



3EA

EDUCATION IN EMERGENCIES
EVIDENCE FOR ACTION



2016 BASELINE RESEARCH BRIEF

Literacy and Numeracy Skills of Children in Diffa, Niger

BACKGROUND

In Sustainable Development Goal 4, global leaders committed to ensuring “inclusive and equitable quality education for all” by 2030.¹ Yet, progress towards this goal is challenged in crisis-affected contexts such as Niger and Nigeria, where continual conflict has created numerous barriers to children accessing quality learning opportunities. Since 2015, Boko Haram attacks have displaced approximately 302,000 adults and children from neighboring Nigeria and within the country to the Diffa Region in Niger.² The conflict has also exacerbated an already fragile education system in the region. To date, 151 primary schools in Diffa have been forced to close, resulting in more than 137,000 children being deprived of a formal education.³ In addition, many displaced children in Niger are reported to suffer conflict-related trauma.⁴ Given these compounding factors, we expect to see low learning outcomes for children in Niger—though we have a lack of empirical data to support this. Needs assessments are essential to elucidate whether

crisis-affected children who are in school in Niger are indeed acquiring literacy and numeracy skills to succeed in school and beyond. Providing empirical data on the foundational academic skills of crisis-affected children in overburdened public schools is a critical first step in identifying the necessary supports to help them achieve meaningful learning outcomes.

Education is a particularly important sector in the Diffa region as it is also a key protection tool, in a context where many children are at a heightened risk of being recruited by armed groups, in addition to already existing heightened risks of neglect, abuse, exploitation and violence.⁵

(UNHCR, 2017, p. 92)



PETER BIRO/IRC



PARTICIPANTS AND DATA

In 2016-2017, the International Rescue Committee (IRC) delivered *Healing Classrooms* remedial tutoring (HCT) to 1,800 refugee and displaced children in Niger public schools in the Diffa region.

The program's curriculum was designed to help children acquire foundational academic and social-emotional competencies necessary to succeed in school. New York University's Global TIES for Children (TIES/NYU) conducted an experimental evaluation of the program in order to provide the first rigorous evidence of whether and how nonformal, "complementary" education programs can support conflict-affected children's academic and social-emotional outcomes.

This brief uses baseline data collected as part of this project to present a picture of the literacy and numeracy performance of children age 5-16 in formal schools of Niger. Children in the sample include 847 boys and 946 girls (n = 1,794), aged between 5-16, who were eligible for HCT based on their literacy and numeracy screening assessment⁶ and randomly selected to participate in IRC's HCT. The children who participated in the baseline assessment in December 2016 were enrolled in 30 primary schools in the Diffa Region (18 in Diffa Center; 12 in Mainé Soroa).

EVALUATING CHILDREN'S LITERACY AND NUMERACY SKILLS

We used the following assessments to evaluate children's numeracy and French literacy skills:

1. Early Grade Reading Assessment (EGRA):⁷

Direct assessment of early literacy skills, including: receptive vocabulary, letter identification, grapheme identification, invented word reading oral reading fluency and reading comprehension. Of all participants, 1,565 children were assessed on the EGRA at baseline.

2. Early Grade Math Assessment (EGMA):⁸

Direct assessment of children's early grade numeracy skills, including: number identification, number discrimination, missing number, addition level 1, subtraction level 1 and word problems. Approximately half of the children (N=810) were randomly selected to be assessed using EGMA at baseline.

In analyzing the data, we documented: 1) average EGMA and EGRA scores by grade, and 2) the proportion of non-zero scores to zero scores per subtask obtained by learners.

RESULTS

Baseline Literacy Achievements

At baseline, we observed low levels of literacy performance, as reflected by a high percentage of zero score learners (see Figure 1), low average scores across grades 2 to 4 and minor differences in the reading achievement across different grades (see Figure 2). These were indicative of low progression of learning as children advance in school.

Specifically, we observed that approximately 33.8% of children could not identify any letter correctly and 59.1% were unable to read one single word correctly per minute. Among the 40.9% who could read, 85.5% did not comprehend the meaning of what they read.

The distribution of children suggested that the great majority of children were in need of additional support to learn foundational reading skills.

Children were facing numerous barriers to acquiring French literacy skills: they were coping with the consequences of adversities such as crisis, poverty and displacement; they were learning to read in a language other than the one they speak at home; and their teachers might not have a sufficient level of French to effectively carry out quality instruction that could support learning.

59.1% of children were unable to read correctly one single word per minute

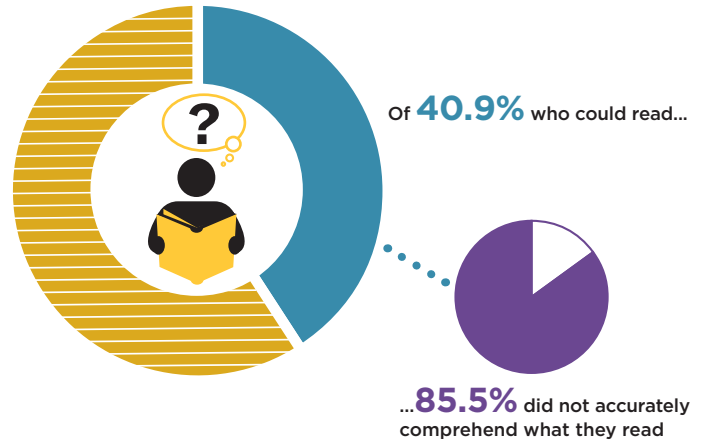
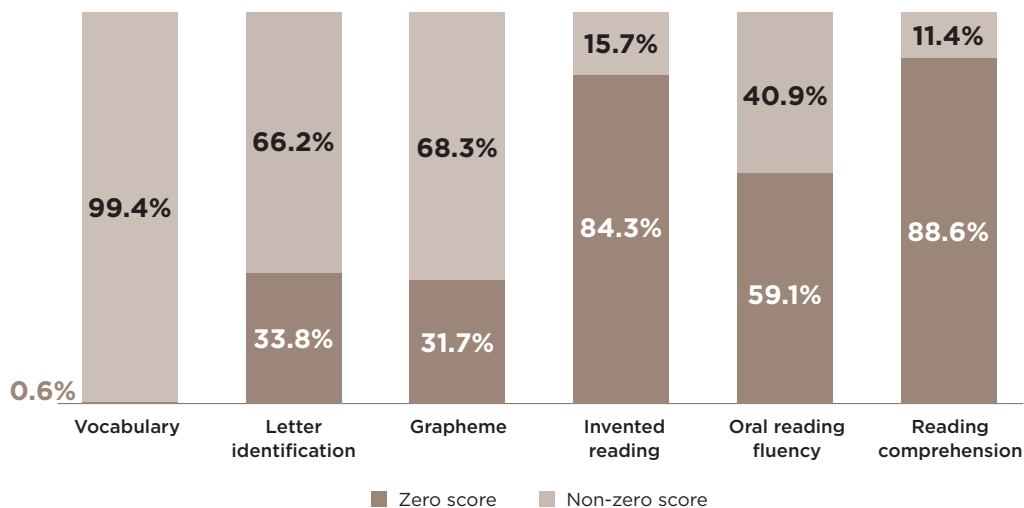
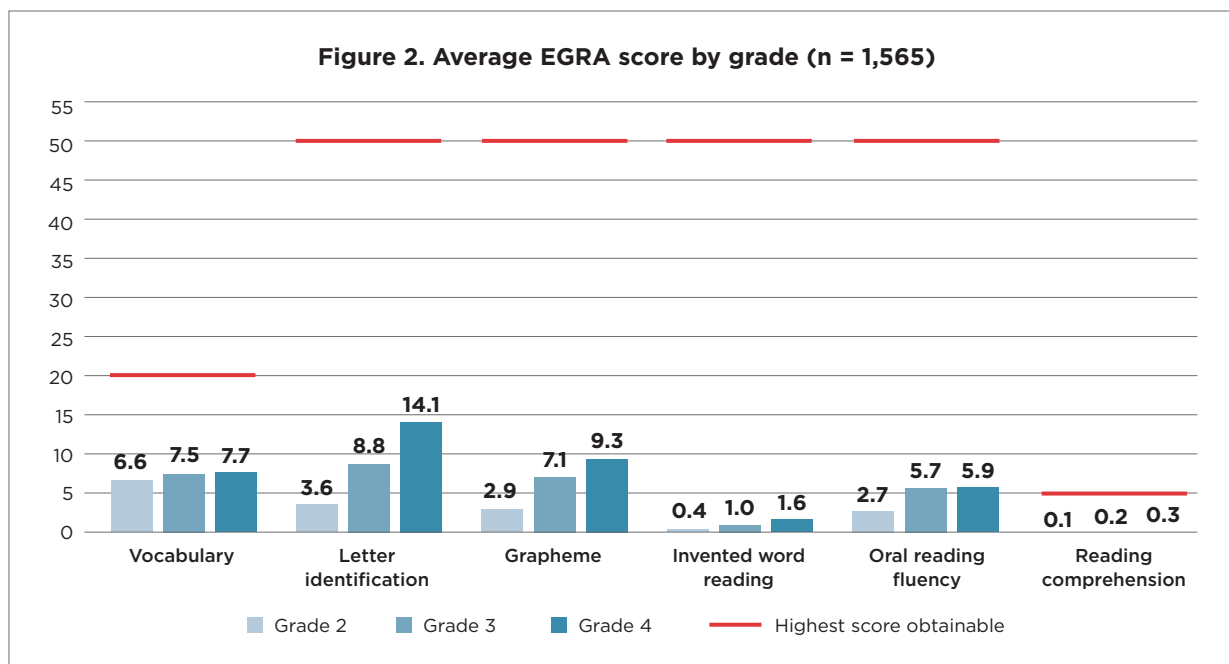


Figure 1. Proportion of children scoring zero in EGRA (n = 1,565)

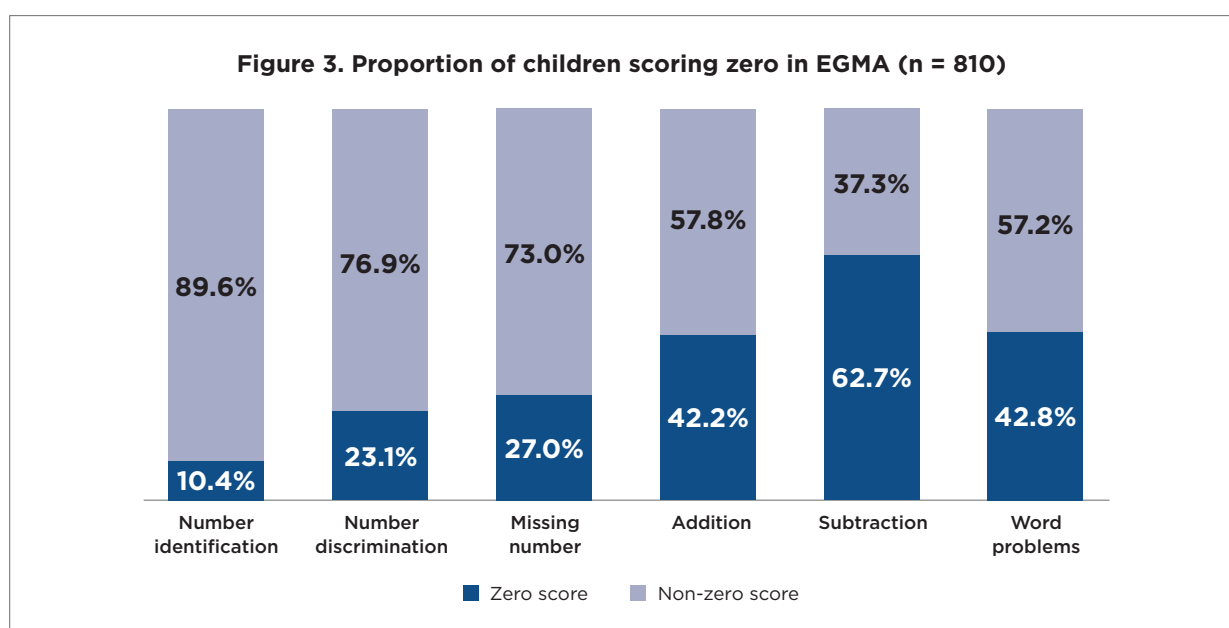


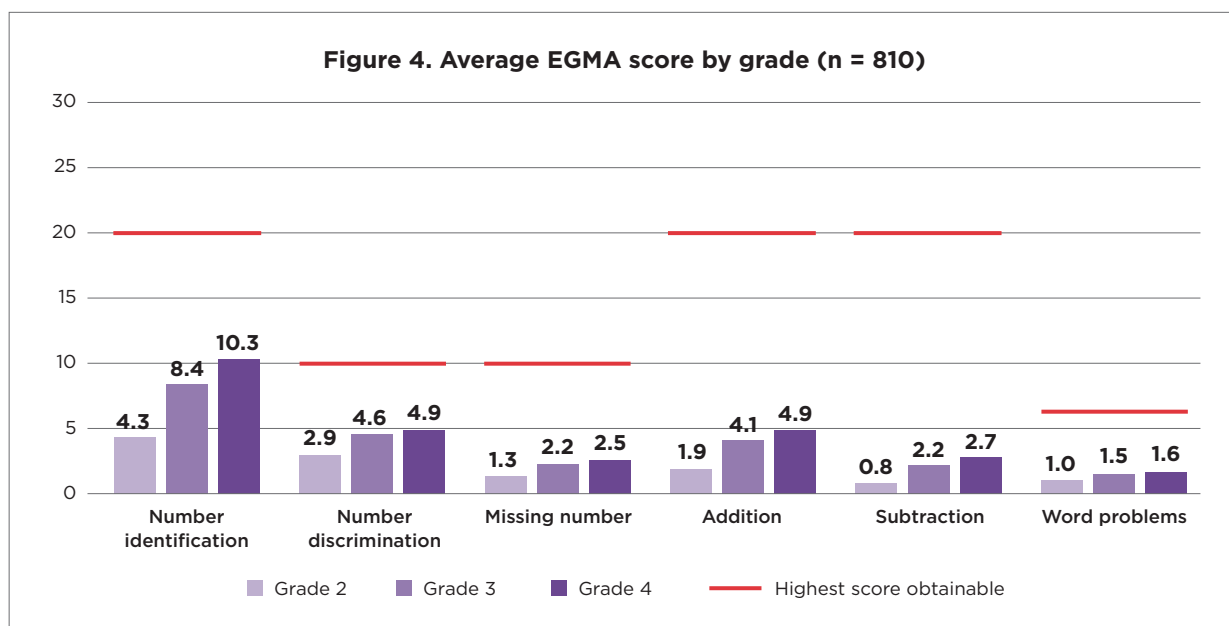


Baseline Numeracy Achievements

At baseline, we observed low levels of math achievement, as reflected by large percentages of children with zero scores (see Figure 3), low average numeracy scores across all EGMA subtasks, and small differences in the achievement levels of children of different grades (see Figure 4). Specifically, we observed that 10.4% of children could not identify number correctly, 23.1% were

unable to discriminate quantities and 27.0% did not know how to identify missing numbers. Fewer children were able to conduct operations. **In the sample, 42.2% of children could not conduct simple additions, 62.7% could not conduct simple subtractions and 42.8% could not solve word problems correctly.** Minor differences in the numeracy skills of children in different grades suggested continued low levels of learning as children advance in school.





SUBGROUP ANALYSIS BY GENDER, REFUGEE STATUS AND FOOD SECURITY

We conducted subgroup analysis by gender and displacement status to identify groups of children who might require further support to improve their literacy and numeracy skills. We found that girls, refugees and children with lower food security are performing slightly worse in a few reading and math sub-tasks, but the difference is minimal, signaling that all children are almost equally disadvantaged.

- **Gender:** At baseline, girls exhibited lower reading and math skills than boys in two EGRA/EGMA sub-tests. Compared to the average male, the average female student was able to identify three fewer letters and three fewer numbers correctly.
- **Refugee status:** At baseline, refugee children exhibited lower reading skills than Nigerien children from the host community. Compared to host community children, refugees identified fewer letters correctly than the host community. We did not observe any other differences in EGRA and EGMA subtasks.
- **Food security:** At baseline, children with lower food security exhibited lower oral reading fluency and lower ability to identify numbers correctly than children with higher food security.

Groups with greater disadvantage at baseline by EGRA and EGMA sub-tasks

Sub-tasks	Sex		Refugee status		Food security	
	Girl	Boy	Yes	No	Low	High
EGRA	Vocabulary					
	Letter recognition	✓	✓			
	Grapheme					
	Invented word reading					
	Oral reading fluency				✓	
	Reading comprehension					
EGMA	Number identification	✓			✓	
	Number discrimination					
	Missing number					
	Addition					
	Subtraction					
	Word problems					

SUMMARY

We found:

- Crisis-affected children in Nigerien public schools exhibit very low levels of literacy and numeracy skills, as reflected by low average EGRA and EGMA scores and high percentages of children who do not have foundational skills they need to read and conduct simple operations.
- Children are learning very little French literacy and numeracy skills as they advance in schools, as reflected by minor differences in the average scores of children of different grades.
- Girls, refugees and children with lower food security are performing slightly worse in reading and math, but the difference is significant in no more than one sub-task of EGRA or EGMA.

RECOMMENDATIONS

Policymakers and donors should direct resources and support to:

- Conduct continuous formative assessments to identify children who need additional support in acquiring foundation reading and math skills in a timely manner.
- Given that children who are in 2nd to 4th grades are not meeting expectations for their grade level in reading and math, invest in teacher professional development that promotes teaching at the children's learning level.
- Provide tutoring opportunities for children who are being left behind in reading and math, so they can receive the extra support they need to catch up with their peers.
- Establish national and regional reading and math standards against which to monitor progress.

For more information about this brief, please contact:

BASELINE RESEARCH BRIEF AUTHORS:

Silvia Diazgranados Ferrans

Senior Research Advisor, Education, IRC
silvia.diazgranadosferrans@rescue.org

Jeongmin Lee

Senior Research Coordinator, IRC
jeongmin.lee@rescue.org

RESEARCH PARTNERS

Ha Yeon Kim

Associate Director for Research,
Conflict-Affected Countries, TIES/NYU
hayeon@nyu.edu

Lindsay Brown

3EA Impact Director, TIES/NYU
lindsay.brown@nyu.edu

PROGRAM MANAGERS

Kiruba Murugaiah

Education Technical Advisor, IRC
kiruba.murugaiah@rescue.org

Erick Ngoga

Research Manager, IRC Niger
erick.ngoga@rescue.org

Idrissa Karimoune

Education Manager, IRC Niger
karimoune.idrissa@rescue.org

PRINCIPAL INVESTIGATORS

J. Lawrence Aber

Willner Family Professor of
Psychology and Public Policy and
University Professor, TIES/NYU
lawrence.aber@nyu.edu

Jeannie Annan

Senior Director, Research,
Evaluation and Learning, IRC
jeannie.annan@rescue.org

Special thanks:



Dubai Cares is a flagship partner of the 3EA initiative, a five-year program enabling global education actors to ensure that children in crisis-affected settings attend safe and predictable schools and gain the reading, math and social-emotional skills they need to thrive and succeed in school and life.



Research jointly supported by the ESRC and DFID

ENDNOTES

¹ UNESCO. (2015). Education 2030: Incheon declaration and framework for action. Paris: UNESCO.

² Statistiques de l'éducation de base, Annuaire 2013-2013. Ministère de l'Enseignement Primaire, de l'Alphabétisation et de la Promotion des Langues Nationales et de l'Education Civique, (December 2013).

³ OCHA (2017). Humanitarian Needs and Requirement Overview.

⁴ UNHCR. (2017). Nigeria regional refugee response plan.

⁵ Ibid.

⁶ Annual Status of Education Report (ASER) assessment was used for screening test and students scoring 2 or lower in both literacy (cannot read a full sentence) and numeracy (cannot solve simple subtraction problems) were eligible for tutoring. 90% of the 2nd to 4th graders in the participating school qualified for HCT based on these criteria.

⁷ RTI International. (2009a). Early Grade Reading Assessment toolkit. Prepared for the World Bank, Office of Human Development, under Contract No. 7141961. Research Triangle Park, North Carolina: RTI International.

⁸ RTI International. (2009b). Early Grade Mathematics Assessment toolkit. Prepared under the USAID Education Data for Decision Making project, Task Order No. EHC-E-02-04-00004-00. Research Triangle Park, North Carolina: RTI International.