Coding simplicity into learning

Education startup Code Gakko uses a customised platform and materials to boost instruction consistency and also aid in its expansion plans. BY LEILA LAI

CODING made so simple that even a non-coder could teach it to primary school students. That is the goal of local coding education startup Code Gakko. Named after the Japanese word for "school", Code Gakko is inspired by the Japanese school culture of independent learning and academic excellence.

Founded in July 2016 by three Yale-NUS computer science students, the startup is developing its own coding platform GakkoBlocks, complete with slides, videos and a teacher's dashboard to make teaching as simple as following a lesson plan.

By providing prepared materials, Code Gakko can guarantee more consistency in its education, and scale faster in countries where trained instructors are in short supply. Leveraging this scalability, the startup plans to reach as many as 16 new countries within 2018.

"Effectively, what we want is that anyone without experience can teach coding at a very affordable and economical rate," said CEO Daphne Tan, a final-year business student at Nanyang Technological University (NTU) who joined the team in December 2016.

"After one instructor is sent to teach the first term, the school can take the platform and run classes on its own. This will be cheaper, so everyone in Singapore and South-east Asia can afford it."

The current team comprises five students from NUS and NTU, with one co-founder remaining on board as an adviser. In 2017, the startup conducted classes for three local primary schools and one international school, and held one tertiary-level bootcamp.

Code Gakko is backed by an angel investor in the Philippines, who has invested a six-figure sum so far. The Philippines was also where the academy held its first overseas classes in November 2016, teaching 40 students at two schools.

Booming market

Revenue for 2017 was about S$45,000, a number that Ms Tan feels is satisfactory for their team's size and limited number of clients and programmes they have now. She added that Code Gakko expects to undergo one more angel round of funding before moving on to seed and series rounds, and plans to expand into other parts of South-east Asia through a collaboration with Adam Khoo Learning Centre (AKLC) this year.

Expertise in programming languages such as SQL, Java and C++ are among the top 10 in-demand skills for candidates from entry-level to senior management jobs in Singapore's info-communications and technology (ICT) industry. This is according to a May 2017 study conducted by the Future Jobs, Skills and Training (FJST) unit of the National Trades Union Congress.

"We have a shortage of people with the skills, training, acumen and appetite for ICT job openings," FJST director Patrick Tay wrote in a blogpost about the study results. "Among those whom I know, both young and mature workers, who are working in coding/programming and software development, they are very much sought after and decently paid."

Consultancy Kelly Services also noted in its Singapore 2017 Salary Guide that the ICT industry is expected to add up to 30,000 new jobs by 2020.

In vogue

Programming skills are in vogue, and more parents are pushing their children into the field, which is tough on those who might dislike it, Ms Tan said.

She thinks it is crucial to let students explore various options early so they can discover their passions, saying: "Years ago, the big thing was bioscience, biodata and biomed. Everybody sent their kids to biomed schools. But by the time the kids graduated, the wave was over. Why not find something that you're interested in?"

The company first joined the Ministry of Education's Code for Fun enrichment programme to provide lessons in local schools, but struggled to compete for contracts against more experienced companies.

Looking to differentiate themselves, the Code Gakko team realised that teaching with popular block-based programmes such as Scratch and Hopscotch was a key hurdle to running a coding education business efficiently.

The programmes are easy to pick up, but do not teach fundamental concepts. Certified instructors produce their own materials to teach those, and if an instructor is unavailable, the substitute instructor may have a

Code Gakko's team comprises five students from NUS and NTU, including Hillary Tan (above), a final-year business student at NTU. Code Gakko is backed by an angel investor in the Philippines, who has invested a six-figure sum. PHOTO: HILLARY TAN

vastly different teaching plan. Because of this, instructors and coding schools are under pressure to avoid replacing any teachers.

"Some schools are pretty particular, and complain if your instructors are not consistent. But the instructors sometimes fall sick, or just don't turn up. Some things are not within our control," Ms Tan said. With GakkoBlocks' custom-built platform and standardised teaching material, Code Gakko can ensure uniformity with any teacher.

"We need to train a few teachers to teach, but the slides, content and exercises that we created on the platform will be the same. The teacher can't ask you to create something that is not in the chapter or assigned exercises,"

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she said. "This is how we maintain the consistency and quality of our education."

The team currently employs several developers to work on GakkoBlocks, and maintains a database of 30 to 40 instructors. Since mid-2017, they have focused more on developing GakkoBlocks into a saleable product by June 2018.

Future plans

However, Code Gakko continues to conduct lessons for Xinmin Primary School, which has been beta-testing the GakkoBlocks platform over the past year, as well as Stamford American International School and NTU. This year, it is exploring expansion plans, which includes a new partnership with AKLC to market its Aspire Alpha and Aspire Immersion bootcamps on the brand's BeyondClassroom platform.

"We hope to gain exposure through BeyondClassroom's digital marketing efforts and tap on AKLC's existing base of students in Singapore, Indonesia and Vietnam," said Ms Tan.

"By working with BeyondClassroom to list our programmes and bring participants to the site, we can create a sustainable ecosystem of students."

❚ *The writer is a final year student at NTU's Wee Kim Wee School of Communication and Information, and a former intern at The Business Times.*