

Program Overview

Global Need for STEM & ICT for Girls

Throughout many parts of the world, there is growing awareness of the need for and value of quality STEM (Science, Technology, Engineering, Math) education, coupled with ICT (Information & Communications Technology). The challenge is how to provide this education in ways that move away from textbook-driven memorization to approaches that focus on problem solving.

Throughout East Africa, public officials and educators recognize the need to integrate science, computers and entrepreneurship education in order to achieve economic growth and sustainable development.

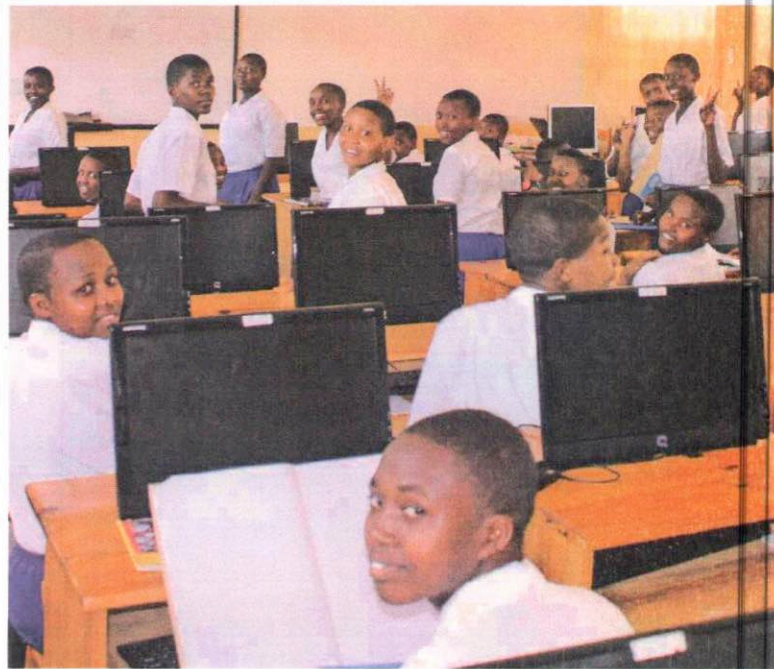
The challenge is how to provide large numbers of teachers and students with access to quality STEM and ICT education; create service project learning opportunities that apply this education; and overcome the traditional need for and costs of expensive school lab equipment.

Pivot Academy Meets a Real Need

Pivot Academy, developed through US 501c3 nonprofit Mothering Across Continents, is an intensive education, training and mentoring program for high school teachers and students that integrates Design Cycle thinking, STEM experiments, and a planning process to turn science into service projects grounded in social enterprise philosophies. Pivot Academy is supplemented with STEM curricular content, digital learning tools, and computer applications that teachers and students can access throughout a school year.

Why Pivot Academy Rwanda?

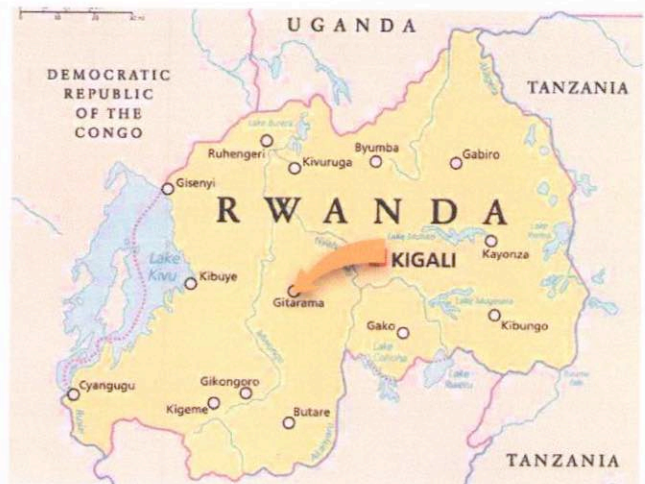
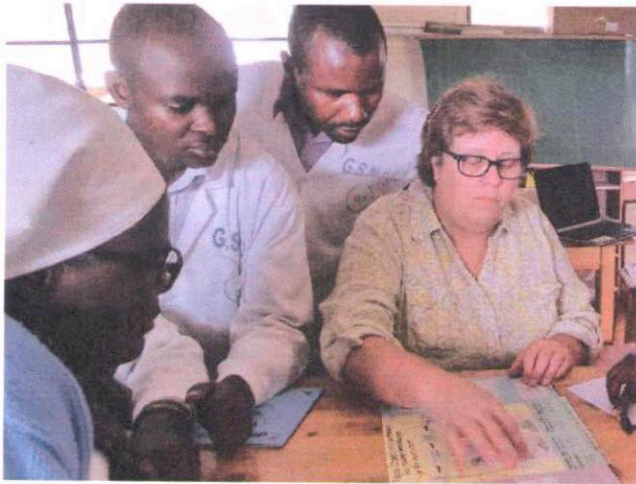
For many people, Rwanda brings to mind the 1994 genocide. But today, Rwanda is focused on moving from humanitarian



assistance to sustainable development and status as a “middle income country.” According to Rwanda’s Minister of Education, Prof. Silas Lwakabamba, “The ambition to develop a knowledge-based society and the growth of regional and global competition in the jobs market has necessitated the shift to a competence-based curriculum to address the issue of the shortage of appropriate skills in the Rwandan education system.”

However, Rwanda does not have enough managers and teachers with Science, Technology, Engineering and Math (STEM) and ICT training in hands-on, competency based approaches to education. The gap is especially wide in rural areas and for girls.

In 2014, Rwanda launched an annual “Ms. Geek” contest, an initiative to highlight the importance of girls pursuing careers in STEM and ICT. The goal is to inspire Rwandan girls and young women to be part of problem solving through technology and computer applications developed with a spirit of entrepreneurship. The pressing need is for programs that involve student-centered learning and accelerate critical thinking, problem solving, and entrepreneurial income opportunities.



Pivot Academy Rwanda Details

Pivot Academy Rwanda 2016 spans two weeks in June 2016. Through the program, high school science teachers (Physics, Chemistry, Biology) from the US and students from US university programs in Computer Science train, educate and mentor S5 (11th grade) girls and their teachers at a Rwandan secondary school. Rwandan university students are also trained as Mentors. In addition, select US university students stay in-country for several weeks beyond Pivot Academy to coach teachers and students as they introduce computer tablet-based curricular content and experiments into classrooms and launch service and social enterprise projects envisioned during Pivot Academy.

Phase 1:

Pivot Academy Rwanda 2016 begins in Kigali, the capital of Rwanda, with a multi-day training by US high school science teachers for Mentors (US and Rwandan university students) on the Kepler University campus.



Phase 2:

Pivot Academy Rwanda 2016 continues in Gitarama, a community about 90 minutes from Kigali, with a training of select Rwandan high school science teachers (10th, 11th and 12th grades: called S4-S6 in Rwanda) from Groupe Scolaire Notre Dame de Lourde Byimana, an all-girls secondary school of 800+ students. The training takes place at the "Byimana" campus and the nearby Centre Saint Andre Kabgayi Conference Center and Hotel.

Phase 3:

The "heart" of Pivot Academy Rwanda 2016 is delivered on the "Byimana" campus as a multi-discipline, multi-day experience for 150+ eleventh grade students (level S5). The program is facilitated by US and Rwandan university students who serve as Mentors. US high school teachers (Content Specialists) act as facilitators, coaches and observers.

Phase 4:

Following completion of the formal Pivot Academy, select Mentors remain at Byimana to coach teachers and students as they introduce computer tablet-based STEM content into classrooms, continue using new methods of science learning and experimentation, and launch service projects inspired by Pivot Academy.

Phase 5:

Informally, over the course of the academic year, teachers and students at Byimana continue virtual, online check-ins with US teachers and Rwandan Mentors. They share observations and refine curricular content and methods of Pivot Academy over time while Rwandan Mentors explore replication of Pivot Academy to other schools.

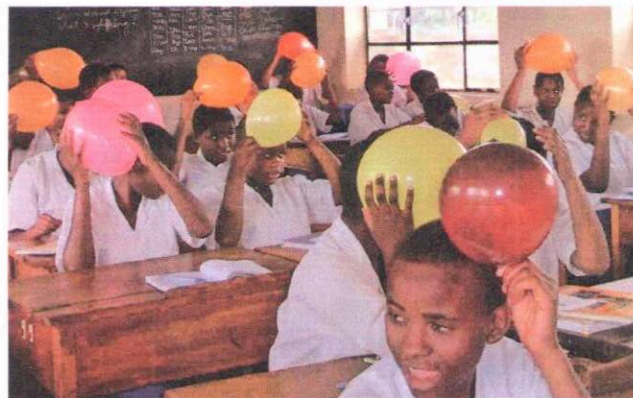


Future Expansion Opportunities

There are many potential applications of Pivot Academy in Rwanda and beyond.

Rwanda is not alone in the desire to transition STEM education to competency-based, problem-solving teaching and learning methods that will support a knowledge-based economy. According to a 2015 report from the Rwanda Education Board, "Rwanda's new competence-based curriculum matches global trends and is in line with the 2013 Harmonised Curriculum Framework for the East African Community, in which partner states agreed to put in place a curriculum framework with a set of policies, regulations and guidelines central to curriculum development and implementation within the East African Community."

Beyond East Africa, many countries and communities throughout the world are also engaging in conversations about how to bring "21st century" science and technology-based skills to their schools and students.



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