One Laptop Per Child Zambian Language Literacy Progamming

Lubuto Library Project

Lusaka, Zambia

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Student using an OLPC laptop for the Lubuto Library Project's literacy programme.

SUMMARY

INNOVATIVE IDEA

Using technology to develop programmes (exercises) to teach children literacy in mother tongue.

THE PROJECT

Children learn to read most effectively in their mother tongue, and reading skills can be transferred to English and other languages after children get a good start in their original language. Lubuto Library Project is developing programmes (exercises) on computer to teach Zambian children literacy in mother tongue. The programmes are being developed by teachers and students, using OLPC computers and the Open Source software Etoys.

KEY ACHIEVEMENTS

Teaming up young people and reading teachers to develop the early literacy programmes which are now being assessed and tested with children who are learning to read.

Left to right: Reading teachers Miriam Banda, Nchimunya Musole and Betty Chocha work on the OLPC XO-1.5 laptops each Saturday creating Etoys reading programmes.

CASE STUDY – ONE LAPTOP PER CHILD ZAMBIAN LANGUAGE LITERACY PROGRAMMING

INTRODUCTION

Zambia is one of the world's poorest countries with high and growing numbers of orphans and vulnerable children (OVC) who cannot attend school, resulting in high illiteracy rates. Primary school fees were eliminated in 2002, but significant barriers to education and literacy remain for OVC. Libraries can provide space for reading aloud and exposing children to literature. Reading aloud is essential for developing vocabulary and language structures, conceptual understandings and appreciation of themes. Reading aloud, however, is not an effective way for children to develop reading skills (phonemic awareness, print-sound code in Zambian languages, word recognition) that need formal teaching methods.

While African library development and even book donation programmes are often considered 'literacy' programmes, simply making books available does not result in literacy. Children must be taught to read. Research in Zambia and other African settings has established the importance of initial literacy acquisition in a child's mother tongue. [An overview of the research can be found in the 2004 background paper for UNESCO's Education for All Global Monitoring Report, 'Language of Instruction and the Quality of Basic Education in Zambia.']

Put simply, children learn to read most effectively in their mother tongue, and reading skills can be transferred to English and other languages with success after children get a good start in their original language. Zambia changed its education policy based on this understanding and created a reading curriculum in Zambia's seven major languages. But the growing percentage of Zambia's population that is young, the high cost of printing and publishing the curriculum books and readers, and a lack of trained teachers and accessible schools has resulted in mother-tongue reading instruction remaining out of reach for a large percentage of Zambian children.

PROJECT DESCRIPTION

Lubuto libraries reach out-of-school children and help them toward reading through read-aloud and storytelling programmes, but tools for teaching reading in Zambian languages are not available. Youth who have been using the One Laptop Per Child XO laptops in Lubuto libraries, along with experienced Zambian reading teachers, were trained in the OLPC application Etoys and have created early reading programmes in Zambian languages. The programmes, in the form of exercises for children, will be made available on laptops in Lubuto libraries and via the Lubuto Library Project website (www.lubuto.org) to inspire creation of similar programmes in other African countries and languages.

IMPLEMENTATION – CHALLENGES AND SUCCESSES

Teamwork

The original plan for the project assumed that we would need six programme designers, three youth who regularly use the library, and three teachers. Using teachers as designers proved to be immensely challenging, as the Zambian reading teachers involved

had minimal computer skills and no prior experience working with the OLPCs. The youth selected to work on the project were frequent Lubuto Library users, and some of them helped to run the daily OLPC programme offered at the library. These youth were intimately familiar with the laptops and quickly adapted to using the Etoys application with ease.

Combining the students' technical skills with the expertise of the teachers in teaching reading, the project formed student/teacher teams to create programmes. Soon the teams were producing programmes and translating the government reading curriculum into reading lessons for learning on computer.

Using youth talent

Because the programmes are meant to be used as teaching tools for pre-literate children, it was important to make them appealing and attractive to children. Adding interesting graphics to the lessons would make them more engaging and effective. One of our technical advisors recommended using generic computer graphics from the Internet. However, the Lubuto Library Project emphasizes culturally-appropriate approaches in all of its programmes and wanted images used in this project to reflect the world of the children who would use the programmes. We

> *'It's a good project; it encourages children to read in their local languages…It enables them to express themselves. I think if more NGOs came up to do the same to teach reading in local languages it would be good.'*
>
> - *Zambian* reading teacher and project designer.

therefore turned to more of the library's talented youth to create original computer graphics. Lubuto*Arts* participants worked closely with project design teams to create all of the art used in the programmes.

Overcoming technical hurdles

One of the project's greatest challenges was overcoming great technical hurdles. Though Lubuto's youth were already familiar with the OLPC XO laptops, neither the youth nor the teachers had ever used Etoys. The project planned on involving a consultant in the United States with extensive Etoys experience to provide assistance and training with the application. However, because we needed understanding of the local context, we relied heavily on the assistance of a local programming consultant, who provided extensive training to the design teams, until they felt comfortable creating programmes on their own.

In addition, we had to overcome problems such as broken microphones and frozen laptops. The project's technical consultant was indispensable when it came to issues such as these, providing trans-continental assistance on numerous occasions. He also developed the Bemba letter alphabet board, which is lesson number one when children begin using the programmes to learn to read.

STRATEGIES, TACTICS AND TOOLS

Drawing on participants' expertise and strengths

Throughout the implementation of the OLPC Zambian Language Literacy Programming Project there have been many successes and challenges. We have undergone significant technical difficulties with the OLPC laptops as well as adjusting to a learning curve with

our chosen application, Etoys. The key to overcoming these obstacles has been utilizing the strengths of the people working on this project, whether they are students, teachers, or outside consultants.

Building teams and using networks

The two very dedicated Zambian reading teachers creating and designing these programmes have worked tirelessly and passionately. Though hesitant to use the computers at first, pairing them with the young programmers helped them to gain confidence. The teachers come each week with prepared lesson plans and then work with the youth to implement them. These teachers have extensive experience teaching children to read and developed a step-by-step plan (beginning with the alphabet moving towards sentence/story creation), based on the government's published reading curriculum, for determining the order in which programmes should be created. The programme evaluator, an experienced evaluator at the government's Curriculum Development Centre, was consistently impressed with programme content, exclaiming, 'Wow, these are great!'

In addition to experience, the teachers also brought with them outstanding connections. They were able to find other passionate teachers willing to serve as project translators in Bemba, Lunda-Ndembu, Luvale, Kiikaonde, Lozi, and Tonga. Not only did these teachers translate programmes, but they provided their own input on how to improve the original Nyanja programmes. It was a group effort and the exchanges were always productive and meaningful.

KEY BENEFITS AND SUCCESS STORIES

Benefits for the youth

Through their work on the project, the youth on the design teams were able to earn money to pay for school fees. They gained a tremendous sense of confidence in helping teachers, were able to return to school and learnt local language literacy skills.

> *'I like the way we're writing the project with the teachers. It's good to work with the teachers because they're helping me. And I like helping the teachers – I help them how to operate the laptop and how to use Etoys. I've learned how to read Nyanja and Bemba. Thanks…to help me go to school.'*
>
> *– Youth member of the design team.*

Lubuto*Arts* youth gained important skills as well. This type of work was a new medium for them, and it has been astounding to watch their progress as amateur graphic designers.

> *'Before the programme, I was just sitting. When I started the programme, I came across jobs that I'm thinking of doing in the future. I've learnt much.'*
>
> *– Young artist.*

These youth were also paid for their work, so that they could return to school.

Benefits for the teachers

The teachers stretched themselves by putting their skills as reading instructors to use on a new platform and gained valuable computer skills.

> *'I was computer illiterate! But now I know…and the children are very helpful and very sociable.'*
> *– Teacher.*

IMPACT ASSESSMENT

We are currently conducting impact assessment and testing the programmes with children who are learning to read. The success of the programmes will depend on the children's progress in learning to read. We will use standard classroom assessment methods used by community school teachers.

LESSONS LEARNED

More time for technical issues and training

The OLPC laptops used in the programme are popular fixtures in all Lubuto libraries and children find them easy to use. However, more time could have been spent at the start of project implementation to overcome various technical hurdles, especially working to incorporate sound, a fundamental component in teaching children to read.

Passion for the project

Key to the project's success were the people involved. By engaging passionate reading teachers and children already touched by the library's programmes, we enabled them to create something that is beneficial not only to the most vulnerable children in their country, but potentially, to other countries where many local languages are also spoken.