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Animation Without Borders

How can we connect people facing language and literacy barriers with life-improving knowledge? At first glance this may seem an impossible task. But in the age of the internet, virtual online networks, crowd-sourcing and animation may help solve this problem.

By Julia Bello-Bravo and Ibrahim Baoua Boukary and Barry R Pittendrigh for ISN

Globally, over one billion people are either illiterate or classed as 'low literate learners'. They speak a diverse range of languages and come from many different cultural backgrounds. Many live in remote and rural areas of some of the world's poorest countries. Access to information and knowledge has long been a challenge for low literate learners in developing nations. Not being able to read is a tremendous barrier to accessing extremely basic life-improving information. So how could these people easily gain access to knowledge in a simple and ultra-low-cost manner? Conversely, how can we capture and share indigenous knowledge - in other words, how can we share the innovations that local communities have developed over many generations?

Human resources

[Scientific Animations Without Borders](#) is a University of Illinois-based initiative focused on animating concepts or techniques that can be used to improve the quality of people's lives. Animations can be voice-overlaid in a diversity of languages and distributed internationally through the internet - via social networks, targeted list-server press releases or simple peer-to-peer sharing. They can be viewed locally on electronic devices ranging from cell phones to computers to DVD players. Although the animations are currently created in-house by the SAWBO group, the inclusion of diverse voice overlays is thanks to volunteer networks around the world. Within one year of its launch, Scientific Animations Without Borders has released a half-dozen animations, with another half-dozen to be released over the remaining months of 2012.

The emergence of the internet and wireless networks has changed the world dramatically, allowing large numbers of volunteers to impact the world in ways that would simply not be feasible if one had to hire and pay large numbers of people to try to accomplish the same task. International development, certainly since the inception of the Green Revolution, has relied primarily on professional or semi-professional organizations to try develop solutions for educational challenges in developing nations. These 'traditional' efforts have often included universities, government agencies, major international organizations, religious groups and/or NGOs -- but average people who may be able to volunteer some of their time have often been left out of the equation, leaving a giant untapped talent pool. A second area of concern in terms of international development is that knowledge distribution has often been undertaken by international development organizations or

individuals. Notably, the responsibility for the distribution of educational content has often rested in the hands of a few working in the given country, or receiving specific grant funding for particular educational topics. This means that for the funded project's duration there may be limited (if any) accessibility to outside groups and once the program has come to an end, such materials may no longer be accessible.

The current technological revolution -- based on internet access, low-end laptops, tablets, DVD/vCD players and cell phones -- has the potential to bring new opportunities to the one billion. Although many of these devices are still not universally accessible there is evidence that the use of cell phones and other video-capable technologies are becoming more readily available to users in developing nations -- and the current trend points toward much greater accessibility in the future. However, as these technologies change and become more accessible, educators need to think about how they can use these portals for deployment of educational content appropriate for low literate learners, in their own language, in a cost-effective and simple manner.

Technology plus strategy

Technology -- without highly accurate and appropriate educational content -- is not going to help solve many of the challenges faced by low literate learners in their daily effort to minimize diseases, ward off pests, or generally increase their standard of living in other ways. An alternative approach to animation has been the filming of videos in local languages and with the advent of low-cost filming devices, such an approach has considerable potential over the long-term. Indeed, we do not see live-action filming and animation as 'one system versus another' but rather as two complimentary approaches.

Where animations diverge from live action filming is simple: Animations allow one to draw upon educational and scientific experts, artists, linguists, and a plethora of other talent from around the world who are not actively involved in 'professional international development' but nevertheless have small amounts of spare time. Live-action filming by definition involves mainly 'in-country' groups, often with specific grant funding for the given topic. However, animations have the potential to draw on the skills of local groups *and* people from around the world with incredible levels of expertise on a given topic, brought together virtually to weigh in on technical details or aesthetic aspects of educational animated videos; to ensure technical accuracy and edutainment (education and entertainment) quality. Additionally, once the videos are distributed they can be amended based on feedback and numerous new languages or even accents within a language can be added.

SAWBO's videos have been distributed in India and half-a-dozen countries in Africa through a variety of mechanisms including the use of cell phone-ready 3gp files. Files can be downloaded from the [SAWBO website](#) or the Sustainable Development Virtual Knowledge Interface ([SusDeViKI](#); cell phone ready versions only). Although the videos cannot be electronically tracked once downloaded from our sites (due to legal and ethical reasons), SAWBO knows the numbers of daily and regional downloads. Interestingly, the most downloads per unit time for specific language voice-overlaid videos occur following targeted press releases via email to local education and extension groups. We have also had 'non-professional deployers' (those that work outside the traditional structure of international development) contact us with the results of their efforts to show these videos to others in their villages.

Following deployment and feedback of videos in Niger, two themes emerged again and again. First, SAWBO received incredibly positive feedback regarding the ease with which content could be understood -- as well as the videos being extremely entertaining. Second, users are clamoring for more videos on topics ranging from other agriculture topics to social issues such as reducing forced marriage in young girls. The next phase of the SAWBO project is going to use crowd-sourcing to

generate ideas for videos covering procedures to minimize post-harvest losses of crops around the world.

In order to meet such demand, there is clear a need to draw upon the creative talents of a much larger community of people in an organized manner. Put simply, SAWBO's ultimate goal is the engagement of citizens around the world who can help improve the lives of others through their scientific or artistic talents.

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