

## SUCCESS STORY

### Visually Impaired Students Find Independence Through Mobile Devices Assistive Technology in the Classroom Expands Learning and Teaching Opportunities *Syracuse University/Kenyatta University*



Photo courtesy of Joanna Masingila

Sammy Luvonga, who lost his sight as a child, uses a computer with a built-in function called VoiceOver to listen to notes or electronic documents being read to him.

*“One of the court executives asked me, ‘How are you able to do your reports?’ and I explained to him how I am using the iPad and he told me ‘You are an able man,’ and I am because of this assistive technology.”*

— Silas Opanga, law student at  
Kenya University

Before June 2012, when visually impaired students Sammy Luvonga and Silas Opanga attended classes at Kenyatta University (KU), they would bring a bulky manual braille machine and expensive paper they purchased themselves. The scarcity of braille machines on campus and academic materials in Braille, as well as difficulty in getting materials converted to Braille, were huge obstacles.

In the summer of 2012, how Silas and Sammy accessed text changed. They were among a group of four visually impaired KU students to receive an iPod® mobile digital device and a wireless keyboard through a U.S. Agency for International Development-funded, Higher Education for Development managed-project between KU and Syracuse University (SU) focused on improving teacher education for all learners using technology

Today Sammy and Silas are among KU’s approximately 50 visually impaired students who have access to computers installed with special software called a screen reader. KU’s library has a limited number of these computers and headphones where students can access text in electronic versions via the Internet or other electronic formats such as a PDF. “It was difficult to study for exams because we had to have someone read lecture notes to us,” said Silas, a fourth-year law student who became blind at the age of 16. Sammy, a fourth-year education student who lost his sight as a child added, “It was also difficult to think of how we would easily prepare notes for teaching classes during teaching practice and when we become teachers.”

An iOS-supported device, like iPod or iPad® mobile digital devices, serves as a screen reader using a built-in function called VoiceOver that reads aloud what is displayed on the screen, displays large or high contrast text, magnifies print, and recognizes and describes colors.

Within a few days of receiving the devices, the KU students were reading and creating documents, checking and sending emails, uploading documents to a learning management system, listening to music, and creating Facebook accounts. “Having the iPod gave me independence. I didn’t have to have someone read notes to me. I could listen to notes being read by my iPod or listen to the lecture that I audio recorded,” said Silas.

In January 2013, the group of four students replaced the iPod mobile digital devices with the iPad mini™ mobile digital devices and trained 10 more KU students with visual impairments to use iPad minis and keyboards. Later that same year, Sammy used his iPad mini and keyboard to teach students at the Kibos School for the Visually Impaired near Kisumu. “I prepare my notes and scroll through them during class using the keyboard, and listen to the notes using headphones. My students think I have lots of books on my iPad because I find all the information I need there,” explained Sammy. During the same time period, Silas completed an educational attachment (internship) at the Thika Law Courts. He explained how the mobile device is invaluable for his work, “For my judicial



attachment I have to use case law. So, I will go to the Internet, go to the relevant sources so I can apply them when writing that judgment, using my iPad. Then, I will send it to my email and go print it using the printers at the law courts. Then, I will be able to present it to the magistrate. One of the court executives asked me, 'How are you able to do your reports?' and I explained to him how I am using the iPad and he told me 'You are an able man,' and I am because of this assistive technology."

As of January 2014, 20 of the 50 visually impaired students at KU have iPad mini mobile digital devices and are able to work more independently.

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