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Where There Is No School: Radio and Mobile Technologies for Education in Crises and Post-Conflict Societies

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The Problem

Schools are one of the first institutional casualties of violent conflicts. This has been the obvious case with the Boko Haram insurgency. The violence has led to the destruction and suspension of many schools in North-east Nigeria, thus further disrupting the already precarious educational foundations of the region. According to Human Rights Watch, by early 2016, an estimated 952,029 school-age children had fled the violence. The children, the report notes, have little or no access to education, thus “blighting their future for years to come”¹. This is even more worrisome when

considered within the context of Boko Haram’s core mission of waging war against western education. Youths denied a chance to education provide a pool of recruits to Boko Haram and other terrorist organizations, thus creating a vicious loop of conflict not only in Nigeria but also in the entire Lake Chad Basin.

In its December 2016 Humanitarian Dashboard for Nigeria, the UN Office for the Coordination of Humanitarian Affairs (OCHA), confirmed that one million children affected by the insurgency are in urgent need of education². It will be almost impossible to train the teachers required and rebuild the schools even in the next two years, to cater for this urgent educational need.

¹ Human Rights Watch, “They set the classroom on fire”, 11 April 2016. <https://www.hrw.org/report/2016/04/11/they-setclassrooms-fire/attacks-education-northeast-nigeria>. Date accessed: January 27, 2017

² OCHA Nigeria Humanitarian Dashboard 28 December 2016. <https://www.humanitarianresponse.info/en/operations/nigeria/info-graphic/nigeria-humanitarian-dashboard-28th-december-2016>. Date accessed: February 7, 2017

February 2017

Although the insurgency has abated, most of the schools have not returned to normal operations. Even when they do, it will take several years for the children of the region to catch up with their peers in other parts of the country, having been left behind through most of the three years of the insurgency. A more deliberate intervention with an exponential reach is therefore required.

USAID-AUN's Technology Enhanced Learning for All (TELA) Intervention

From August 2015 to December 2016, USAID and the American University of Nigeria (AUN) collaborated to implement the TELA project in Adamawa State, Northeast Nigeria. The purpose of the project was to use radio and mobile technologies to increase the literacy and numeracy skills of vulnerable and Out of School Children (OSCs). The project targeted and reached 22,000 children in this category.



For literacy, the lessons followed a basic pedagogy aimed at improving scores on core Early Grade Reading Assessment (EGRA) subtasks including letter identification, letter sound identification, decoding of sounds, oral reading fluency and reading comprehension. The Numeracy pedagogy aimed at improving the core Early Grade Mathematics Assessment (EGMA) subtasks of number identification, counting, number discrimination, addition and subtraction level 1, and addition and subtraction level 2. Lessons were closely coordinated with synchronized workbooks distributed to each beneficiary to follow each episode as it was being broadcast on radio. Using the Adamawa Peace Initiative (a network of religious and business leaders in Adamawa state), 750 facilitators were selected and trained to each

operate a radio listening center at designated temporary learning spaces. Each center has between 30 and 40 vulnerable and OSCs selected from the local community.

Radio Program Structure

Instead of the usual Interactive Radio Instruction (IRI) format used in projects of this nature, AUN designed a new Transactional Radio Instruction (TRI) program. The lessons were designed as a radio-drama series, accompanied by easy-to-memorize songs in the local Hausa language, interspersed with English language. The Numeracy program, named *Mallam Nuhu Ya Je Makaranta* (Mr. Nuhu Goes to School), is a flashback, where *Kaka*, an intrepid grandma, tells her grandchildren the story of a rather awkward uncle, Mallam Nuhu, who decides to go to school at age 60, after being cheated in business. At school, Mallam Nuhu is confronted with different problems daily - from missing his many kola nuts to mixing up house numbers. He brings these problems to the classroom where *Mallama*, the ever-patient class teacher works with the children to resolve them. The lessons are located within the gaps in Mallam Nuhu's understanding of basic numeracy.

The English Literacy program, named *Mallama Rasheeda da Abokai* (Ms Rasheeda and her Friends) is a story of a group of care-free children as they have fun while learning letter sounds and words in the outdoors. Lessons emerge from the sights and sounds in their environment as they visit the zoo, the market, and various other places where they learn to blend sounds to form decodable words. Each episode in both programs typically has 30 minutes of actual instruction and 15 minutes of musical interludes that provide a fun space for activities on synchronized workbooks.

Principles of TRI

One of the main challenges in developing radio instruction for children at informal learning spaces is how to challenge them to imagine, engage and learn. The TRI approach anchored principally on constructivist approaches to learning. TRI takes learning as a social process and thus seeks to forge a more delicate connection between cognitive development activities and the lived experiences of learners. Synchronized workbook activities help to get children engaged in learning while the radio stories and songs excite their

February 2017

imagination. Drawn from a series of formative researches, TRI aims not only at teaching literacy and numeracy but also at transforming behaviors and creating a love for learning. The programs seek to create a transaction between concepts taught and the learner's lived experience. TRI is made up of four core components (or 4Sc):

1. Sound Pedagogy
2. Stories
3. Songs
4. Synchronized Workbooks

Project Methodology

The TELA program was developed and implemented as a proof of concept, to show the impact of a blend of technologies on learning. Listeners were divided into three constellations or groups. In Constellation 1, listeners were exposed only to the radio programs; in Constellation 2, listeners were exposed to an extra lesson on tablet computers (or mobile classroom) once a month in addition to the radio lessons; in Constellation 3, listeners were exposed to extra lessons on tablet computers twice a month in addition to the radio lessons. Before the children were exposed to the programs, we conducted baseline standardized EGRA and EGMA tests to ascertain their literacy and numeracy competences respectively. After six months of exposure, we conducted endline tests on the same sample using EGRA and EGMA. We averaged the improvement rates of the respective subtasks to have the overall improvement of participants across the three constellations.

Impacts and Findings

After six months of treatment or exposure to the programs, we observed an average improvement of 99.1% in EGRA (literacy) scores and an average improvement of 97.2% in EGMA (numeracy) scores. Four very important findings emerged from the project:

1) *Beneficiaries exposed to a combination of mobile classroom visits and the TRI radio programs outperformed those exposed only to the radio programs by an average of 25%.*

While the radio programs on their own were very impactful, a monthly mobile classroom visit made a significant difference. See table 1.

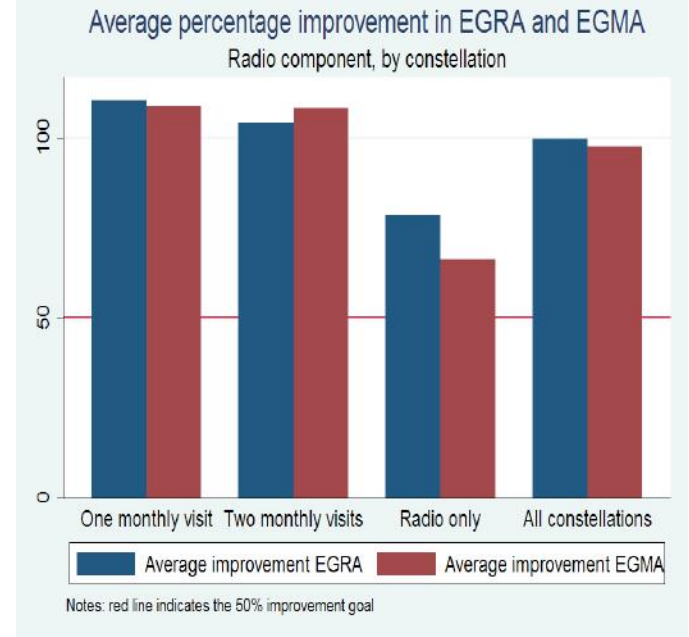


Table 1: Average Percentage Improvement in EGRA and EGMA

2) *The lower the baseline score, the higher the improvement rate across outcome measures.*

The programs were most successful in supporting the weakest learners. See table 2.

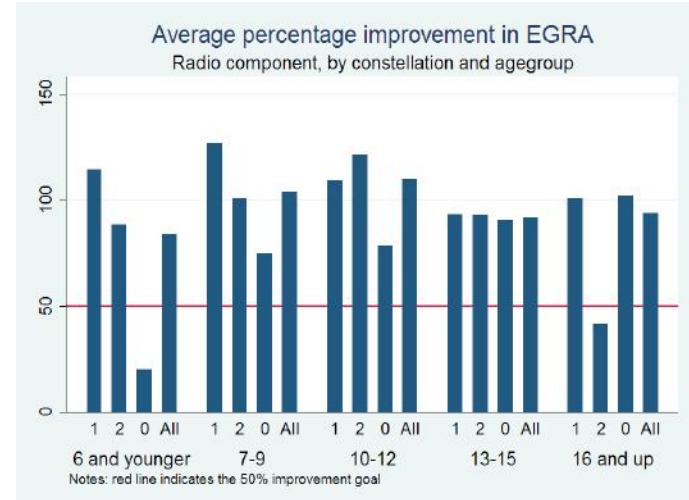


Table 2: Average Percentage Improvement in EGRA by Age Group

Learners aged 10 to 12 benefitted most from the literacy program, followed by those aged 7 to 9 and then those 13 and above. In the case of Numeracy, the younger ones improved on average by 145%. See tables 2 and 3.

February 2017

‘Mallam Nuhu’ character, the teacher was the favourite character. See table 5.

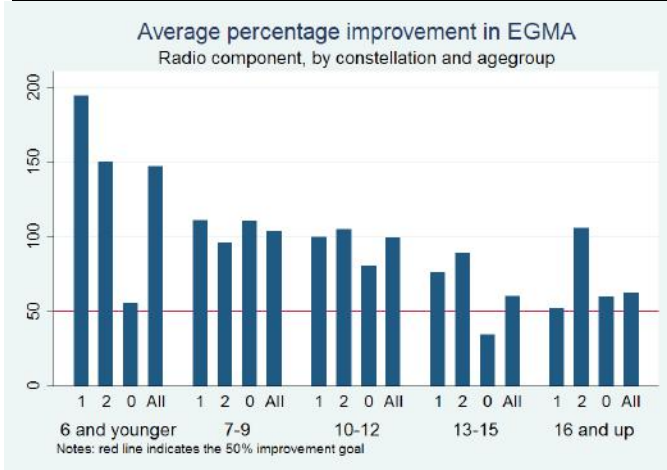


Table 3: Average Percentage Improvement in EGMA by Age Group

3) In both literacy and numeracy tests, girls improved significantly more than boys - the difference being 20% and 25% respectively. See table 4.

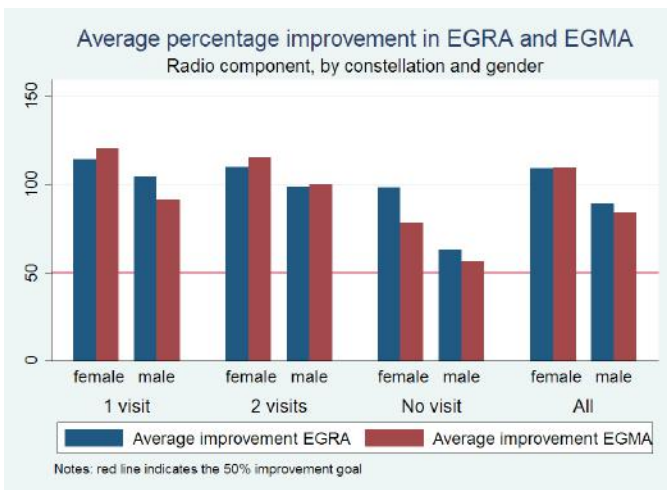


Table 4: Average Percentage Improvement in EGRA and EGMA by Constellation and Gender

4) Mallam Nuhu in the numeracy radio program was by far the favorite character amongst the children, even more popular than the teacher.

Due to the difficulties most children have with mathematics in our local context, this is a very important finding. The children connected deeply with Mallam Nuhu and learned by helping him to solve his numeracy problems. In the literacy program where there was no

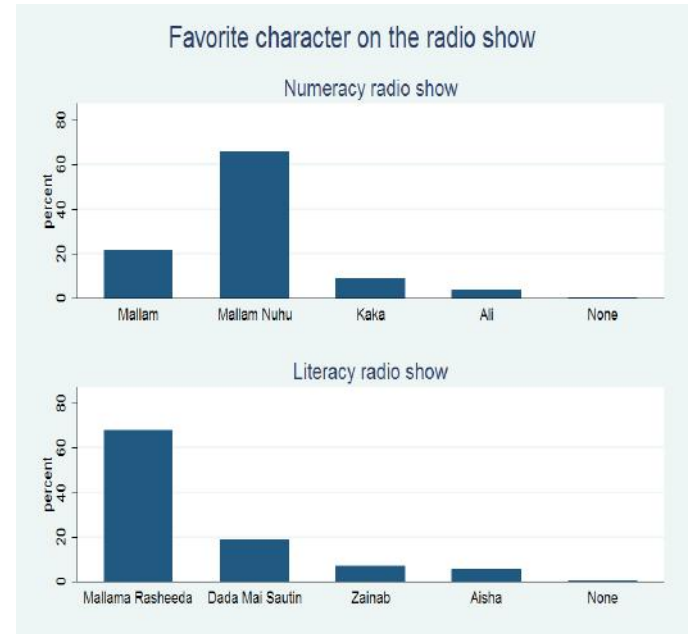


Table 5: Favorite Character on the Radio Show

Policy Implications

Three major policy implications emerge from this project. Firstly, radio and mobile technologies can provide a swift response to the educational crises in northeast Nigeria and in post-conflict societies in general. The nature of instructional radio has a direct consequence on learning outcomes. In producing instructional radio contents for OSCs, a core objective should be to increase the love for learning, particularly in societies where there are no schools. It is a love for learning and curiosity that will bring children consistently to the non-formal learning spaces. Secondly, in addition to creating a shared space for learning within a fun atmosphere, TRI is particularly beneficial for girls. This will be especially useful in societies where there are cultural walls that stop girls from going to school. Finally, humanitarian response strategy for northeast Nigeria should have a mass education intervention plan at its very center. TRIs+mobile classrooms can provide the urgent education intervention needed for the one million children whose education has been disrupted by the insurgency.