

Ghana Reads

Using technology to deliver quality English language resources to teachers and students

The Ghana Reads programme helps address the need for universal literacy for all Ghanaian children by creating access to quality teaching and learning materials through low-cost technologies. By using Android tablet computers, the Raspberry Pi server, and quality resources found in the Basic eLearning Library (BeLL), students are supported by teachers and peers to strengthen their literacy skills.

Funded by the All Children Reading partnership of the United States Agency for International Development, World Vision and the Australian Department of Foreign Affairs and Trade, Ghana Reads began implementation in September, 2012. This pilot programme of the Open Learning Exchange Ghana was incorporated into the curriculum of 20 schools across five districts in two regions of Ghana.

How does Ghana Reads work?

Ghana Reads is integrated into each school's curriculum through their weekly teaching and learning activities. Pupils use the Ghana Reads equipment provided during designated silent hours or reading hours, as well as during their English language study periods. Teachers are required to compile stories or prepare their English language lesson notes using a Learning Management System (LMS) on the BeLL which allows them to select appropriate content for each week.

Each school is given:

- 35 7" Android tablets
- One Raspberry Pi server containing the BeLL learning management system
- One power stabiliser
- One multi-purpose digital camera
- One projector
- One printer
- 35 audio head sets
- Wi-Fi connecting the local Raspberry Pi server to students using Android tablet computers

Every school nominates one teacher as a lead who performs minor administrative duties and rallies their colleagues to carry out the project. There is a one-week training programme for head masters, leads and other teachers, followed by on-site, intensive coaching in pedagogy and the use of technology to teach and learn.



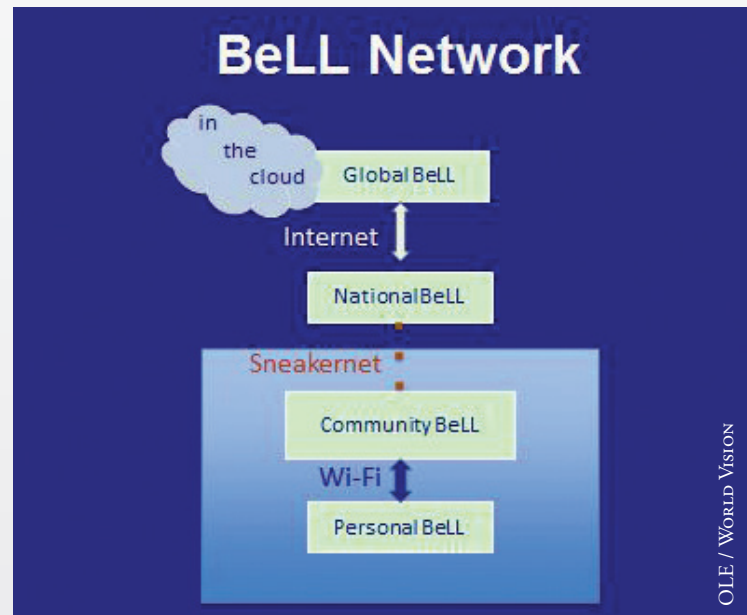
A teacher trained in Ghana Reads instructs her students during an English language lesson.

The results

Published in November, 2014, the Ghana Reads endline evaluation reflects the success of the programme to-date in meeting its objective of improving students' general English language reading performances. Using the Early Grade Reading Assessment (EGRA), the evaluation found a 98 per cent (n=88) MD improvement in overall performance between midterm and endline phases.

The evaluation also found:

- A significant improvement in students' vocabulary scores.
- Pupils improved significantly in letter sound reproduction – from scoring zero (no ability to reproduce letter sounds) in baseline tests, to scoring 43 per cent on endline tests.
- A nearly 25 per cent improvement in familiar word reading was seen from baseline to endline scores in Ghana Reads intervention schools. Conversely, low average improvement was observed from baseline to endline in the control group, with an average increase of only 0.56 percentage points.



The core technology is based on Android tablet computers utilised by students, connected by Wi-Fi to the BeLL LMS, which controls the delivery of lessons to the tablets, tracks progress and gathers testing data for easy viewing by local teachers – all running on a low-cost Raspberry Pi server. The entire system operates on battery power in the absence of Internet, gathering test results through sneakernet and rolling them up to a cloud-based dashboard for worldwide viewing.

Recommendations

- 1 Contrary to findings that the gender variable was not significant during the midterm evaluation, the endline phase recorded a significant disparity in favour of girls. Even though there is evidence to suggest that boys are more likely to engage in abstract thought than girls, teachers must encourage boys to pay more attention to reading.
- 2 Early grade teachers in the Ghanaian education system could adopt vocabulary building, letter sound reproduction, familiar and unfamiliar words reading, oral reading and reading comprehension activities to help pupils significantly improve their reading skills.
- 3 The importance of unfamiliar word reading in the early grades notwithstanding, familiar word reading and comprehension activities are of equal importance if substantial improvement in teaching reading at the early grade level is to be achieved.

Next steps

World Vision is now engaged with Open Learning Exchange in scaling the Ghana Reads methodology into additional primary schools in rural Ghana. World Vision is also sharing this methodology with other countries, given its positive impact on learning outcomes and operability in communities with low infrastructure.

For more information about Ghana Reads, please email World Vision International Education and Life Skills: EdLS@wvi.org

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