

**For immediate release**

**CONTACT:** Jackie Lewis  
EDC Communications  
Edc.rwanda@gmail.com  
0784187997

**Program to enhance mathematical thinking for 90 primary schools**

An innovative numeracy program informed by the latest research in children's learning development will benefit P1 and P2 at 90 schools starting this month. The Rwanda Education Board (REB) and the USAID-funded Literacy, Language, and Learning (L3) Initiative developed the program.

"Rather than simply learning to apply rules and perform mathematical tasks, children need to think mathematically to solve everyday life problems," says Anathalie Nyirandagijimana, a curriculum developer in charge of pedagogical norms at REB. "This includes relying on their own knowledge and logic to solve problems, reasoning abstractly, and explaining and justifying the process they used to solve problems. Rwandan children need these skills in order to compete in the regional and international economy."

The program is designed to build these skills. A comprehensive teacher's guide suggests various activities to enhance the current curriculum, and Interactive Audio Instruction (IAI) programs guide teachers and students through engaging lessons employing games, chants, songs, and poems.

According to Agnes Mukagatete, L3 math materials developer, the program aims to develop, among other things, students' mental math skills. In one P1 activity, students call out the number that is one more than the number of fingers their teacher is holding up. "When children are able to do such simple calculations quickly in their heads, they can more efficiently deal with more complex equations," Mukagatete says.

The program also uses open-ended word problems and physical representations of mathematical concepts to develop problem-solving skills. Rather than asking one specific question, word problems require children to think more analytically about the information they encounter.

One such problem says "Muhire has 1 pencil. Shema has 3. What can you say?" This problem has many correct answers. Students may report that Muhire has fewer pencils than Shema, that Shema has two more pencils than Muhire, that if Shema gives 1 pencil to Muhire, they will have the same number of pencils, and so on.

"This open-ended problem is a better model of the thinking needed to solve the problems we encounter in real life," says Dr. Paul Goldenberg, L3 senior math specialist.

"When you're running a business, or doing anything else, you get information, but no one tells you the questions you need to answer or what you need to do. That's why students must develop

a disposition to tackle problems with only the knowledge they have—or can find on their own—and without a pre-learned solution method."

Physical representations have the same aim. Number lines, for instance, can help students visualize and understand fractions. Such visual aids allow children to figure problems out for themselves, even if they have forgotten or do not know the rule.

In addition to this numeracy program, schools will receive a comprehensive literacy support package for English and Kinyarwanda. REB and L3 will train teachers on the use of these materials and the instructional techniques they support. By 2016, primary grades 1 to 4 in all public schools across the country will benefit from these programs.

Funded by USAID, the L3 program is implemented by Education Development Center with assistance from Voluntary Services Overseas (VSO), Concern Worldwide, International Education Exchange, and the Peace Corps.

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