs to sing (with actions), and then the boys were told to leave the mats for the girls to roll up.

After the lunch break it was RME (Religious and Moral Education): Exercising the Body and Games. The focus was on games, including skipping, local games that the children play in the schoolyard, like Ampe, the traditional African game of Oware, as well as hopscotch and musical chairs. The teacher wrote all the words on the board. Pupils could read most of the words independently, e.g. hopscotch and musical chairs. Generally, the teacher's use of language was very formal and quite complex. She used the passive voice in asking learners questions e.g. 'What is X an example of?' The teacher did not draw a clear distinction between exercise and games in relation to health.

The teacher illustrated tug of war by letting students play the game with a skipping rope (boys versus girls) and also let them play musical chairs, which they enjoyed. The content of this lesson was appropriate for this level and showed an attempt to link the children's interests with their learning: a number of the games were drawn from the children's lives and they had fun playing them, but the teacher did not exploit the learning potential of the games. She did not help them write up the rules for musical chairs for example, or use Oware to do simple maths counting. No scaffolding in the form of simple explanations was given about the games, no drawing children in to talk about the games and how they play them.

In the last session of the day, the teacher took out a box of Duplo. She placed a red Duplo 'mat' on each table and some bricks. The teacher instructed the children to build something as a group, but she did not provide any specific guidelines. After some time, the children began fighting and grabbing each other, and the teacher made her disapproval visible. Then, the class was divided into 2 groups. One student was chosen from each group to watch the teacher construct something with LEGOs inside a box. The student could see inside the box but the other students could not. The student then had to go back to their group and instruct the others how to build the object. The teacher spent a lot of time sorting out the blocks while the children sat waiting and watching.

Appendix B – Data Description: School 1, Teacher 1.2

Class: K2

Teacher 1.2 is a young teacher who has been at the school for a few months. He received step-down training at the school. He has 13 learners in his class of whom 5 are girls. The classroom is small and has a small blackboard, teacher's desk and chair, and a small set of shelves. The children sat in rows facing the teacher and he worked with the whole class all day.

There are a number of charts on the walls, including a vowel chart, daily timetable, date chart, newspaper articles in English, a number chart and star chart for the children, math shape chart, and the Sesame/IDP market scene chart. The charts are hung high up and not very visible for the children.

We observed teaching from 9 am. The first lesson was RME. The lesson began with students reciting the Lord's Prayer and Psalm 23. The teacher wrote 'Attributes of God' on the board and asked students, 'Who created heaven and earth?' The boys answered. Then the teacher wrote attributes on the board, e.g. 'Omnipotent', 'Omniscience', 'Giver of sun' and so on and the children were required to repeat these attributes orally multiple times in chorus and explain what they mean. The teacher did not provide any scaffolding or explanations. Answers were right or wrong. Children were also asked about gods in other faiths including in local faiths.

Then teacher wrote 'The Universe' on the board, asked 'What does it mean?' and answered: 'The things created by man and God.' The teacher then showed the class small pictures in the textbook quickly but the students did not have opportunities to see these pictures or engage with what they saw. Children took out their exercise books and were instructed to copy down and answer the following:

1. Universe is _____
2. God created animals and man. True or False.
3. State two (2) things which are created by man and god.

The teacher moved around the room to help the children and marked their work as they finished. He was kind and encouraging especially to a little girl who was not feeling well.

At 9.40 the teacher said, 'We will move onto another topic, Creation. What is it?' A boy answered: 'Creation is bringing something new into existence.' It is likely this content had been covered before. The teacher drew houses on the board and asked students what animals they have at home. The teacher explained that animals were created by God and houses by man. Then, the teacher handed out exercise books and instructed the children to copy the following from the board:

1. List the attributes of God and their meaning.
2. How do the Akans, Ga, Ewe call God?
3. Mention 4 things created by God.
4. In your words, what is creation?

5. Tables, Sun, houses etc makes the _____?

After break, at 10.45 there was a Twi lesson and all in Twi. This lesson focused on naming in the Ashanti culture, what names mean, naming ceremonies, and what attributes are associated with what names. The lesson included a lot of repetition and chorusing of what was written on the board. When learners had to read lists on their own, they struggled to decode the words. Some students appeared to rely on memory and the support of the chorus when they read from the board as a group. Lists of notes were copied from the board and read aloud by students repeatedly.

Lunch break was at 12.

At 1.25 the teacher taught an English grammar lesson on nouns.

The teacher wrote lists of examples of place names, names of animals, people's names and objects on the board, which the students copied down. Then the students were instructed to copy a list of nouns and arrange them according to place, animal, person and object. Some students were not sure how to do this so the teacher explained the task again. While students worked on their independent task, the teacher marked each child's work.

At 2.15, the teacher taught a lesson entitled, "Creative Arts: Performing art: Basic dance movement." Students had to write down the title and read it aloud repeatedly, but the teacher did not explain what the title meant.

The teacher asked the children how they feel when they dance and they answered, "I feel happy…" etc. Then students chose a favorite song and sang this individually in front of the whole class. Lastly, the teacher performed a rap to contemporary music. During this part of the lesson, students stood up and did various freestyle dances.

One of the children in Teacher 1.2's class has learning challenges. Teacher 1.2 accommodated her in the lessons. The student's learning challenges were unclear (possibly a language barrier or a developmental challenge).

Appendix C – Data Description: School 2, Teacher 2.1

Class: Multi-grade KG 1 and KG2

This teacher had two groups in her class: 13 KG1 children and 11 KG2 children, of whom 4 are girls and 7 are boys. Each group sat around a large, round, wooden table. The teacher taught one grade-level group at a time, while the other group sat waiting for up to 90 minutes at a time without an activity or instructions.

The classroom was an open cement area and divided from the other classrooms on either side with wooden boards. Two sides of the room were open to the outside. Other than the children's chairs and tables, there was an empty round table and the teacher's desk and chair. There was no other furniture. One wall had blackboards and the other had some charts and the Sesame/IDP large market scene chart. The floors are bare cement. Lines of rope were hung across the classroom, and the teacher attached number and letter cards with pegs on the lines.

The official language of the school was English. Teacher 2.1 told the children at the beginning of each session what they were going to do and did not deviate from this plan.

Teaching started at 8.45, and both classes did singing and movement. Students sang a medley of songs including the alphabet. This section of the day was aimed at KG2. The teacher wrote: 'Environmental Studies' on the board, and underneath it, 'Attributes of God'. She asked the class "Do you know God?' Then, the teacher told students a folk story about a Hunter, a bird, and an ant to illustrate friendship. The teachers' story telling was animated, and the children were engaged. She stopped to ask, "Do you know what happened?' more than once, and students answered "No" each time (rather than making an inference about what was likely to happen next).

After story telling, the teacher tested students' comprehension with verbal recall questions: e.g. "Where did the hunter live?" The teacher also asked more demanding questions: e.g. "Why did the ant and the bird help each other?" She used this story to explore the issue of friendship and kindness and made connections to religion: e.g. "Will God be happy?" The children were engaged, and the questions allowed for interactions about the story. Then, the teacher handed out workbooks and told the children to draw two pictures according to the following instructions: 1) draw yourself sharing and 2) draw yourself showing kindness in the classroom. The teacher then handed out pencils and small crayons and engaged with some students as they drew. Some students struggled with the activity. The girls were very engaged. Most of the boys finished quickly. The teacher allotted 40 minutes for this part of the lesson so some students seemed bored and restless.

The teacher promised treats a few times (she keeps toffees in her bag for rewards), used a sad and happy face chart to discipline children, and shouted at them to 'Sit down!' at points.
After break the teacher did physical exercise with KG1. During this activity, the KG2 group was left to sit at their table with their heads laid down for over an hour.

At 12.15, the teacher handed out Duplo to both classes and assigned one boy at each table to build something. She built a house with the bricks at the K2 table and then instructed students to build their own house. One boy controlled this activity and drew in a few other students to contribute. The rest of the children watched. Meanwhile the teacher sat and marked their exercise books. The two classes became noisy, and there was hitting between some students followed by tears. The teacher isolated one KG1 girl after she hit another student. There were no classroom rules visible to help resolve conflict. At one point during the activity, the teacher looked over at the KG2 table and asked the students what they built. Students responded with "steps" and "the Ghana Flag."

Then it was lunch and the teacher explained that they would continue with the Duplo after lunch, and there would be no more teaching for the day.

Teacher 2.1 had step-down training from the Director of her school. This is her second term as a teacher. She said she had watched the videos.

Appendix D – Data Description: School 2, Teacher 2.2

Class: P3

When we arrived at the school at 8.30, we were told that the P2 teacher had just started at the school and had not had any of the TFET training. After some deliberation, it was agreed that we would observe in the P3 classroom, as the teacher there had done some of the step-down training.

This was Teacher 2.2's second month of teaching. He has 12 learners: 4 boys and 8 girls, around 8 years old. His classroom had a blackboard across one wall and a brick wall at the back with a few self-made posters. These posters are hung high, making it difficult for learners to engage with them. The two other sides of the room are open without walls. The children are not streamed, and English is the language of teaching and learning. The learners all have little wooden desks and the only other furniture in the classroom is a small table and bench for the teacher.

Our observation began at 8.50, when the teacher began a Maths lesson, which continued with no break until 10.25. The class started off by reciting the 2, 3, 4 and 5 times tables, which they repeated. The lesson topic was subtraction. The children took out little bags of stones, and they used these stones and counting on their fingers for simple calculations, rather than mental maths, which was used a bit. The learners did up to four-digit subtraction. The lesson started with 6 simple subtraction sums on the board, with 2 and 3-didgit numbers. Girls and boys volunteered and took turns to come to the board and work. One student tried to do the 3-digit subtraction and struggled with borrowing (705 – 247), so the teacher explained the concept of borrowing and carrying over and illustrated it on the board. He asked the class if they had any questions but no one responded.

Then the teacher wrote: Subtraction in 4-digit numbers, followed by illustrations on the board, and said, "The only difference is that they have 4-digit numbers." Children wrote the topic and watched as the teacher solved two sums on the board. Then, the children did 3 more sums in their books using stones to calculate simple sums. A number of children struggled with borrowing. The teacher expected students to correct their own mistakes and did not provide clear feedback. Then, the teacher explained the difference between borrowing from 1 and borrowing from 0. (Through all of this there is noise from the kindergarten class.)

Students copied an exercise of six sums, three of which were addition. The teacher pointed out that three are addition and later said which sums required addition, but at no point does the teacher point to the plus sign as the indicator of the math operation. As the students work, the teacher marks their homework and calls on students to stand individually as he reads their marks out loud. High achievers are praised, and there is not much support for children who make mistakes. Children are told to do corrections, and there is no engagement with children who made the same mistakes. The teacher does not encourage students to move from a reliance on stones for counting basic sums (e.g. 3-1) and moving to mental arithmetic.

Break at 10.25.

At 11, the children copied down their maths homework and a boy cleaned the board. The teacher then brought out the same packet of Duplo that had been used in the K2 class the day before, divided the children into 3 groups of 4, gave them each a pile of blocks and told them to 'build something'. He did not give other instructions and the activity lasted an hour. The teacher gave marks to each construction but did not indicate what criteria he was using to mark them.

At midday, the teacher wrote 'RME' on the board and 'Caring for the Environment'. He sent children to fetch grass mats, which he set on the floor and the children all came to sit there in front of him. He read from the textbook and asked a series of questions: 'What is the environment?' (the things around us), 'How do we care for the environment?' (children say things like : 'We must feed the environment', "grow plants to make it beautiful…").

Then the teacher explained that the environment was created by God and houses and other objects were made by Man. The teacher explained: "The Environment was created by God. You all know God. The sun, the moon, the waterfalls… all created by God." The children contributed quite a lot and this helped steer some of the discussion , which the teacher happily did. Then they read from the textbook as a class. At one point the teacher declared that we get sunshine from the atmosphere. Reading from the textbook: "There is one thing that God has provided that cannot be seen or touched – the air we breathe." The teacher said: "The environment and all the things we need are provided by God to help human beings."

The children also talked about fishing, mining and water. The lesson ended at 1pm and the children then began rehearsals for a Carol service.

Appendix E – Data Description: School C, Teacher C.1

Class: P2

Upon arrival at the school, we learned the teachers were not informed of our viist . Grace negotiated with the P2 teacher and she agreed to let us observe. The school is more solidly built, with proper walls and windows on two sides, but loose canvas sheeting between classes on either side. The school has electricity, as have the classrooms.

The class has 30 learners: 17 boys and 13 girls and the classroom is full. The teacher uses a white board and dry-erase pens, and has a cupboard to store the children's exercise books and textbooks. She taught the whole class as one group all day. The only things on the walls were small pictures of children's artwork and a timetable.

At 8.50 she commenced a maths lesson and wrote "Addition and Subtraction" on the board. She explained the concept of addition as adding 2 pencils to 2 pencils and having 4. She wrote a number of sums like this: 2 + [small block] = 9 and children had to identify the missing number. "What is missing?" Children chorused answers and repeated them at the direction of the teacher. Children were encouraged to do mental maths and mostly counted aloud on fingers. A boy struggled, but there wasn't extra help for him. When the teacher asked why 6+0 = 6 and a child said because the numbers are the same, she didn't accept this answer (and was apparently looking for a more concrete answer). Then, the teacher moved on to addition of 3-digit numbers and emphasized adding from right to left (Children chorused this: "from right to left"). There were no opportunities to read the whole number aloud: e.g. "five hundred and thirty-two". Numbers are presented as random collections. The exercise was reduced to the mechanics of adding isolated numbers. Children came to write answers on the board and she rebuked a child, who is left-handed, for writing a number slightly too far over to one side.

As with all the schools, there was lots of 'clap for her/him!" when a child got a correct answer. But some students laughed at those making mistakes. The class wrote sums in their books for rest of lesson.

At 9.40 they moved to English Grammar. On the board, the teacher wrote: "Nouns. English Grammar" and said: "What is a noun? A noun is a name of a person, place …" etc. Children chorused this multiple times. Teacher asked the class: "A name given to a person. What does this mean?" The teacher did not make explicit what constitutes a correct answer and students appeared confused. The lesson was characterized by lots of examples of the different kinds of nouns and lots of repetition and chorusing of these isolated words. At this point the teacher threatened the use of her cane, which she made visible. The can was then very present for the rest of the day and used for slamming on the desk accompanied by threats of 'lashings". When the teacher taught proper nouns, the children defined them as: "the name of a particular person". The teacher did not explain the word 'particular', and children struggled to repeat this definition accurately.

The teacher spent nearly 90 minutes doing most of the talking and students appeared to grow bored and restless. The teacher pushed a boy who got up from his chair. Then, the class stopped for break.

After break, at 10:50, the teacher resumed with common nouns ("nouns that are common"). The teacher explained, "Common nouns are everywhere," and gave examples of these, e.g. trees. When a student mistakenly said 'ugly' is a noun, the teacher replied: "Do I have to lash you?" The teacher praised correct answers and ridiculed wrong answers with no explanation given for why an answer was wrong. The teacher explained that 'travelling' is a verb (out of context this may not be true). The teacher spent a long time getting each child to say a sentence and identify the nouns. She pinched two girls she caught playing. At one point she shouted, "God is watching you! Keep quiet!'

At 11.30 the teacher began an RME lesson entitled 'God and his creation'.

The teacher asked: "What is creation?" And the children chorused: "Creation is the act of bringing something into existence." In this lesson the teacher made assertions such as "God created the universe", "God didn't create artificial things like books" and "Things created by God are called natural." Then the teacher asserted that Christians and traditionalists believe that God made men from dust. She showed her flesh and said, "This comes from dust" and explained that Muslims believe that god created man from "dust, blood, and life-germ".

The lesson segued into a discussion about plants and different types of plants: creeping, climbing and erect. Students offered examples of each type of plant. The teacher incorporated religious stories such as "God gave us plants to give us shade and protect us from the sun". The teacher then moved onto animals and the six types of animals: mammals, insects, fish, birds, reptiles and amphibians. She expressed definitions of each type of plant, which children recited repeatedly. It is unlikely students understood these definitions. The teacher agreed with the examples children gave that whales and dolphins are fish. This lesson took 75 minutes and the teacher spoke throughout, with learners listening and repeating in chorus.

After break, at 1.40, the lesson was ICT and the topic was "Double-clicking". The teacher used a textbook with simple illustrations of a computer screen and a mouse. Most of the lesson was about a computer mouse, what it looks like, its parts and what we use it for. This was all done in the abstract. The teacher talked about icons and students chorused the definition: "Icons are the small pictures on a computer". One boy tried to recite the definition, but struggled and the teacher repeatedly interrupted him. She showed the class the icons on her smart phone as examples. Two boys were restless and they were made to stand at the window with their arms in the air.

At 2.15, the children were told to take out their books and draw and label a mouse.

Appendix F – Data Description: School C, Teacher C.2

Class: KG2

This classroom was on a small separate campus that houses a crèche and kindergarten. It was quiet and well managed. The classrooms had zinc roofs and were not very well ventilated. There was a white board, small cupboard, teacher's small table and chair, and no electricity. The class had 34 children: 20 girls and 14 boys. There were a few homemade charts high up on the walls, with numbers in words, days of the week, months of the year and measures of time.

In the morning, all the children were lined up outside and led by their teachers. The day started with singing songs matched movement ("We are jumping…"), "I see the moon," in English and then in Ga, then a long action rhyme about a pussy cat. Then children sand a number of hymns including Psalm 23 and the Lord's Prayer, followed by patriotic songs about Ghana and lastly a marching song. The children were animated and seemed to enjoy this.

At 9 the teacher started the lesson and led the class in chorusing about what day it was, what yesterday was, tomorrow, etc. until all the days of the week and months of the year had been mentioned.

The teacher was also doing revision and explained that she teaches four subjects per day. This day started with Mathematics, then English Grammar, then Natural Science and finally Music and Dance. We observed the first 3 and all the content covered was very similar to what we saw in other classrooms: subtraction in maths, but also some time spent on signs such as greater than and less than; nouns in English, although also on concord: has/have; and domestic animals in natural science. The teacher spent most of the morning directing and talking with little student writing. Students mostly chanted and repeated in chorus and did not write anything until 11:10am.

This teacher explained consistently throughout the day what they were going to do and when they were revising what they had done. She also explained things clearly. She used the "clap for her/him" strategy many times and did not use any form of negative punishment. But the teacher did not explain why a child got an answer wrong.

In the maths lesson, the teacher asked the children to "compare two numbers" (which was similar to other lessons observed). The teacher focused on math signs (smaller than, greater than) and when we use them. Then the teacher covered subtraction, which she said is also minus and take away. She drew pictures of sets of items on the board, and children were called to the board to do simple subtractions. Children were eager to come to the board and used their fingers to count.

At 9.30 the teacher started an English Grammar lesson by asked students, "What do we have children?" The children responded in chorus, "English Grammar" three times. The teacher first explains that nouns ending in 'y' have 'ies' in the plural: e.g. lady and ladies. Then the teacher explained: "Now we are going to learn to use has and have." Lots of examples and chanting and later some children were still struggling to get this right. Students were restless, so the teacher got them to stand and sing and move to "Jumbo is an elephant."

After break, at 10.45, the children performed more action rhymes, in English and Ga.

Then, on the board, the teacher wrote, "Natural Science: Domestic animals." The teacher asked, "What are they?" and got the children to say and repeat multiple times: "Domestic animals are animals that live in the home." It was not clear whether the students understood what they were saying. The teacher wrote the definition on the board and then pointed to individual words in the sentence, in no particular order, and the learners had to say the word repeatedly. Children gave examples and repeated these over and over.

At 11.10, it was time for 'exercises' and the teacher took out their books and handed out pencils. She wrote 5 sentences on the board and the children had to write them out and fill in has or have correctly. Some students finished quickly and were left to wait for substantial periods of time. Some children did not know what to do, and the teacher had to explain directions again to them. The teacher then went around to each student to mark their work, while all students waited until each had finished and their work was marked.

While the day was punctuated with the singing and performing of songs and action rhymes, the whole-class, teacher-driven teaching and content seemed out of step with the developmental needs of children this age.

Appendix G – Transcript of Observed RME Lesson

School 2, Teacher 2.1 (Class KG1/KG2)
RME Lesson: Folklore Storytelling of "The Ant, the Bird, and the Hunter"

The teacher tells a folk story orally from memory in an expressive and engaging manner. While telling the story, the teacher asks a range of recall questions. Students have opportunities to respond in chorus and individually by raising their hand.

Teacher:	There lived a hunter who lived far away in the bush. Do you know the bush? [inaudible] Yes, so the hunter lives in the bush. There is a bird and an ant. They were very very good friends. They were what?
Learners:	Very very good friends *[In chorus]*
Teacher:	You know what happened?
Learners:	No *[In chorus]*
Teacher:	You know what happened?
Learners:	No *[In chorus]*
Teacher:	One day the bird and the ant were going to find some food to eat. [Inaudible]. Do you know who the hunter is?
Learners:	No *[In chorus]*
Teacher:	A hunter is a person who catches animals and does what? He kills animals. He does what?
Learners:	He kills animals *[In chorus]*
Teacher:	In the bush. Ok. The hunter went to look for something to eat. Are you listening? Are you there? And the hunter [inaudible]. He shot the bird [inaudible]

The teacher finishes telling the story with enthusiasm.

Teacher:	This story was about who, about who, and about who? Yes?
Learner:	The bird.
Teacher:	The bird. Clap for her. *[Children clap]* Yes?
Learner:	Ant.
Teacher:	Ant. Clap for Solomon. *[Children clap]*. Who else? The last person? [inaudible]
Teacher:	No.
Learner:	Hunter.
Teacher:	Hunter! Clap for him! It was about a bird, the ant, and the what?
Learners:	Hunter *[In chorus]*
Teacher:	And the what?
Learners:	Hunter *[In chorus]*
Teacher:	Who can tell me where the hunter lived? If you know it just raise up your hand.
Learner:	In the bush.
Teacher:	In the bush. Clap for her! My children are good. What happened to the bird? Who shot the bird?
Learners:	Hunter *[In chorus]*
Teacher:	Did the hunter kill the bird?
Learners:	Yes *[In chorus]*

Teacher:	Are you sure?
Learners:	Yes *[In chorus]*
Teacher:	Very good. Give yourselves a big hug.

Children recite a song together.

Teacher:	The hunter shot the bird. Who helped the bird? I said raise up your hand.
Learners:	Ant *[In chorus]*
Teacher:	Who helped the bird?
Learners:	Ant *[In chorus]*
Teacher:	Who helped the bird? *[Calls on an individual student to answer]*
Learner:	Ant.
Teacher:	Very good. The ant and the bird were friends. When the hunter shot the bird, the ant helped the bird, the ant helped the bird. What happed to the ant?
Learner:	The bird flew.
Teacher:	The bird flew. The bird carried the ant away from him. Am I lying? Why did the ant and bird help each other? Kindness.
Learners:	Kindness *[In chorus]*
Teacher:	And love.
Learners:	And love *[In chorus]*
Teacher:	And love.
Learners:	And love *[In chorus]*
Teacher:	[Inaudible] Because they were friends and they loved each other, the ant helped the bird. And the bird also helped the ant. Am I lying?

The teacher continues using the content of this story to explore the concepts of friendship and kindness as it relates to moral and religious education and pleasing God. After the teacher completes the question/answer session, students draw two pictures in their workbooks (1) "Draw yourself sharing," and 2) "Draw yourself showing kindness in the classroom"). The teacher hands out pencils and crayons and engages with some students as they draw pictures. Other students appear to struggle with the task. The teacher allots 40 minutes to this task. The girls are engaged, the boys finish quickly, and some children grow bored and restless once their drawings were completed.)

Appendix H – School Characteristics from Baseline Survey Data

Characteristics	School 1	School 2	School C
Region	Greater Accra	Greater Accra	Greater Accra
District name	Ga South Municipal	Ga Central Municipal	Accra Metropolitan
Main building materials of the P2 classroom	Brick structure	Brick structure	Brick structure
Is the P2 classroom an enclosed space?	Yes	No	Yes
Does the P2 classroom have windows?	Yes	No	Yes
What type of building is the site?	Private home	Private home	Private home
Is the school connected to the national electricity grid?	Yes	Yes	Yes
What is the main source of water at the site?	Tapped water inside the building	Run-off Water Tank	Tapped water inside the building
How do the children wash their hands?	No option for hand washing	At an outside hand pump	At an outside tap
What type of toilet is available for the learners?	Pit latrine with ventilation	Flush toilet	Flush toilet
Are the toilets clean and hygienic?	Yes	No	Yes
Is the site fenced with a lockable gate?	Yes	Yes	No
Observe the indoor space:	So crowded that learning and play cannot progress well	Enough indoor space for learning and play to progress well	Enough indoor space for learning and play to progress well
Observe the indoor space state of repair:	Space is generally in good condition (e.g. no major hazards	Space is generally in good condition (e.g. no major hazards	Space is generally in good condition (e.g. no major hazards
Observe the indoor state of cleanliness:	Space is reasonably clean	Space is reasonably clean	Space is reasonably clean
Is there an open space (like a mat) where all the children can sit on the floor	No	Yes	Yes

Are all the children seated at desks/tables in rows (like a traditional school	Yes	Yes	Yes
Is the daily program on display?	Yes	No	Yes
Observe the outdoor space:	Outdoor space spacious enough to allow vigorous play,	Some outdoor space to allow limited play	Some outdoor space to allow limited play
Observe the outdoor equipment	None	None	None
What year was the school established?	2007	1995	2004
Is the school registered with the Ghana Education Service?	Yes	Yes	Yes
What classes does this school have?	Creche - JHS 2	Creche - JHS 3	Creche - JHS 3
Does the school have a Parent Teacher Association (PTA)?	Yes	Yes	No
What are the termly tuition fees for a KG2 child	105	100	400
What are the termly tuition fees for a P2 child	100	100	480
What would you say are the biggest challenges for this school	Lack of school resources / materials & Parents' financial situation & Lack of parental support and understanding. & Lack of community participation	Parents' financial situation	Lack of school resources / materials & Parents' financial situation
Do you have records of teacher and pupil attendance?	Yes, showed records.	Yes, showed records.	Yes, showed records.
Number of teaching days	76	76	69
P2: Percent unable to answer one local language listening comprehension question	11%	40%	40%
P2: Percent unable to read one word in local language	89%	100%	60%
P2: English listening comprehension score (%)	81%	83%	87%
P2: Correct English words read per minute	36	36	37
P2: English reading comprehension score (%)	33%	32%	32%
P2: Missing number score (%)	40%	37%	54%
P2: Addition 1 score (%)	37%	56%	40%

P2: Addition 2 score (%)	31%	42%	30%
P2: Subtraction 1 score (%)	28%	36%	37%
P2: Subtraction 2 score (%)	13%	24%	10%
P2: Word problems score (%)	42%	44%	38%
P2: Social emotional score (%)	69%	72%	72%
KG2: Emergent literacy score (%)	81%	62%	61%
KG2: Emergent numeracy score (%)	68%	62%	56%
KG2: Social emotional score (%)	48%	54%	44%
P2: Did you eat before coming to school today?	22%	80%	90%
P2: Were you absent from school on any days last week?	22%	50%	50%
P2: Apart from your school books, are there books, newspapers or other materials for you to read at your home?	78%	90%	60%
P2: Radio at home	78%	90%	100%
P2: Phone at home	100%	100%	100%
P2: TV at home	100%	90%	100%
P2: Computer at home	11%	40%	60%
P2: Refrigerator at home	56%	70%	100%
P2: Bicycle at home	44%	40%	40%
P2: Motorbike at home	11%	20%	20%
P2: Car at home	22%	40%	60%