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A new class of education start-up

By Philip Delves Broughton



Technology, 101: Stephanie Dua used to run the department that raised private funds for New York schools and is now part of a growing wave of education start-ups in the city

For five years, Stephanie Dua had a close-up view of the changes under way in American public education.

As chief executive of New York City's Fund for Public Schools, she was responsible for raising private funds to support reforms to public education. These ranged from preparing teachers for Common Core, which will set standards in English and maths, to improving school libraries and starting a helpline for parents. But in 2011, she decided to join the city's swelling ranks of education professionals turned entrepreneurs.

Under Mayor Michael Bloomberg, New York has become a laboratory of educational experiment. In efforts to improve the city's schools, which vary wildly in quality, he has encouraged entrepreneurs and innovators in education to apply their ideas to education. Many have found a home as well as funding and talent in the city's flourishing tech and start-up scene.

Investments by Google and Facebook have made New York a magnet for computer scientists and designers. The social mission of ed-tech companies is also appealing to the young, talented and already highly paid.

After 10 years in education reform, Ms Dua had observed how hard it was to change the system and the outcomes, despite funding and better tools. Especially distressing were the low levels of reading proficiency among children under 10, a key indicator of future academic success. She concluded that while changing the school system was hard “it is not that hard for one parent to change one’s child’s life” with the right tools.

After some fine tuning, she raised \$2.2m in seed funding from private investors for Homer, her start-up which is developing apps for tablet devices to help children learn to read. She has a growing team of literacy experts, programmers and designers, currently around 15, and offices in the same Brooklyn building as MakerBot, the 3D printing company.

“I didn’t start a company to say I was an entrepreneur running a tech start-up,” says Ms Dua. The challenge she sought to meet was that “children need a much more thoughtful experience to build their literacy skills”.

Her inspiration was disappointment with the books available when helping her daughter learn to read. She also had a network of contacts she had developed at the Fund. Starting with improving early literacy tools, she feels she might eventually affect large-scale change. Ms Dua has invested heavily in the look and feel of Homer, which involves recreating the best of traditional children’s literature and getting away from what she calls the “bubbly eyes” of many contemporary children’s characters.

The tablet device, she says, is perfect for young children as it is immediately immersive and interactive.

Creative teaching

Companies in education technology tend to operate mainly in one of three overlapping categories:

Access Content can reach new audiences via devices such as tablets. With Moocs – massive open online courses – anyone, anywhere can view lectures and take courses offered by the leading universities and companies such as Udacity or Coursera.

Her ambition and start-up experience exemplify a new optimism in education technology that is most visible in the technology hubs of Silicon Valley and New York. Investors who have been repeatedly scorched by the lofty ambitions and lousy revenues of ed-tech companies are coming back, convinced that this time is different.

They feel the education industry is set to crack. Under Mr Bloomberg, New York has sought to make entrepreneurs part of its education reforms, which has given the city an edge in attracting new ed-tech companies.

Ms Dua released her first Homer on the iTunes store last week.

Social hubs, such as Chegg, are used for homework help, note-taking and finding courses.

Learning The way students learn is changing, thanks to video and interactive technology. For instance, Homer's first app rethinks how children learn to read. In adaptive learning, students can learn at their own pace, with tailored content; Knewton is a leader in this field.

Assessment Schools, parents, teachers and students can keep constant track of how students and teachers perform, rather than wait for test results. Companies include Pearson, owner of the Financial Times, and Teachscape.

Selling to schools will come later. Many ed-tech start-ups, “try to sell to parents and schools at the same time, and sell to neither one right. We’re going to really try to nail one and then think about how it applies to the other.”

The industry structure of education is heavily bureaucratic and understandably conservative. Despite all the new, disruptive opportunities, parents and students tend not to take wild risks with their learning. Textbooks and standard curricula, after all, provide reliability, efficiency and consistency at massive scale, which the newer forms of learning have yet to show they can do.

Michael Horn, executive director for education at the Clayton Christensen Institute, a think-tank focused on disruptive innovation, says: “During the dotcom boom, there was a lot of hype around educational technology. But you only saw a few build lasting businesses [such as Blackboard]. Now we’re seeing a second wave in which the disruption could be much more far-reaching.”

From kindergarten to university, education is a trillion-dollar industry in the US alone. “It’s not going great and it’s not that efficient, which for investors represents an opportunity,” says Mr Horn. Whether it is the spiralling cost of university or the way teaching, especially in scientific subjects, often lags behind advances in knowledge, there are plenty of problems for entrepreneurs to tackle.

The difficulty, says Mr Horn, is finding the formula for success. “What we really need is some patience, a focus on getting the business models right, then growing – rather than the other way round.”

A few big exits in recent years have encouraged investors and entrepreneurs. Connections Education, an online company serving schoolchildren was sold to Pearson, owner of the Financial Times, for \$400m in 2011, 10 years after it started. News Corporation paid \$360m in 2010 for Brooklyn-based Wireless Generation.

Then there is Knewton, a five-year-old start-up that raised \$54m for its technology for adaptive learning – in which teaching is tailored to progress – and is expanding overseas. David Liu, its chief operating officer, recently attended a meeting with Arne Duncan, US education secretary, and several ed-tech companies. “We all talked about how ed-tech companies spend an immense amount of time . . . trying to find the right people to talk to. It only takes one person to kill a deal in this space, which makes it very difficult to scale,” says Mr Liu.

Knewton's answer has to be to build a platform accessible to all the entrenched education publishers and service providers (examiners, schools, test preparation companies). It offers technology that tracks students' progress and suggests next steps, and can be integrated with other materials. "We think of ourselves as like the old BASF commercial, which said 'we don't make the tyres, we make the tyres better'. We help make other people's products better."

Simply putting courses and lectures online goes some way to solving the problem of access, says Mr Liu. "But once that's solved, now what? Does this work better for [students] or not?"

It took Knewton a couple of years to settle on its platform strategy – and then a lot of investment to survive. "Education requires a lot of cash to sustain you till you break through. The runway in [this] industry is far longer than in others," says Mr Liu.

For all these reasons, education offers a very peculiar kind of opportunity, ripe in theory, gnarly in practice and suited to only a very durable kind of entrepreneur.

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