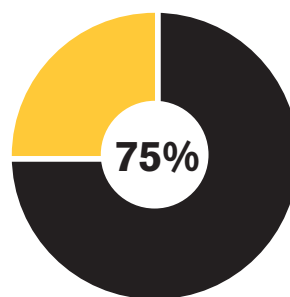




RESEARCH BRIEF

Improving Academic and SEL Skills in Nigeria

Sustainable Development Goal 4 aims to achieve “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” by 2030 (UNESCO, 2016, p.29). Meeting this goal requires universal access to high quality education and eliminating education inequities for all learners around the world. However, achieving this task is challenging in Nigeria, where continual conflict and crisis have created various barriers to high quality learning processes and attainment. According to UNICEF statistics (2018), over 10.5 million school-aged children in Nigeria are out of school, ranking the highest in the world. The 2009 Boko Haram insurgency has also had a devastating impact on an already fragile education system. Since the start of the crisis, more than 1,200 schools have been destroyed in attacks and 1,500 were forced to close by non-state armed groups. More than 600 teachers were killed and 19,000 were displaced. Furthermore, more than 700,000 children between the ages 6-17 were displaced nationwide, leading to 75% of children in Yobe and Borno states out-of-school (OCHA, 2017). Children and teachers in these states are in dire need of educational and psychosocial support to cope with the negative effects of the conflict and rebuild quality learning environments.



In Yobe and Borno, 75% of children are out of school

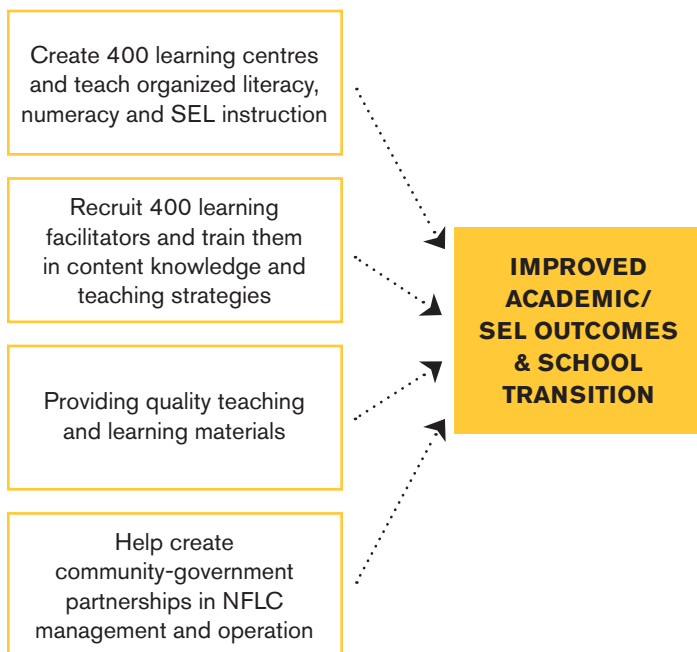
“There is an urgent need to provide out-of-school children with immediate access to learning opportunities, support learners’ retention in schools, and improve learning environments and learning outcomes. —OCHA, 2017, p. 40”

DFID EDUCATION IN EMERGENCIES (EiE) NON-FORMAL LEARNING CENTRES (NFLC) PROJECT

DFID EiE NFLC project is funded by the UK Department for International Development (DFID) to support out-of-school (OOS) children in Yobe and Borno with their education and psychosocial well-being. As part of this project, the International Rescue Committee (IRC) and Creative Associated are working to provide OOS children between the ages of 9-14 with quality learning opportunities to develop basic literacy and numeracy skills, heal from the traumatic effects of displacement and violence, and transition to formal schools. During two years of intervention, about 20,000 eligible OOS children will receive structured instruction in literacy, numeracy and social-emotional learning (SEL).

DFID EiE NFLC project's Theory of Change posits that in order to improve OOS children's basic academic and SEL skills in Yobe and Borno, it is essential to:

- Create 400 learning NFLC that will provide OOS children with access to free safe learning opportunities, using a condensed curriculum so they can catch up with their peers and transition into formal schools. Children will attend the program four times per week for seven months.
- Equip learning centres with teaching and learning materials;
- Recruit 400 community members to work as learning facilitators and provide them with ongoing professional development opportunities so they can gain content knowledge and pedagogical skills in literacy, numeracy and SEL
- Organize community-based committees that can collaborate with government agencies for effective educational management and operation of learning centres.



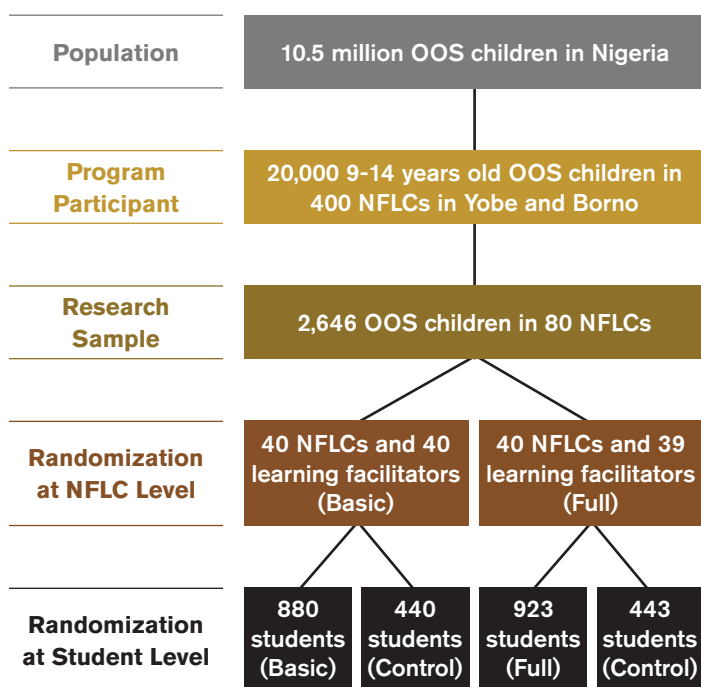
RESEARCH, EVALUATION AND LEARNING: PRE-INTERVENTION OUTCOMES & PARTICIPANT PROFILES

The Research, Evaluation and Learning (REL) unit of the IRC is conducting a study that aims to estimate the effect of the DFID EiE NFLC project on children's learning outcomes and learning facilitators' instructional practices. We are using a mixed-methods, randomized controlled trial, with two treatment (a basic packet with teaching and learning materials, face to face trainings and teaching learning circles, and a full packet that also adds coaching) and a wait control group. The present research brief describes the baseline results, with a focus on the following research questions:

- **RQ1: Are children in the basic treatment, full treatment and control groups similar in a set of observable characteristics measured at baseline?**
- **RQ2: What are the children's baseline literacy, numeracy and SEL outcomes by treatment status?**
- **RQ3: How do the baseline literacy, numeracy and SEL outcomes differ by gender, age, region, socio-economic, displacement and disability status?**
- **RQ4: What are learning facilitators' baseline performance levels by treatment status?**

> Participants

The target population of DFID EiE NFLC project is 10.5 million OOS children in Nigeria. Program participants are 20,000 OOS 9-14 year old OOS children who have been out of school for more than two years and were overage for their grade level, in 400 communities in Yobe and Borno. The research sample was selected through a two-stage sampling process via a lottery. First, we randomly selected 80 NFLC from among the 400 NFLC established by the program. We then randomly assigned 40 NFLC to a basic treatment and 40 NFLC to a full treatment. Within each NFLC, we took advantage of the oversubscription to the program to randomly assign all eligible children to treatment and wait control groups. In total, the research sample consists of 2673 OOC children in 80 communities 880 OOS children in 40 NFLC receiving a basic treatment, 923 learners in 40 NFLC receiving a full treatment, and 873 learners living in the same communities as children in the treatment groups, but who were placed in a wait control and receive the treatment in the next cohort. Within selected NFLC, we also assessed the quality of instruction of learning facilitators (40 basic treatment and 40 full treatment).



> Instruments

- **Background information questionnaire:** Collects demographic information including gender, home literacy, SES and refugee and disability status.
- **EGRA:** Literacy skills were assessed using five subtasks that included timed letter name identification, timed non-word reading, oral reading fluency, listening comprehension and reading comprehension.
- **EGMA:** Numeracy skills were assessed using eight subtasks including timed number identification, discrimination, patter recognition, timed addition and subtraction level 1, addition and subtraction level 2 and word problems.
- **SEL:** Social-emotional learning was assessed using a battery of assessments that captured students' hostile attribution bias, emotion (anger and sadness) regulation/dysregulation, orientation toward conflict resolution (aggression, disengagement and problem solving), emotional attribution accuracy and depression.
- **Teacher Classroom observation (TCO):** The quality of instructional practices was assessed with an observation tool that captured the physical environment, time on task, use of teaching and learning materials, teaching methods, promotion of learners' participation and well-being and use of formative assessments.

> Analytic Strategy

RQ1: To examine whether the randomization succeeded in creating treatment and control groups with similar characteristics at baseline, we used multilevel regression that compared key baseline characteristics (background information and key outcomes of interest) between groups with different treatment status, which accounted for clustering at the NFLC level.

RQ2: To identify students' baseline performance, we estimated three different indicators for each outcome of interest: (a) proportion of zero score learners, (b) proportion of students meeting learning targets and (c) average scores.

RQ3: To identify baseline differences by subgroup, we used multi-level regression models that included covariates for gender, SES, disability, refugee status and region.

RQ4: To identify facilitators' baseline levels of performance, outcomes were analyzed with respect to (a) proportions of facilitators by instructional time use, (b) average score of each TCO subtask and (c) proportions of facilitators by performance proficiency level.

RESULTS

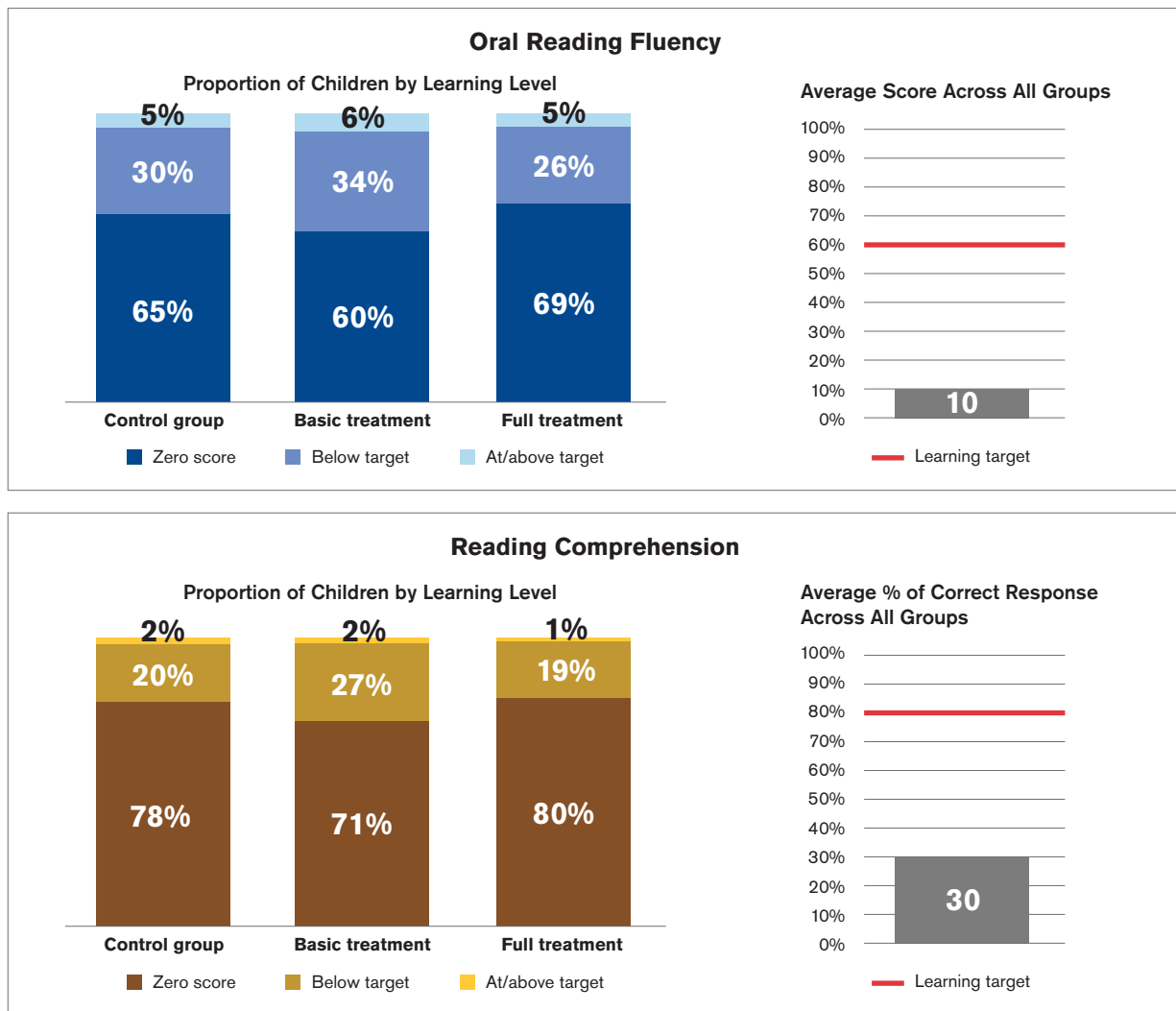
> RQ1: Balances in Baseline Characteristics

Randomization worked at the NFLC level, resulting in basic and full treatment groups that have the same characteristics at baseline. Within NFLC, randomization at the individual level was done inconsistently because some NFLC registered children on a “first come, first served” basis instead of using lotteries. This resulted in treatment and control groups that exhibit some differences in students’ background characteristics such as age, IDP status and home literacy environments, but differences do not consistently favour one group over the other. Furthermore, we did not observe differences between the treatment and control groups in average EGRA or EGMA scores, and only one difference in SEL outcomes, which suggests that students in the basic treatment have higher depression levels than students in the control group.

> RQ2: Baseline Levels of Academic and SEL Performance

- Literacy:** More than 50% of learners obtained zero scores across all EGRA subtasks. The proportions of students meeting learning targets were below 6% in all subtasks. Average scores were substantially lower than the learning targets set by the project. The average learner read 10 words per minute (50 words less than learning targets) and was only able to answer 10% reading comprehension questions correctly (70% less than learning targets). Figure 1 shows the group averages in oral reading fluency (top) and reading comprehension (bottom) and their deviations from target scores.

Figure 1. Comparison of oral reading fluency and reading comprehension averages against learning targets



▪ **Numeracy:** The proportions of zero score learners varied in different EGMA subtasks, with the highest levels observed among complex subtasks such as addition and subtraction level 2, where more than 50% of children obtained zero scores. The proportions of students meeting EGMA learning targets were as low as 24.5% in word problems, and lower than 1% in subtraction level 2. Across all groups, average EGMA scores were significantly

lower than the learning targets set by the project. On average, students answered 8 additions correctly per minute (12 less than expected) and 50% of word problems correctly (30% points less than expected). Figure 2 shows the group averages in addition and subtraction level 1 (left) and word problems (right) besides and their deviations from learning targets.

Figure 2. Comparison of timed addition, subtraction and word problems averages against learning targets



▪ **SEL:** About 20% of students exhibited high levels of hostile attribution bias, which can increase their risk of aggression. Overall, the great majority of children showed a stronger preference to use positive problem-solving conflict resolution strategies over disengagement or aggression, and a stronger preference toward disengagement than aggression. However, 5% of children were only able to suggest using aggressive strategies to solve conflicts. Finally, 5% of children in the sample are experiencing severe symptoms of depression. Figure 3 shows the proportions of children by different orientations toward inter-personal conflict.

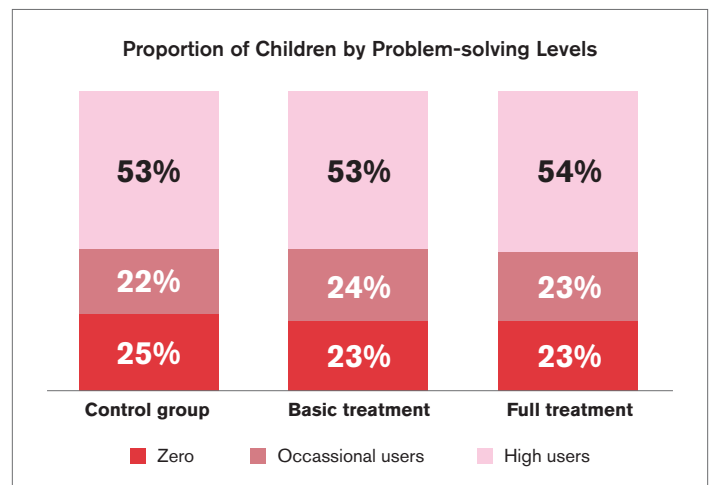
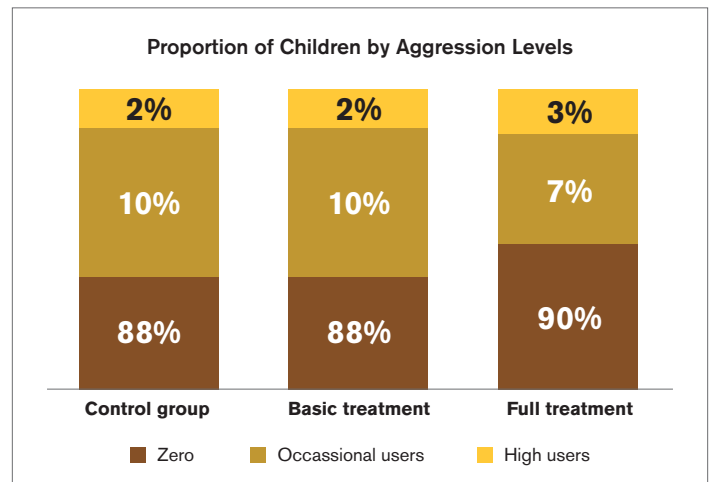
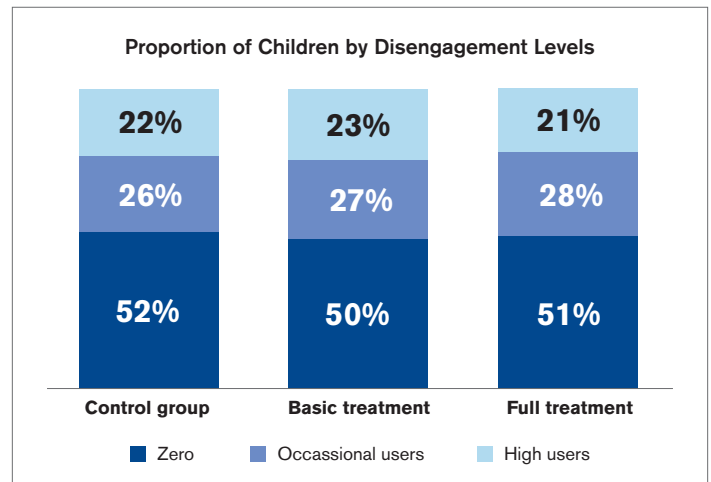
20% of students exhibited high levels of hostile attribution bias.



5% of children in the sample are experiencing severe symptoms of depression.



Figure 3. Proportions of children by orientation toward interpersonal conflict



> RQ3: Subgroup Analysis

We examined learning equity gaps in literacy, numeracy and SEL by gender, socio-economic status (SES), displacement status, disability and region. We conducted subgroup analysis to document equity gaps in EGRA, EGMA and SEL (See table 1):

- **Sex:** We did not observe any statistically significant differences in any academic or SEL outcome between girls and boys;
- **SES:** Compared to children from higher SES backgrounds, children from lower SES backgrounds showed lower scores in literacy and numeracy and lower ability to identify emotions accurately but lower levels of aggression.
- **Displacement status:** Compared to children from the host communities, internally displaced children showed lower numeracy skills and higher depression levels.
- **Disability:** Compared to able-bodied children, children with a physical disability showed significantly lower ability to identify accurately the emotions of others and higher levels of depression.

- **Region:** Children from Yobe showed significantly higher levels of hostile attribution bias and higher levels of aggression than children from Borno.

> RQ4: Learning Facilitators' Baseline Instructional Practices

Based on classroom observations conducted at baseline, we do not observe statistically significant differences in the physical environment of the classrooms, the time spent on academic activities or the instructional practices of learning facilitators in the basic and full treatment groups. On average, learning facilitators in both the basic and full treatment groups demonstrated emerging to good evidence of pedagogical proficiency. Notably, learning facilitators spent about 25% of instructional time on non-academic activities such as material distribution, inefficient classroom management or unscheduled interruptions. Figure 4 shows average instructional practices against performance target (left) and the proportions of learning facilitators according to the time they spend on academic learning (right) by treatment status.

Figure 4. Learning facilitators' performance averages and use of instructional time by treatment status

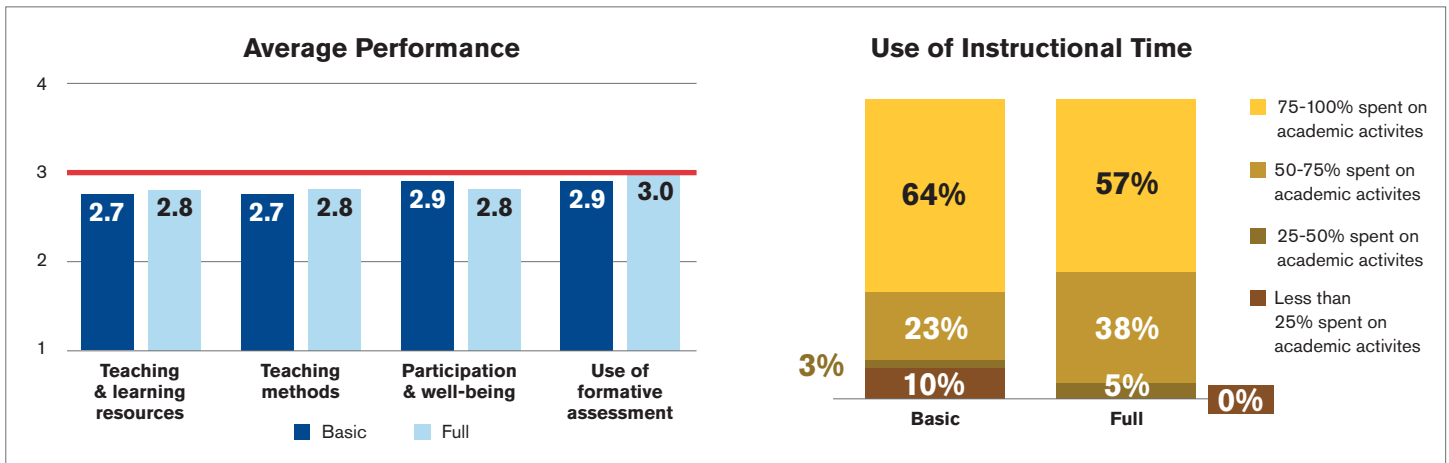


Table 1. Groups with greater disadvantage by learning outcome

Learning Outcomes	Sex		SES		Displacement		Disability		Region	
	Girl	Boy	Low	High	IDP	Host	Yes	No	Borno	Yobe
EGRA			✓							
			✓							
EGMA			✓		✓					
			✓		✓					
SEL										✓
				✓			✓			
							✓			
				✓						✓
						✓				



THREATS TO VALIDITY

A threat to the internal validity of the NFLC research include inconsistent randomization at the individual level. While students in the treatment and control groups exhibit similar learning outcomes, we observed some differences in their background characteristics that do not consistently favor one group over the other. To address this threat to our ability to make causal inferences, at endline we will use a difference-in-differences model that will help us account for any existing baseline differences. Another threat to internal validity is the potential for high attrition at endline, given the high mobility of our population. To address this threat, our sampling strategy anticipated for a 10% attrition rate. At endline, we will conduct extensive efforts to track down baseline participants.

With regard to the external validity, the findings of our study can only be generalized to OOS children between the ages 9-16 in Yobe and Borno.

SUMMARY OF KEY FINDINGS

- Randomization successfully achieved basic and full treatment groups that are similar in all background characteristics and outcomes of interest at baseline. We observe that students in different basic and full treatment groups have similar literacy, numeracy and SEL skills at baseline, and teachers in both groups exhibit similar levels of performance.
- Inconsistent randomization at the individual level resulted in treatment and control groups that exhibit some differences in background characteristics, which do not consistently favor one group over the other. While we do not observe differences in key learning outcomes it will be important to control for key background characteristics at endline.
- Overall, OOS children in the sample showed very low levels of academic performance, manifested in high proportions of zero scores in EGMA and EGRA, low proportions of learners meeting learning targets, and average scores that are significantly below learning targets. Additionally, we found that 20% of OOS children show high levels of hostile attribution bias, 5% can only think of using aggressive strategies to solve conflicts, and 5% report symptoms of severe depression.
- Children from lower SES backgrounds, with physical disabilities, internally displaced and living in Yobe exhibit greater disadvantages in various literacy, numeracy and SEL outcomes than their higher SES, able-bodied counterparts living as hosts members in the community, and in Borno.
- On average, classrooms had adequate physical environments. Similarly, on average, learning facilitators spent about 75% of instructional time on academic activities and demonstrated emerging to good evidence of pedagogical proficiency.

NEXT STEPS

Using upcoming waves of data from our experimental mixed-methods longitudinal study we will build evidence to understand what works, at what cost, for whom and under what conditions, to improve the learning and transition outcomes of OOS children in conflict-affected settings. In the next year, our DFID EiE project will:

- **Build the evidence about the Cost-Effectiveness of NFLC for OOS children in Nigeria**

ALP is used to promote access to education in an accelerated time-frame for disadvantaged groups, over-age children and youth who missed out or had their education interrupted due to poverty, marginalization, conflict and crisis. However, we lack systematic evidence about whether ALP programs work in EiE settings and at what cost. The present study will collect rigorous evidence about the cost-effectiveness of ALP on OOS children's education outcomes. In November 2018, we expect to have evidence of the projects' impact on academic and SEL outcomes. In May 2019 we expect to have evidence on the projects' impact on OOS children's transition outcomes, specifically, their ability to re-enroll in formal schools.

- **Build evidence about the cost-effectiveness of coaching on teachers' instructional practices**

In emergency contexts there is an urgent need for teachers who can provide children with quality learning opportunities but few qualified personnel and little information about cost-effective methods to build the human capacity needed to meet this great demand. The present study will build evidence about the cost-effectiveness of a basic model of professional development (face to face trainings and teaching learning circles) and a full model (basic + coaching) on learning facilitators' instructional practices and OOS children's education outcomes.

- **Understand the effects of the interventions on different types of OOS children, by gender, SES, IDP status, disability and region**

Evidence suggests that in emergency contexts girls, IDPs, the poorest, and students with disabilities are more vulnerable than their counterparts. After we documented baseline equity gaps, we will build evidence to understand the degree to which our NFLC are exacerbating or contributing to close existing gaps in Nigeria.

- **Build evidence about how interventions work**

The present study will use monitoring and evaluation data to examine whether the assumptions of the theory of change that guides all programmatic aspects of DFID EiE were met during the implementation and how differences in the quality of program delivery are associated with students' learning and transition outcomes.

- **Understand the variety of experiences of stakeholders**

To better understand OOS children's and learning facilitators experiences with the NFLC, we will conduct case studies and collect in-depth qualitative information in project sites where we observed low and high levels of baseline performance, as well as small and high levels of impact.

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