



SUCCESS STORY

Think Global, Make Local and 3D Printing Propels Young Cambodians into the Future



Chanrithykol Em, one of Think Global Make Local’s top students, and his STEM learning tool, [DoyDoy](#).



Molika, with her Khmer script literacy tool “[AKARA](#)”, talks about how she recognized a decline in Khmer script writing.

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Telling Our Story

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In their current location at [the Royal University of Fine Arts](#) in Phnom Penh, a pair of Cambodian-American brothers, along with instructors from the United Kingdom and Australia, are mentoring two young Cambodian designers. Ki-How and Ki-Chong Tran are co-founders of [ARC Hub PNH](#), the first 3D printing solutions business in Cambodia.

This year, ARC Hub PNH won a grant from [USAID’s Development Innovations](#) which helped to launch [Think Global Make Local \(TGML\)](#), a free high quality product development training course for committed Cambodians. They had heard the observations from employers that university graduates in Cambodia lack the professional and technical skills to design innovative products and this could be an obstacle to economic development. As a result, 10 highly committed students were selected to dive into six weeks of courses focused on design topics ranging from 3D printing, to electronics and robotics. The 10 students were all asked to develop a prototype to complete the course.

Among the prototypes developed, two top students were chosen for an additional month of business development training to market and sell their products. Molika, a 27 year old architect, and Chanrithykol, a 20 year old student at [the Royal University of Phnom Penh](#), both found out about TGML while looking for learning opportunities on Facebook. Chanrithykol already had the idea for an affordable learning tool that could help children in low-income communities cultivate an interest in STEM. Similarly, Molika recognized a deterioration in literacy of the Khmer script, and wanted to develop a tool to promote and maintain her nation’s culture.

Both were novices to 3D printing. “I never knew about 3D printing before. We made all of our architectural models by hand,” remarked Molika.

With the help of their TGML instructors, Chanrithykol has since designed and produced [DoyDoy](#), “a low cost learning and innovation tool for children in poor countries that can be extended to civil engineering students,” describes Chanrithykol. DoyDoy is a set of brightly coloured plastic straws that can be connected by black and white joints to create structures to the liking of its designer.

Meanwhile, Molika used computer design and a laser cutting tool to produce plastic stencils “[AKARA](#)” to help young Cambodian children, as young as 3 years, to learn how to write letters in the Khmer alphabet, properly. Not only can children use the stencils to write, but they can also combine the blocks to produce words.

With the business development training they continued to receive after TGML finished, both Chanrithykol and Molika have ambitious hopes for their products. Chanrithykol envisions that DoyDoy can be spread beyond Cambodia and to other low income countries. Molika recognizes that her product is still in its beta model, and is currently searching for local organizations that specialize in children and education to test out her learning tool in order to get feedback.

Both top students also recognize that learning and design are a lifelong processes that they must continue to further develop their products. “If I learn more about technology, I would like to make sounds with the stencils. Then they will know how the letters are called,” said Molika.