

## RESEARCH BRIEF

### READING CODE: Assessing a Comprehensive Readership Initiative in Tanzania

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#### ABSTRACT AND OVERVIEW

The effectiveness of a literacy intervention using teacher training, book provision, and library support for primary schools in central Tanzania was measured. After a four-year project that showed 350 teachers to promote contextualized word study, fluency, comprehension, and writing — supported by locally written and engaging trade books — children in project schools showed substantially superior performance on every measure compared to a demographically-matched comparison group of children.

**Reading CODE**, a comprehensive readership initiative offered by CODE, works with local partners in Africa to provide culturally-relevant and engaging books that young people will want to read; supports libraries to distribute and care for books; and shares methods of instruction to help teachers engage children meaningfully with books to build their fluency and comprehension—especially their higher order comprehension and critical thinking. The goal of *Reading CODE* is not simply to teach reading skills, but to create thoughtful, life-long readers. As it turns out, *Reading CODE* programs do a superior job of teaching basic reading skills, too.

*Reading CODE* programs are active in Ethiopia, Ghana, Mali, Tanzania, Kenya, Mozambique, Liberia and Sierra Leone. Each program promotes certain core approaches to reading and writing, though these may vary from country to country depending on local priorities and traditions.



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CODE's partner in Tanzania, the **Children's Book Project (CBP)**, was founded 25 years ago, and in those years CBP has made possible the publishing of 350 titles of books for children and youth, largely in Kiswahili, in millions of copies. Most of the dozen Tanzanian publishers of books for children are quick to credit CBP and CODE for their survival and even their existence. CBP added teacher training to its repertoire of services, after finding that providing books to teachers was not enough: teachers needed to know how to teach with the books.

Between 2012 and 2016 CODE and CBP, with funding from the Canadian government and CODE, initiated the **Reading Tanzania Project** for 75 of the 105 primary schools in the Kongwa District of the Dodoma Region in central Tanzania to combine these approaches. The aim was to share *Reading Tanzania* books in adequate numbers with schools, support school and classroom libraries, and share methods with teachers for teaching children to read and write, using the books.

## PROGRAM PREMISE

Quality education requires quality learning materials coupled with quality instruction. A quality book program includes:

- local authors, local illustrators, local issues
- gender-balance
- content that is relevant and worth thinking about
- design to support pedagogy for fluency and comprehension
- considerate of children's actual reading levels
- high standards of production

## PROGRAM ACTIVITIES

Book Production Textbooks can teach skills, but children need engaging, relevant, and varied reading materials that will develop the habit of reading, and grow their language capacity and knowledge of the world even as they inspire their imagination and curiosity. To achieve this there is a need for books that are created by local writers and artists -- books that allow children to recognize themselves and



their surroundings and feel at home with the practice of reading. And for this supply to be sustained, local publishers must be part of the book chain. Good books are relevant -- relevant to the child's reality, reflecting the child's own environment. They need to be designed on sound pedagogical principles, taking into account reading levels, vocabulary and language and they need to be integrated into an instructional strategy wherein the teacher or librarian has the skills to get the most out of them.

The Children's Book Project is not itself a publisher, but sets out specifications for illustrated books in Kiswahili that are needed for children at each grade level, and private publishers compete to supply the books, motivated by the carrot of a guaranteed purchase for successful manuscripts. CBP additionally conducts professional development workshops, often using international volunteer experts, to update the skills of local publishers, editors, writers, and illustrators.

For *Reading Tanzania*, CBP supported production of 30 new titles, including concept books for emergent readers, patterned books for learners, story books, and informational books. A highlight of the publishing initiative was two books in Kiswahili by a world-famous author, Tlolwa Mollel, originally from Tanzania but now a resident of Canada. CBP provided six titles of "big books," too, which offer an attractive means to demonstrate concepts of print and are designed for reading aloud. They have been translated into English, French, Portuguese, Twi, Chichewa, Ekegusii and Bambara in addition to the original Kiswahili, and are distributed all around Africa.



Library Support. All of the *Reading Tanzania* project schools have school libraries, or at least classroom libraries. These are stocked with multiple copies of grade-appropriate books in sets of fifty so that every one, two, or at most three children can share a book. Teacher-librarians are trained to circulate and care for the books, and also to teach good book-handling practices to the children. Many of them conduct after-school library activities for Reading Clubs of children. Some school libraries have sufficient space for whole classes to visit at one time. Others are distribution points from which books are circulated to classrooms to be read.

Teacher Training. *Reading Tanzania's* training is organized as the *Mbinu Saba*, or “Seven Methods” of instruction. The methods are set out in a 100-page guidebook in both English and Kiswahili. The methods are:

1. **Introducing students to literacy**, addressing emergent literacy concepts—because children with little exposure to reading and writing need a sensible introduction to the purposes and nature of literacy in order to have a context before they begin learning new skills.
2. **Phonological awareness**, because half the equation of literacy is being aware of the units of spoken language—words, syllables, and phonemes—that are represented by units of print. *Reading Tanzania* uses word games and graphic representations to make children aware of the sounds in their language.
3. **Phonics**, because research clearly shows that in order to be readers, children must be able to “crack the code.” But “the code” must be understood in the context of real reading, so *Reading Tanzania* teaches phonics by contextualizing lessons in a whole-part-whole approach, beginning with reading a meaningful text, focusing on some of its parts, and reading meaningful text again.
4. **Reading Fluency**, because research shows that children who can read words quickly and accurately are better readers with more concentration available for understanding, just as practiced drivers can enjoy the scenery or plot better routes around obstacles.
5. **Comprehension**, using a three-part model with dozens of strategies for teachers to use before reading, to arouse prior knowledge and elicit curiosity and purpose; during reading, to follow text structures, guide an active search for meaning, and teach strategies of inquiry; and after reading, to teach students to reflect upon, interpret, debate, derive lessons from, and remember what they learned.
6. **Vocabulary**, because words are flashlights that illuminate different aspects of experience and enable children to notice and think about things. In Tanzania, where primary school is conducted in Kiswahili, even though children speak many other languages at home, teaching vocabulary and other language features is recommended as part of every lesson.
7. **Writing**, because literate people are producers of messages in print, too; and learning to write reinforces reading and language skills.

The teachers’ mastery of the training is managed via a set of training standards and rubrics that are used during regular monitoring visits by project staff. Those who complete all of the training—three four day workshops—and receive satisfactory ratings during monitoring visits are certified as *Reading Tanzania* teachers.

## ASSESSMENT METHODOLOGY

A team of six assessors were recruited from advanced students of Kiswahili at the University of Dar es Salaam and trained by Dr. Alison Preece of the University of Victoria and Dr. Charles Temple of Hobart and William Smith Colleges in using the Reading Tanzania assessment tools during two sessions totaling four days, one in August and one in November, 2015.



The assessors traveled to the Kongwa region to conduct the Reading Tanzania assessment under the supervision of CBP staff, plus Dr. Temple, an international literacy consultant; and Firas Elfarr, CODE's Monitoring and Evaluation Coordinator.

The assessors tested a total of **104 children** from **13 randomly chosen schools** from the **Kongwa District** that were participating in the *Reading Tanzania* project.

For a comparison group, the District Education Officer of a nearby school district graciously allowed the assessors to test **48 children** from **six randomly chosen schools** that had not participated in the *Reading Tanzania* project.

Children in the control schools came from the same ethnic groups as the project schools. The control schools were matched to project schools in terms of their "rurality": schools that were located in a town, near a town, or far from a town.

To evaluate students' reading and writing, the assessors used a test developed for the Children's Book Project by Dr. James Hoffman from the University of Texas-Austin and Dr. Misty Sailors from University of Texas-San Antonio. There were two levels of the test, one for standard or grade 2, and one for standard 4. Four children (two girls and two boys) were randomly selected for testing from each standard.

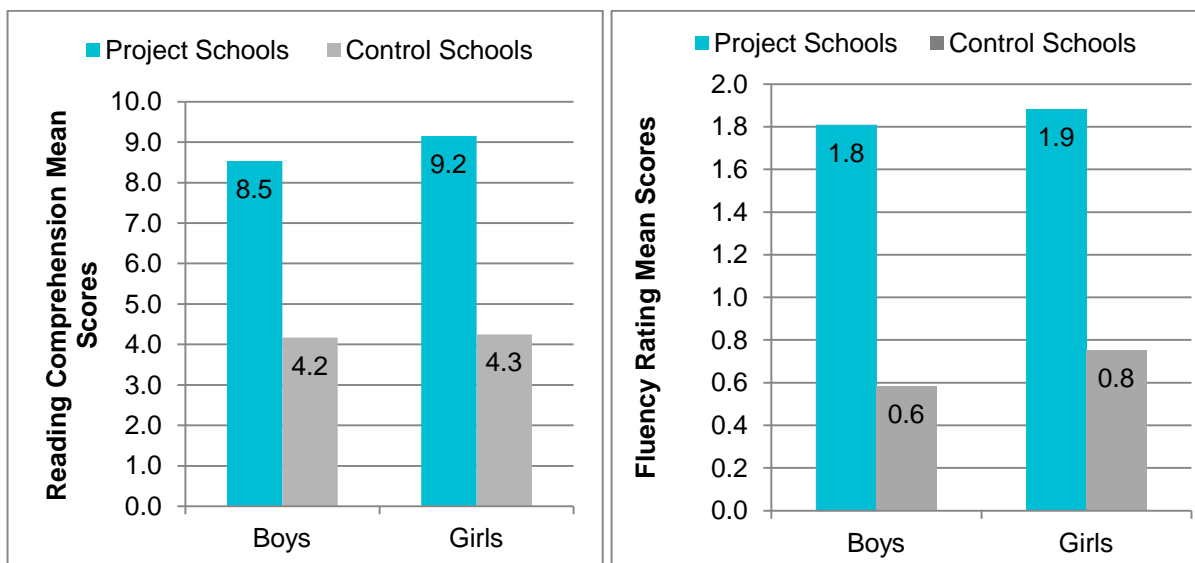
## STANDARD 2 TEST

Students from standard 2 were tested individually on these measures:

- Letter recognition
- Syllable reading
- Reading short sentences
- Storybook reading: word recognition and comprehension
- Storybook reading: fluency

At both standards 2 and 4 the children in the project schools outperformed the children in the control schools on all measures. At standard 2, the differences were especially pronounced in the areas of comprehension and fluency, as can be seen in Figure 1. Fluency and comprehension instruction are the main focus of the *Reading Tanzania* project. These skills are developed through select instructional methods the teachers are trained to use, and supported by books in which the children can practice and develop those skills. The magnitude of the differences was impressive, however. Children in the project schools on average **understood twice as much of what they read** and were almost **three times more fluent**.

FIGURE 1



Children in standard 2 also outperformed the control group of children on letter recognition, syllable reading, and word reading (See Figure 2). These skills are included in the *Reading Tanzania* training, but not given so much emphasis as fluency and comprehension, because these more basic skills are so heavily emphasized in the LANES and EQUIP programs, Tanzania’s two national literacy projects ongoing at the moment.

FIGURE 2

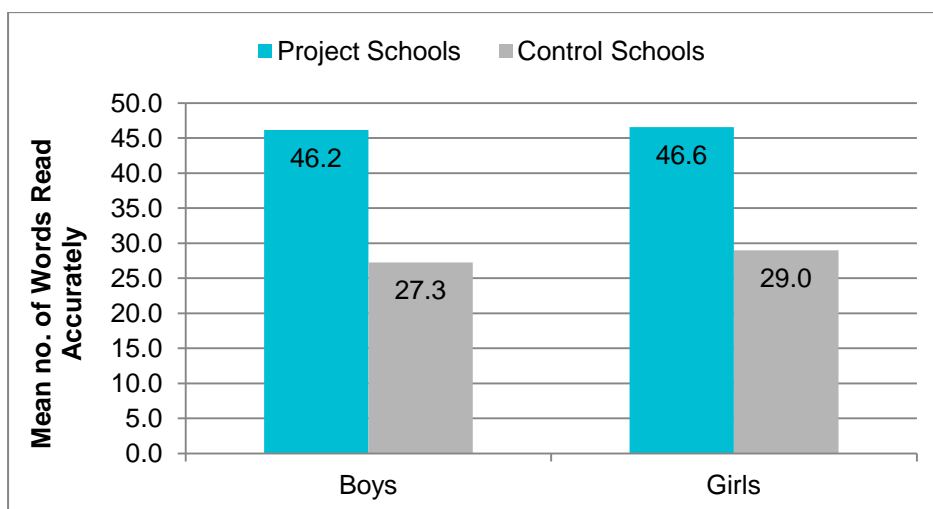


Table 1 shows the scores for children from project schools and control group schools for standard 2.

Standard 2 Scores	Project Schools				Control Schools			
	Boys (n = 26)		Girls (n = 26)		Boys (n = 12)		Girls (n = 12)	
	$\mu^1$	$\sigma^2$	$\mu$	$\sigma$	$\mu$	$\sigma$	$\mu$	$\sigma$
Letter recognition, lower	24.5 / 25	1.1	24.6 / 25	0.7	17.0 / 25	4.2	16.2 / 25	5.7
Letter recognition, upper	24.8 / 25	0.7	24.8 / 25	0.4	17.4 / 25	5.1	18.3 / 25	4.4
Syllable recognition	16.8 / 17	0.6	17.0 / 17	0.2	13.3 / 17	4.6	13.0 / 17	4.7
Sentence reading	14.6 / 15	2.0	15.0 / 15	0.2	10.1 / 15	5.4	11.8 / 15	4.5
Passage reading	46.2 / 47	2.2	46.6 / 47	1.1	27.3 / 47	15.1	29.0 / 47	14.5
Fluency	1.8 / 2	0.4	1.9 / 2	0.3	0.6 / 2	0.5	0.8 / 2	0.6
Reading comprehension	8.5 / 10	1.4	9.2 / 10	1.1	4.2 / 10	2.3	4.3 / 10	1.9

<sup>1</sup> Mean, or average.

<sup>2</sup> Standard deviation.

The smaller standard deviations in the project students' scores are partly due to a ceiling effect, since many of the children had perfect scores on items of the test. But the larger standard deviations in the control group's scores—many times larger than those of the project students—spell trouble for both teachers and children in the control schools. By standard 2, all children should know the letters of the alphabet, read simple syllables, and simple words in context. When there are many children who cannot do these things, especially in large classes, the teacher's challenge to teach, and the children's challenge to learn, is greatly intensified.

#### STANDARD 4 TEST

Students from standard 4 were tested partly in small groups and partly individually on:

- Vocabulary, by means of matching a target word with its opposite
- Listening comprehension
- Silent reading comprehension
- Writing (composition, mechanics)
- Oral reading accuracy
- Oral reading comprehension

As in standard 2, at standard 4, children in the project schools out performed children in the control schools on all measures, with the more pronounced differences in comprehension and writing (See Figures 3 and 4).





FIGURE 3

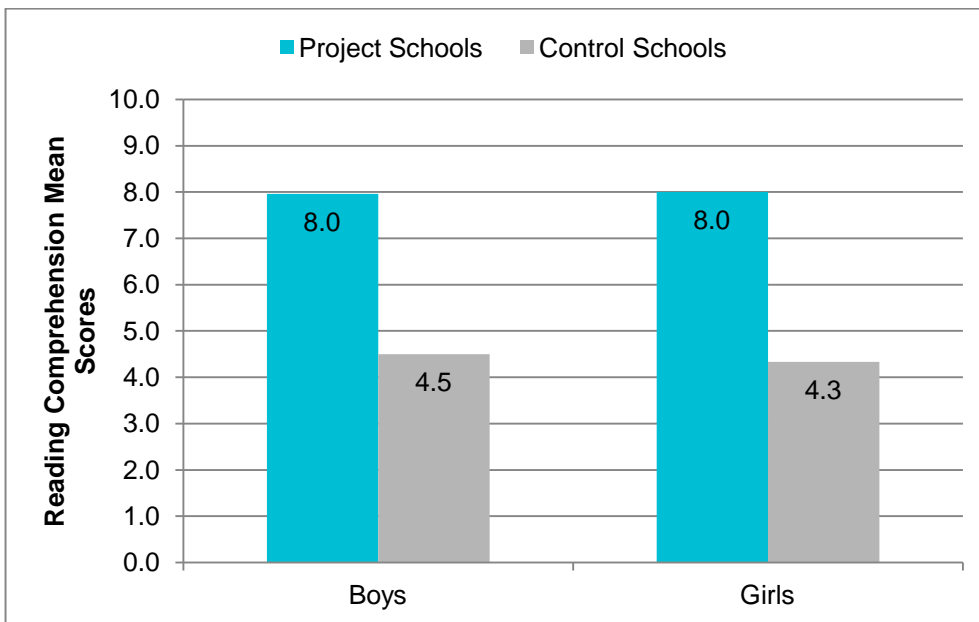
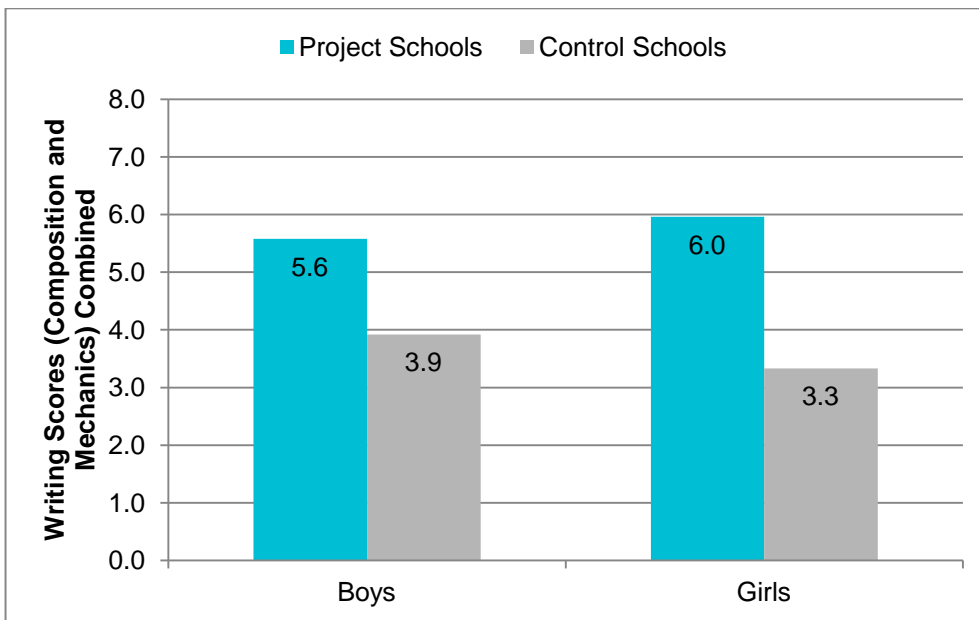


FIGURE 4



At standard 4, the *Reading Tanzania* project put heaviest emphasis on reading fluency, reading comprehension, and writing—so it is not surprising that in those areas the children in the project schools showed the larger advantage over the children in control schools. Children in project schools outperformed children in control schools on all other measures, too. The standard deviations for oral reading accuracy and word recognition were far greater in control schools, which again raises the concern that teachers in those schools will be challenged to reach the many children who are “not getting it,” especially in large classes.

Note that the performance of boys and girls in both standards 2 and 4 was tracked separately. There was no appreciable difference in the performance of the two genders in either the project schools or the control schools

Table 2 shows the scores for children from project schools and control group schools for standard 4.

Table 2: Performance of Standard 4 Children								
Standard 4 Scores	Project Schools				Control Schools			
	Boys (n = 26)		Girls (n = 26)		Boys (n = 12)		Girls (n = 12)	
	$\mu$	$\sigma$	$\mu$	$\sigma$	$\mu$	$\sigma$	$\mu$	$\sigma$
Vocabulary (opposites)	6.2 / 9	2.3	6.7 / 9	1.9	5.0 / 9	2.0	4.8 / 9	2.3
Listening comprehension	2.3 / 3	0.8	2.5 / 3	1.1	1.5 / 3	0.8	1.6 / 3	0.8
Silent reading comprehension	2.4 / 3	0.6	2.2 / 3	0.6	1.6 / 3	0.7	1.6 / 3	0.5
Writing composition	3.0 / 4	0.8	3.2 / 4	0.6	2.3 / 4	0.7	1.9 / 4	0.9
Writing mechanics	2.6 / 4	0.9	2.8 / 4	0.7	1.6 / 4	0.5	1.4 / 4	0.7
Writing scores combined	5.6 / 8	1.5	6.0 / 8	1.1	3.9 / 8	1.0	3.3 / 8	1.5
Oral reading accuracy	128.3 / 130	3.6	128.4 / 130	2.3	117.7 / 130	14.1	114.2 / 130	15.6
Oral reading comprehension	8.0 / 10	2.0	8.0 / 10	1.7	4.5 / 10	3.3	4.3 / 10	2.5
Word recognition	14.7 / 15	0.8	14.7 / 15	0.7	11.8 / 15	2.7	11.8 / 15	2.6

## DISCUSSION

The results of the assessment reported here demonstrate that *Reading Tanzania* has succeeded in its mission of creating capable readers and writers. On measures of reading fluency, reading with understanding, and writing coherently and correctly, scores of children in the project schools were far superior to those of children in control schools, even by factors of two or three. Some of the benefits came from teaching methods; but surely the provision of books produced by the Children's Book Project, the support of school libraries, and the activities of the Library Coaches, including reading and writing with children in the Reading Clubs, contributed to the project schools' success.

Promoting reading fluency and comprehension, along with developing the habit of reading, are, or should be, the primary goals of any literacy initiative. But it is fair to ask why.

Raising literacy levels is generally assumed to benefit individuals and societies, but only recently have those benefits been examined in detail. Studies by the OECD<sup>3</sup> into the relation between adults' literacy and social and economic benefits have demonstrated links between levels of literacy and employment, income, political participation, and other quality of life indicators. Not surprisingly, individuals with the highest levels of literacy derive the most benefits. What *is* surprising, though, is that people need to attain fairly high levels of literacy to experience appreciable benefits in terms of quality of life indicators. To put it another way, literacy initiatives that focus only on decoding words and retrieving simple explicit messages may not allow the clients of such initiatives to enjoy benefits anything like what are enjoyed by those who can apply what they read, make inferences, create interpretations, detect biases, negotiate between competing messages, or communicate fluently in writing.

Shortly after *Reading Tanzania* began in 2012, the Tanzanian Ministry of Education and Research began two large campaigns to train teachers across the country in methods of literacy instruction. One was LANES<sup>4</sup> (Literacy and Numeracy Education Support) and the other is EQUIP-Tanzania<sup>5</sup> (Education Quality Improvement Program for Tanzania). Both show the influence of the popular



<sup>3</sup> <http://skills.oecd.org/skillsoutlook.html>

<sup>4</sup> <http://www.swedenabroad.com/Pages/StandardPage.aspx?id=70248&epslanguage=en-GB>

<sup>5</sup> <http://www.equip-t.org/>

American literacy initiative, EGRA<sup>6</sup>, in their focus on teaching very basic literacy skills, essentially the “Big Five” skills<sup>7</sup> identified by the National Reading Panel<sup>8</sup> that was commissioned in the 1990’s by the Bush Administration in the United States.

Whatever the merits, there are two main criticisms of the EGRA approach. One critique is that the emphasis on phonological awareness and phonics was taken out of context. When the National Reading Panel recommended an emphasis on those skills, the point was to encourage American teachers to add them to a repertoire that was already very rich. Their classrooms were supplied with children’s books, visual aids, and other resources, and the teachers themselves were skilled at using naturalistic approaches to teaching literacy, such as immersing children in print and encouraging children to compose meaningful messages with drawings, scribbles, and invented spelling—in keeping with the dictates of “emergent literacy.”

The context of Tanzanian schools, especially in the rural areas, is a different world from the context that gave rise to the “Big 5.” In sum, this critique suggests that without paying more attention to emergent literacy, without being careful to offer a meaningful context to skills instruction, and without providing engaging books to attract children to reading and offer them practice, the emphases on the “big 5” will not be fully successful even in achieving their own limited objectives. After the staff and consultants of the *Reading Tanzania* became aware of the emphases of the LANES and EQUIP-T programs the *Mbinu Saba* methods of the *Reading Tanzania* project were expanded to include methods for nurturing children’s emergent literacy, and meaningfully contextualizing phonics instruction.

The other critique of the heavy emphasis on the “Big 5” lower order literacy skills is that even if teaching the emphasis is successful on its own terms, the goal is not sufficiently ambitious, for reasons that were noted above. A leap of faith is required to assume that putting heaviest emphasis on developing children’s phonological awareness and phonics skills will by themselves eventuate in their becoming insightful and critical readers. And if literacy efforts do not help people become insightful and critical readers, then one may ask, what is the point?

In the field of literacy work, promoting basic skills is important, but it is essential to aim high. *Reading CODE* strives to create literate, thinking citizens who collectively form a literate culture. Toward that end, *Reading CODE* produces and shares books, rooted in the local culture, that young people will want to read again and again and will want to talk about. And it equips teachers with the means to help students become fluent readers and deep thinkers. The data from the Tanzania study suggest that the *Reading CODE* approach is working.

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<sup>6</sup> <http://www.rti.org/pubs/bk-0007-1109-wetterberg.pdf>

<sup>7</sup> These are phonological awareness, phonics, fluency, vocabulary, and comprehension.

<sup>8</sup> <http://nationalreadingpanel.org/Publications/summary.htm>

## RECOMMENDATIONS

On the basis of the evaluation of the Reading Tanzania project reported here, we are confident in recommending the following.

1. *Reading Tanzania* methods, Mbinu Saba, should be shared as widely as possible in Tanzania. As noted above, the Tanzanian Ministry of Education and Research is currently embarked on two large-scale teacher training efforts, both intended to reach most of the teachers in Tanzania with methods for teaching basic literacy skills. Many teachers trained in *Reading Tanzania* already are playing lead roles in both programs. We recommend that *Reading Tanzania* methods be “piggy-backed” onto those initiatives. To that end, CODE should publish a user-friendly version of *Mbinu Saba*, the *Reading Tanzania* guidebook of methods, in sufficient quantities to be used by large numbers of teachers.
2. Many of the children’s books published under arrangement with the CBP are already being purchased by EQUIP for distribution through the schools. We recommend that teachers’ guides be written for many of the books as a way of enhancing their effectiveness in the classroom, and as a vehicle for spreading good practices for teaching literacy more broadly.
3. Children learn to read by reading, and having accessible and engaging books available in large numbers for children is a valuable way to promote literacy. We recommend that an agency within the Ministry of Education and Research, in collaboration with the CBP and TEN/MET coordinate efforts of donors, so that adequate numbers of trade books can be published and made available to children in every standard in the primary schools.
4. Some 20 schools in the 75 schools in the *Reading Tanzania* program have specially-funded enhanced libraries. These have more ample book shelves for displaying books attractively, carpets for seating whole classes of children, provision of additional numbers of books, and a paid Library Coach to conduct after school literacy activities and to coach Reading Clubs. These appear to be enormously valuable, though their evaluation was not part of this review. We recommend that they be expanded as far as possible through the primary schools of Tanzania.



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Thanks as well to Audrey Roberson, of Hobart & William Smith Colleges, for her work supporting the data analysis.

Good instruction is important, but children learn to read by reading. That is the guiding principle of **CODE** (Canadian Organization for Development through Education). CODE has worked for over 55 years helping national partners make locally-written children's trade books available in local and national languages to children and youth in many countries in Africa. CODE also supports school libraries in primary and secondary schools, and trains coaches to help teachers acquire sound methods for teaching reading and writing.



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