

ASU team implements offline digital library for orphanage, school in Kenya

More than 300 books, videos now available to students in English and Kiswahili

By Scott Bordow, ASU News
June 5, 2025

Sunlight streamed through the windows of the second-story office, and a gentle wind rustled the curtains.

It was 11 a.m. on a May Saturday in the small town of Lumakanda, located in a rural area of Western Kenya, and Beth Blue Swadener couldn't believe that Mother Nature had provided such a perfect setting for the day.

"It typically rains there a lot," said Swadener, a professor emerita in Arizona State University's School of Social Transformation. "It's a very rainy, wet part of Kenya. But there wasn't a drop. It was just this healthy, light-feeling space."

Swadener looked around at the 70 people inside the room. She noticed the 11 students from ASU's EPICS program — for Engineering Projects in Community Service — that had traveled to Kenya to implement the offline digital library they had created.

More than 25 years earlier, Swadener had co-founded the Jirani Project, which sends orphans and children in difficult circumstances to preprimary through secondary school, and then provides vocational training and startup funding for their careers.

For years, she had dreamed of a day when the children in Jirani would have access to a digital library and class curriculum — technology that kids in much of the world take for granted.

Now, that day had come. And as three children read a storybook from the library on their donated tablets, tears streamed down Swadener's face.

“I was crying, and I had goosebumps all over me,” Swadener said. “You can just imagine the excitement when your dream becomes a reality. It was a thrill. Just such a thrill.”

On May 11, the students from ASU’s EPICS team flew to Kenya to install the digital library they had worked on for three years at the Jirani Project and at an orphanage for deaf children.

At the Jirani Project, the new library consisted of the class curriculum and more than 300 books and videos in both English and Kiswahili, a language common to several regions in Africa.

At Lance’s Deaf Orphans, a home and school for 42 deaf students ranging in age from 4 years old to 20 years old, the library also included educational videos in Kenyan Sign Language.

ASU’s students watched the children smile with delight as they perused the books and videos.

“It was incredible,” said Hrisika Jagdeep, an incoming fourth-year student majoring in computer science and the chief executive manager of ASU’s team. “The children were just absolutely so kind and so wonderful to work with. The fact that we were given this opportunity is an incredible honor. I’m so thankful to ASU for that.”

The digital library was born out of a conversation three years ago between Swadener and Courtney Langerud, who is in her third year of her PhD in justice studies in the School of Social Transformation.

Swadener was the chair of Langerud’s graduate research, which focused on creating an information hub and resources for deaf education in Kenya, where Langerud had done research as an undergraduate student.

As Langerud completed her thesis, Swadener started thinking that Langerud’s work could be used in a similar way to [SolarSPELL](#), an ASU project that is providing solar-powered library devices to 15 countries around the world.

“I said to her, ‘Good gracious, if we could ever have something like that.’ ... It was a fantasy of mine.”

Langerud, working as a coordinator for EPICS at the time, brought the idea to Jared Schoepf, director of ASU’s EPICS program, and soon the 11-person team was formed.

“This is one of our unique opportunities where not only are we working on projects, but it’s an opportunity for students to actually travel to these locations, to talk to people and learn their culture and their challenges and user needs,” Schoepf said. “And then work with them to deliver a solution for the community.”

Will Reinhart, the team’s chief operations manager and an incoming fourth-year majoring in electrical engineering, said it took more than five semesters and “hours and hours” of conversations with Langerud to come up with the finished device.

Langerud said because children at the Jirani Project and Lance’s Deaf Orphans have access to donated laptops and tablets but are without cell reception and in an area where wireless is either poor or nonexistent, the digital library had to be placed on a storage device that could simply be plugged into a local power source. Once connected, the children could have access to the

downloaded files.

“It’s very similar to when you’re on a plane,” Schoepf said. “If you’re watching a movie, you’re not necessarily streaming it. It’s stored on a hard drive on the plane, and you’re connecting to that.”

Langerud said the offline library is vital because many of the books at the Jirani Project or Lance’s Deaf Orphans are donated and either out of date or have deteriorated over time.

“This allows them to have updated information, with students that look like them, in their native language or Kenyan Sign Language where they can see a picture of someone signing rather than having hand-drawn pictures of signs in their rooms,” Langerud said. “So, yeah, a very, very big difference.”

The students’ visit to the Jirani Project was attended by nearly 70 members of the local community, including educators from Lumakanda Township, and was covered on three television stations and at least four radio stations.

Langerud became emotional when she returned to Lance’s Deaf Orphans, the school that shaped her passion for inclusive education.

“The trip was everything I hoped for and more,” Langerud said. “Getting to see those students was just incredible and humbling. It was a great way of reminding myself that the work we do isn’t linear. It’s relational, it’s reciprocal and it’s rooted in these long-term commitments, which is what we’ve done here.”

As he talked about the trip, Reinhart thought back to his decision three years ago to leave his hometown of Pittsburgh and enroll at ASU.

His friends wondered why he would go to a university across the country.

Now, they understand.

“When I came to Arizona State, I never expected to be able to make an impact on the other side of the world,” Reinhart said. “The fact that ASU gave me the opportunity and the financial means to be able to support a project like this is really amazing.

“All my buddies are jealous that I was able to do it. They’re like, ‘You’re an undergrad, and you’re making an impact.’ I’m forever grateful.”

This story originally appeared on [ASU News](#).

Main image



Twelve-year-old student Beatrice from Lance's Deaf Orphans home and school in Kenya poses with an ASU EPICS flyer. An 11-student team from the EPICS program visited the school this May to install a digital library that provides updated educational content that can be accessed in remote areas. Photo by Tyler Cloar

Text image(s)



Arnav Limaye and Hrisika Jagdeep during the implementation of an offline digital library at the Jirani Project. Photo courtesy of Courtney Langerud



A classroom at Lance's Deaf Orphans home and school in Kenya will benefit from the digital library. Photo by Courtney Langerud