

Learning the Duolingo – how one app speaks volumes for language learning

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Bill Gates, the billionaire philanthropist, can lay claim to a lifetime of achievements, but confessed earlier this year that a foreign language was missing from his CV.

During an online chat, the former Microsoft chairman and world's richest man said he feels “pretty stupid” that learning a foreign language had eluded him.

In an attempt to tackle the problem, he rejected using some of his \$79bn wealth to hire a private tutor. Instead he joined the 70 million people around the world who have logged on to Duolingo, the free online courses that aims to democratise the teaching of languages to anyone with a smartphone, tablet or laptop and an internet connection.

Launched in 2012, the app applies computer science to the teaching of English, French, Spanish and German – as well as other languages – by developing a “tree” of skills in which the user goes from one challenge to the next. The method has been curated by examining how thousands of users react to learning one skill, for example verbs, before another, such as adjectives, and finding the most beneficial.

Behind the online phenomenon are founders Luis von Ahn and Severin Hacker, two computer scientists who generated the idea while working on a project to translate web pages at Carnegie Mellon University in Pittsburgh. What emerged is an app in which the user answers multiple-choice questions, speaks translations into a microphone, and types in phrases in a structured tree of learning. Before its inception, the 35-year-old Von Ahn was already a millionaire having sold two companies to Google – he is credited with being a co-inventor of the Captcha web security system, which uses distorted sequences of words to recognise a human user.

Having grown up in Guatemala, he wanted to develop an educational opportunity for which those without money could learn a language, advance their chances of getting a job and increase their income potential.

“It has a lot to do with where I grew up because I did grow up in a very poor country, in Guatemala. In the case of education, something amazing happens when everyone can have access to the same education,” he says.

“My main philosophy is that everyone should have equal access – and unfortunately not even Duolingo is equal access because it requires you to have a phone. It requires you to have a data plan for your phone ... but it is the closest I know how to get equal access.”

Behind the company lies the belief that there is something broken with educational systems around the world, in that students can often leave school with limited knowledge despite 12 years of learning or that teachers can find it difficult to focus on a mixed-ability class of students.

By using algorithms to estimate how well users work on an exercise, people who fare better will get different questions than those that find experience difficulty in the Duolingo classes.

Von Ahn says education around the world could work much better. “There are one billion adults in the world that don’t know how to read and write and we are in the 21st century, and that is unfathomable to me.”

“Even in developed countries, even here in the United States, people have to study maths for 12 years and at the end they barely know how to add fractions. The average graduating senior from the United States does not really know how to add fractions which is also ridiculous for something that literally every single day of your life for 12 years you had to do ... they could learn how to add fractions in probably a month.”

In the UK, around 2.5 million have signed up. Of Duolingo’s 70m registered user, about 15 million are active every month. The large drop-off rate – which includes Bill Gates, who said in the Reddit interview that he gave up without giving a reason – is a by-product of online learning, says von Ahn. His ambition is to develop a service that is as good as having a one-on-one tutor.

The app’s highest level of achievement allows the user to express themselves in a limited way in familiar situations - in that they will be able to communicate though they will not be fluent.

“We want to be as good as a human one-on-one tutor but we are not there yet,” he says. “We are nowhere near as adaptive as a human tutor who, by looking at your facial expression [sees] you are a little hesitant on something. They may bring [that] kind of human touch to it and we are not as good as that but I think we could be. It will take a really long time to get as good as a human tutor, to be honest.”

Duolingo does not charge for lessons, or has ads, instead generating revenue via a service in which users practice language skills by translating articles for clients, such as CNN. It also makes money through a certification system in which users can take a test to prove their language proficiency – a multibillion-dollar industry, according to Von Ahn, to which Duolingo aims to become the gold standard.

Among the investors who have pumped \$38.3m of venture capital into the company has been actor Ashton Kutcher. The investors are committed to not charging for the teaching content, says von Ahn.

After languages, he says, the next move may be to teach literacy, which can also have an immediate impact on employment opportunities. The ambition is to have a range of apps which teach a number of subjects intuitively, he says