

Class Act

*Andrew Ashe and Jamie Stuart's
onebillion movement.*

Written by Julie Jacobs | Photography courtesy of onebillion

*S*cale is a word often bandied about in business circles. But for Andrew Ashe and Jamie Stuart, it's a daily mantra that guides them as they help turn mountainous educational challenges into monumental learning experiences for children in developing nations. Through their nonprofit organization, onebillion, which has as its chief goal to ultimately "advance the education of marginalized children" worldwide, they have created a unique set of learning apps that offer proven results. Couple this

"It's true we have a very small engine," says Ashe, who has Skyped in with Stuart on a Friday afternoon from onebillion's head office. "But we know where we're going, which is to reach as many children as possible. We realize that our name, onebillion, is not very modest, but...if you can find something that really works, in terms of delivering learning outcomes for one child, it's now possible to scale that."

In Malawi, Africa, where onebillion has

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with the provision of tablets and other technology normally unavailable to underserved regions, and you have a solution for schooling that is, yes, scalable.

Ashe and Stuart, formerly colleagues at educational software publisher EuroTalk (co-founded by Ashe), established onebillion in early 2014 and oversee a small but dedicated staff of designers, developers, and localization experts in London, as well as a cadre of consultants. While the organization launched with math apps, now available in 50 languages, plans are afoot for additional math apps along with literacy apps and translation into more languages.

concentrated its initial efforts, classrooms are packed and each teacher is responsible for 100 students on average—a figure unlikely to improve given that approximately half of the country's population is under 14 years old. Of the 3 million primary-school children, less than 20 percent move on to secondary school and a large number wind up repeating the early grades, eventually falling by the wayside. Also troubling is the declining percentage of female students, tied in part to the rising pregnancy rates among girls.

Stuart and Ashe say it was serendipity that brought them to the small, landlocked nation. While in India conducting trials of portable



iPads are shared amongst students who each get 30 minutes of usage throughout the day.

interactive DVD players as teaching tools, they met Reverend Bobby Anderson, who worked in Malawi through the Scottish Malawi Foundation, and invited them there to meet with government officials and visit schools. They quickly came to understand the country’s massive educational needs, particularly in primary schools, and felt a technological approach could help remedy the situation. Following their EuroTalk-funded pilot of DVD and MP4 players in Malawi, a grant from the Scottish Department for International Development in 2010 enabled them to design and test Masamu (math) apps in 30 Malawi schools. Two years later, they introduced touch-screen learning via 30 interactive lessons in Malawi’s Chichewa and Tumbuka languages, and installed tablets powered by solar charging stations in 50 schools. Since then, onebillion has brought more of the country’s 5,300 primary schools into the fold, and ramped up its development of apps that offer engaging activities, immediate feedback, and positive reinforcement through virtual gold stars, certificates, and clapping and cheering when students complete a section.

“We only focus on three things and that is basic numeracy, learning to read—again, a massively important skill and so much of the world is denied you if you can’t read—and also in Malawi, as in much of the world now, learning English is an absolutely key skill,” offers Ashe. “We know that if we can get the children to have access to those three core competencies, then they can fly, they will blossom.”

“The other thing is this idea of continuous refinement,” adds Stuart. “So whenever we go out to Malawi, we can see within a few minutes of watching a single child using our apps ways to improve it. So we’re constantly looking for ways to improve

what we do. That might be, for instance, moving them along in a section where they’re getting stuck, and it might be in providing more audible assistance for them, more praise for them.”

Ashe points out that many Malawian children do not have access to the technologies the developing world takes for granted; they may not even see television or use phones. “When we put the tablets in their hands, they’re nervous, and we give them some headphones,” he says. “They literally go ‘eeh!’ in sort of astonishment, because [the tablet] suddenly starts talking to them in Chichewa.

“There’s something astonishing about the touch interface that these children learn what to do within seconds... This is why the outcomes are so astonishing, because they’re getting this very high-impact learning environment, where they move very quickly.”

A randomized control trial conducted by the University of Nottingham in the United Kingdom backs up this claim. In 2013, onebillion commissioned the investigation in conjunction with the Scottish Department for International Development to evaluate the transformational effects of its math app technology. An educational psychologist at the university studied 400 children in Standard 1, 2, and 3 classes (grades one, two, and three) at



iPads are used in a dedicated area of the school. There is always a VSO volunteer to help manage the classes.

the Biwi Primary School in Lilongwe, Malawi's capital city. The participants used the apps on tablets for two-and-a-half hours a week for eight weeks. Her findings? The onebillion apps, compared with other teaching apps and no apps at all, significantly accelerated learning in general and enhanced math knowledge among low achievers. A similar study of a U.K. class, funded by the university, yielded comparable results.

Ashe notes a formal trial like this one is difficult to do, and he does not know of other educational apps that have undergone such scrutiny. He attributes the great learning gains to onebillion's comprehensive and complete curriculum, offered in a child's own language. Used in an appropriate way, the technology offers the potential for kids to finish coursework over a shorter period of time. Ashe points out, however, the apps and tablets are not meant to replace teachers, but rather empower them by boosting their students' core competencies in math and reading, which in turn facilitate instruction in problem solving, data analysis, and other complex skills.

In addition to validating the worth of onebillion's learning approach, the study helps to solidify the nonprofit's relationship with its partners, most notably Malawi's Ministry of Education,



Science and Technology, the Scottish government, and VSO International, "the world's leading independent international development organization that works through volunteers to fight poverty in developing countries." It provides a vital evidence base for engaging donors as well—an important piece of the revenue puzzle for the organization, supported mostly by sales of its apps to wealthier countries in Europe and North America (content and the

PROFILE ANDREW ASHE AND JAMIE STUART

technology to access it are provided to Malawi schools for free).

“To have this evaluation, this validation, unlocks the door to the bigger donors, and that’s really unlocked a lot of other doors for us,” remarks Stuart.

One of those doors has led to the launch of onebillion’s oneclass project, described by the nonprofit as “the classroom of the future.” Oneclass works by equipping a dedicated space in a school with a set of locked-down iPads that are loaded with onebillion apps covering the first two years of the curriculum. Children rotate through the classroom from their main instructional area, spending 30 minutes on a tablet used by 10 to 12 other kids throughout the day, and learning at their own pace. A full-time VSO volunteer monitors and manages the oneclass, which is powered by solar energy. (Stuart says that about 90 percent of schools in Malawi do not have electricity.) What is especially enterprising and exciting about the project is its ability to record a child’s strengths, weaknesses, and overall progress via SIM-like cards incorporated into the tablets. Onebillion receives the information over the Internet and sends back reports to the teachers.

The Ministry of Education, Science and Technology in Malawi has fully embraced both the technology and the oneclass concept, piloted at the Biwi Primary School, where the study

took place. Onebillion has since implemented oneclass at a second school and committed to another five over the next nine months with funding from Save the Children, VSO, and other agencies. In some cases, extra space for oneclass is not available and will have to be built.

“The idea of the oneclass is that [the children] have this quiet space where there are 30 tablets,” Stuart says of the shared model for learning. “It’s a really serene place. If you walk through any of the other classrooms, it’s, believe me, chaotic.”

And when a child has completed a topic, “what happens, and you know this wasn’t us who instigated it, is that the supervisor



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Stuart, opposite page, and Ashe, top left, believe that onebillion will be sustainable “if it’s embedded into the ministry, into the schools, if it becomes a daily part of school life.”

in the oneclass, who is more often than not a Standard 1 or 2 teacher...will celebrate that with the rest of the oneclass,” continues Stuart. “So they’ll all take off their [headphones], they’ll all give a little clap to that child, and for many of the children, this is the most recognition they’ve ever had at school.”

Ashe nods in agreement. “What’s lovely about this is that all the children get this. Some of them take longer to get there, but they all get this moment, if you like, of recognition, and they’re very motivated by this.”

Both Ashe and Stuart frequently travel back and forth to Ma-

lawi and are happy to report their presence is barely noticed by the students, who are so engaged with the tablets and the apps. Next year, they will bring onebillion apps and tablet-based learning to two schools in Uganda for a trial, and possibly to a Syrian refugee camp in Turkey.

As for realizing their “massive goal” of reaching 1 billion marginalized kids worldwide,

they laugh at how far they still have to go, but it’s amusement with conviction. “Our side is the publishing of material that really works,” asserts Ashe, stressing the importance of the Malawi government in achieving success. “It is their project, it’s not our project.”

“That’s the only way it’s going to be sustainable,” adds Stuart. “If it’s embedded into the ministry, into the schools, if it becomes a daily part of school life.” **LM**