

Based on the success of this effort, Siyavula decided to substantially increase the production of open educational resources so they could provide the Intelligent Practice service for a wider range of books. Grades 10 to 12 math and science books were reworked each year, and new books created for grades 4 to 6 and later grades 7 to 9.

In partnership with, and sponsored by, the Sasol Inzalo Foundation, Siyavula produced a series of natural sciences and technology workbooks for grades 4 to 6 called Thunderbolt Kids that uses a fun comic-book style.⁴ It's a complete curriculum that also comes with teacher's guides and other resources.

Through this experience, Siyavula learned they could get sponsors to help fund openly licensed textbooks. It helped that Siyavula had by this time nailed the production model. It cost roughly \$150,000 to produce a book in two languages. Sponsors liked the social-benefit aspect of textbooks unlocked via a Creative Commons license. They also liked the exposure their brand got. For roughly \$150,000, their logo would be visible on books distributed to over one million students.

The Siyavula books that are reviewed, approved, and branded by the government are freely and openly available on Siyavula's website under an Attribution-NoDerivs license (CC BY-ND) —NoDerivs means that these books cannot be modified. Non-government-branded books are available under an Attribution license (CC BY), allowing others to modify and redistribute the books.

Although the South African government paid to print and distribute hard copies of the books to schoolkids, Siyavula itself received no funding from the government. Siyavula initially tried to convince the government to provide them with five rand per book (about US\$35¢). With those funds, Mark says that Siyavula could have run its entire operation, built a community-based model for producing more books, and provide Intelligent Practice for free to every child in the country. But after a lengthy negotiation, the government said no.

Using Siyavula books generated huge savings for the government. Providing students with a traditionally published grade 12 science or math textbook costs around 250 rand per book (about US\$18). Providing the Siyavula version cost around 36 rand (about \$2.60), a savings of over 200 rand per book. But none of those savings were passed on to Siyavula. In retrospect, Mark thinks this may have turned out in their favor as it allowed them to remain independent from the government.

Just as Siyavula was planning to scale up the production of open textbooks even more, the South African government changed its textbook policy. To save costs, the government declared there would be only *one* authorized textbook for each grade and each subject. There was no guarantee that Siyavula's would be chosen. This scared away potential sponsors.

Rather than producing more textbooks, Siyavula focused on improving its Intelligent Practice technology for its existing books. Mark calls this version three of Siyavula's business model—focusing on the technology that provides the revenue-generating service and generating more users of this service. Version three got a significant boost in 2014 with an investment by the Omidyar Network (the philanthropic venture started by eBay founder Pierre Omidyar and his spouse), and continues to be the model Siyavula uses today.

Mark says sales are way up, and they are really nailing Intelligent Practice. Schools continue to use their open textbooks. The government-announced policy that there would be only one textbook per subject turned out to be highly contentious and is in limbo.

Siyavula is exploring a range of enhancements to their business model. These include charging a small amount for assessment services provided over the phone, diversifying their market to all English-speaking countries in Africa, and setting up a consortium that