

team4tech

Expanding opportunity through global connections



Corporate Engagement To Improve Education Outcomes

Case Study: Kenya, 2013

Team4Tech, Orphans Overseas, Intel, VMware

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The Challenge: Globally, 250 million primary school age children can't read or count – even though almost half of them (130 million) are in school. Early grade education is failing children, especially in poor countries. Millions of children are leaving education before acquiring basic skills.¹



Education plays a key role in reducing poverty² and expanding opportunities. While student enrollment has increased dramatically in Kenya since the introduction of free primary education in 2003, the supply of teachers is failing to keep pace. Sub-Saharan Africa needs 900,000 new primary teachers by 2015;³ currently there are 47 pupils per teacher in Kenya.⁴

“The global teacher shortage needs to be tackled with measures to reach those most at risk of not learning, by providing teachers with more and better training, more investment in resources for their schools, and better tools and data so that we can monitor and improve education quality by assessing how much children are actually learning.”

– Albert Motivans, UNESCO Institute of Statistics; Pauline Rose, Director, Education for All Global Monitoring Report

Because of these challenges and the lack of educational resources, Kenyan children in school experience poor learning outcomes. According to a 2009 assessment by Uwezo, at the end of second grade, 85% of children cannot read a paragraph in English, 81% of children cannot read a paragraph in Swahili, and 79% of children cannot do simple subtraction.⁵

¹ [“It’s time we learned: How education failures are holding our children back,”](#) UNESCO Education for All Global Monitoring Report, 2013/4.

² [“How to reduce poverty’s impact on education,”](#) Hans Botnen Eide, World Education Blog, Education for All Global Monitoring Report, October 2011.

³ [Global Teacher Shortage,](#) UNESCO Institute for Statistics, January 2013.

⁴ [Pupil-teacher ratio, primary,](#) UNESCO Institute for Statistics, The World Bank, 2009.

⁵ [Kenya National Assessment report,](#) Uwezo, 2009.

At the Karibu Centre, staff of the non-governmental organization Orphans Overseas found a similar situation among their 140 pre-school learners, mostly orphans and destitute children from Thika. In 2009, less than 10% of their kindergarteners were passing the first grade entrance test. The NGO staff contacted Team4Tech in search of a technology solution to support development of English literacy and basic numeracy for their preschool and early primary schools students.

The Team4Tech Approach: Team4Tech expands opportunities for children in developing countries by mobilizing technology volunteers, solutions and resources in support of local education projects. This is achieved by matching talented professionals from high-tech companies with nonprofit projects to rapidly implement customized education technology solutions.



Team4Tech’s immersive service learning projects enable technology companies to expand their knowledge of developing markets, leverage their existing technology solutions for social good, strengthen corporate social responsibility programs (especially around education, teacher training, and girls empowerment), support employee volunteer efforts, and expand employee development and training offerings.⁶

"When you come down and go deep to where your technology is needed, you are creating bright spots in the darkness of ignorance. Team4Tech is not waiting for people to come to you, but is going out to find those who can benefit from technology."

– James Mathenge, Director, World Vision Tanzania

"Business success depends on empathetic leaders who are able to adapt, build on the strengths around them, and relate to their environment."

– Jayson M. Boyers, Executive Director of Continuing Professional Studies at Champlain College, in "Why Empathy Is The Force That Moves Business Forward," Forbes

⁶ ["Engaging Employees for Emerging Market Success,"](#) Shelly Esque, Stanford Social Innovation Review, June 2014.

For nonprofits and other non-governmental organizations, Team4Tech advances their educational objectives by providing skilled volunteers specifically matched to their project needs, and enabling investments in relevant technology solutions. This includes assistance defining the scope of work and devising the solution, project management, access to leading high tech companies, and a long-term partnership. Together, these elements help ensure that the project is delivered, maintained, and monitored to ensure positive impact and identify opportunities for scaling programs. Where necessary, Team4Tech can also provide nonprofits with a start-up matching grant, up to \$15,000, for purchase of hardware, software, and peripherals.



The Team4Tech Solution: In Kenya, Team4Tech, together with Orphans Overseas' Karibu Centre, a local nonprofit, brought together Waterford Early Learning and Mustek as education technology providers, and technology volunteers from Intel and VMware, to deploy purpose-built laptops with an adaptive learning software program that supports computer skills, early literacy and numeracy education for first and second graders in four of Thika's primary schools. The schools, including Barracks and Kenyatta, serve poor and underserved students from slum areas in the outskirts of Nairobi.

Through scoping, advance planning, and preparation meetings, the team of nine high tech volunteers developed a plan for addressing the nonprofit's technology objectives, and delivering teacher training.

"This surge in professional people interested in putting their skills to good use creates a tremendous opportunity for nonprofits.

The sector can't squander that opportunity by assigning these volunteers to nice, but non-mission-critical work."

– "The New Volunteer Workforce," Stanford Social Innovation Review, David Eisner, Robert T. Grimm Jr., Shannon Maynard, & Susannah Washburn

"Children learn better from younger ages. The laptops spark interest in learning and the children get to explore and learn on their own."

– Luke Kincaid, Managing Director at the Karibu Centre and Orphan Overseas

In two short weeks in Africa, the team of 9 volunteers:

- Imaged 100 laptops with Waterford adaptive learning software
- Prepared computer labs for four schools, completing two installations
- Trained 60 master teachers and administrators, who trained other teachers, benefitting 2,000 students
- Taught local staff how to administer the globally recognized assessment for English literacy, and
- Shadowed teachers as they instructed students



The project utilized the Intel®-powered Classmate PC, an affordable laptop made specifically for education, and selected educational apps and programs that provide feedback and make learning fun, including the Waterford Early Learning software and Sebran Educational software. This type of intelligent adaptive learning software “tailors instruction to each student’s unique needs, current understandings, and interests, while ensuring that all responses subscribe to sound pedagogy.”⁷ These tools also promote digital literacy and development of 21st Century learning skills students need to be successful.⁸

“Researchers have found that in a typical classroom, students receive little if any daily feedback. The use of an IAL system can change that.”

– White Paper PDF, “Intelligent Adaptive Learning: An Essential Element of 21st Century Teaching and Learning,” Dreambox Learning, Inc

“The kids were just overjoyed, the teachers were overjoyed. I’ve never seen so much joy around a computer working in my entire life.”

– Andrea Ramirez, VMware and Team4Tech volunteer at the Karibu Centre, “The Python of Thika – Andrea’s Service Learning Experience in Kenya,” Team4Tech video blog post

⁷ [“Intelligent Adaptive Learning: An Essential Element of 21st Century Teaching and Learning,”](#) White Paper, Dreambox Learning, Inc, 2013.

⁸ [“ICT Transforming Education: A Regional Guide,”](#) Jonathan Anderson, UNESCO Bangkok, 2010.

The Team4Tech Project Results: In the first four months following the deployment of the Waterford Early Learning solution in two of the primary schools in Thika, Kenya, follow-up monitoring showed:

- Student usage exceeded the Waterford recommendation (of at least 1 hour per week) for all 1st and 2nd graders.
- Student scores improved⁹ on the accepted English literacy assessment (DIBELS) by 114 per cent. "This means that on average their literacy scores more than doubled in [the] six months after the implementation of a computer lab," per the Karibu Centre.¹⁰
- The percentage of preschoolers passing the first grade entrance test rose to 100%, with their scores qualifying them for the better local primary schools.



"Today, 1800 children are benefiting from the computer labs made possible by Team4Tech in Kenya.

Due to significant improvement in literacy scores and increased enthusiasm for learning, school staffs have asked for more student time in the computer labs. One school has doubled students' lab time per week. The results of Team4Tech's project with us are phenomenal."

– Jorie Kincaid, Executive Director, Orphans Overseas

⁹ ["Engaging Employees for Emerging Market Success,"](#) Shelly Esque, Stanford Social Innovation Review, June 2014.

¹⁰ ["Kindergarten pupils trade blackboards and pens for laptops,"](#) David Herbling, Business Daily, January 29, 2014.

The immersive service learning experience also paid dividends for the volunteers, and their employers, who both benefited from gains in leadership skills, a greater understanding of emerging markets, and insights into the benefits of user-centric design.



Volunteers grew professionally, and were able to apply what they learned in the field to their day jobs. One volunteer, Andrea Ramirez, described three key take-aways from the experience that better enabled her to innovate and make bold decisions as a leader: 1. How to assess risk and trust instincts before executing; 2. The importance of developing relationships for sustainable partnerships; and 3. How to be in the present and focus.¹¹ She presented to her business unit and here is how she shared the experience in her own words:

“Volunteering in Kenya with Team4Tech was one of the most profound personal and professional experiences of my life. ... We were able to see immediate results through the smiles on the faces of the teachers and children as they interacted with the computer labs.”

“As a software engineering professional, this experience was the ultimate culmination of some of my deepest passions: collaboration, technology, and education. ... It has given the importance of developing technology to improve lives and collaborating to promote global partnerships renewed impetus. It’s an experience I will never forget.¹²”

“Employees bring back insights that help refine Intel’s education efforts in challenging conditions—for example, in classrooms that lack reliable electricity and Internet.”

“As we give our employees the chance to step outside their cubicles and experience our products far from our traditional markets, we are becoming more responsive to both our customers and the global challenges we face together.”

– Shelly Esque, Vice President at Intel Corporation

¹¹ [“The Python of Thika – Andrea's Service Learning Experience in Kenya,”](#) Team4Tech blog post and video highlights from Andrea Ramirez, July 16, 2013.

¹² [“Volunteering in Kenya,”](#) Team4Tech blog post by Andrea Ramirez, July 10, 2013.

For more information

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