UCLouvain

L'Université en dialogues

University Conversations

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À l'initiative de Vincent Blondel

Quand l'université se laisse interroger par la société, cela donne un éventail de dialogues.

Des chantiers s'ouvrent dont les acteurs sont politiques, économiques, culturels, intellectuels, sur des thèmes aussi divers et connectés que la ville, l'entreprise, l'école, le développement durable. Avec au cœur et à l'esprit des valeurs d'excellence, de solidarité et de connaissance.

Les femmes et les hommes qui ont noué ces dialogues n'ont pas craint de poser des questions et d'interpeller. Avec eux, l'université répond, explore, invente.

When the university takes society's questions, fascinating conversations ensue.

Political, economic, cultural and intellectual actors are engaged in projects that address diverse, interconnected themes such as the city, the company, the school, and sustainable development, guided by the essential values of excellence, solidarity, and knowledge.

The women and men who generated these conversations were not afraid to pose questions and challenge an institution. To them, the university responded, explored, and imagined.

Avec la participation d'Anant **Agarwal**, Amine **Ait Chaalal**, Nathanaëlle **Baes**, Christophe **Beauloye**, Mathieu **Berger**, Nicolas **Bernard**, Alexander **Beyer**, Vincent **Blondel**, Charles-Hubert **Born**, Jean-Pierre **Bourguignon**, Hans **Bruyninckx**, François **Crépeau**, Bernard **Declève**, Tom **Dedeurwaerdere**, Tom **Delreux**, Ralph **Dekoninck**, Yves **Deville**, Bernard **De Vos**, Françoise **Docq**, Frédéric **Docquier**, Vincent **Dujardin**, Hugues **Dumont**, Élise **Dupont**, Pauline **Dupret**, Vincent **Dupriez**, Isabelle **Durant**, Claire **Godding**, Maximilien **Gourdin**, Alda **Greoli**, Julien **Hendrix**, Amélie **Jacquemin**, Jean-Michel **Javaux**, Amina **Koullo**, Enrico **Letta**, Éric **Mangez,** Jean-Claude **Marcourt**, Laura **Merla**, Charles **Michel**, Johanne **Montay**, Marthe **Nyssens**, Sophie **Opfergelt**, Michel **Pasteel**, Jean-Pierre **Raskin**, Jean-François **Rees**, Valérie **Rosoux**, Sylvie **Sarolea**, Nathalie **Schiffino-Leclercq**, Marie-Martine **Schyns**, Sarah **Sepulchre**, Françoise **Smets**, Valérie **Swaen**, Antoine **Tanzilli**, Edoardo **Traversa**, Virginie **Van Ingelgom**, Marie **Verhoeven**, Laurent **Verslype**, Paola **Viganò**, Didier **Viviers**, Gautier **Waterlot**, Jean Cyr **Yombi**, Jean-Pascal **van Ypersele**, Vincent **Yzerbyt**

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Prof. Agarwal's vision of the future of higher education entails that universities meet three challenges. First, they must make education 'modular'. Second, universities must make education 'omnichannel': both on-campus and online pieces of education should be offered. Third, higher education should target 'lifelong learners' aged 18 to 68. Professionals should easily find pieces of education that address their professional needs. Crucially, the distinction between initial and lifelong education should disappear.

Left to right

Vincent Blondel
Rector of UCLouvain

Françoise Docq
E-learning and university teaching instructor at Louvain Learning Lab

Valérie Swaen
Professor at Louvain School of Management

Anant Agarwal
Founder and CEO of edX

Yves Deville
Professor at Louvain School of Engineering

Online learning : a wake-up call for higher education

The Internet continues to change how we teach and learn. Private courses, MOOCs, entire degrees earned online, companies playing the role of educator. What is the future of online learning at UCLouvain? What are possible goals? Is living on campus even necessary to obtain a quality university degree? What kind of students should be targeted and how will the professor's role change? Are new models of teaching and learning necessary? UCLouvain Honorary Doctor Anant Agarwal is full of ideas.



Anant Agarwal directs the edX online learning platform, founded by the Massachusetts Institute of Technology (MIT) and Harvard University. A professor of electrical engineering and computer science at MIT, he is also a successful entrepreneur, having co-founded several companies in the field of technology.

The year is 2050. The University of Louvain (UCLouvain) focuses on delivering on-campus education. It's still the largest university in the French Community of Belgium, with more than 70% of the community's students, yet it's not perceived as a massive university. Rather, UCLouvain is appreciated as a family community where everyone knows each other. The student body has shrunk to 20,000, mirroring the decades-long decline in the number of on-campus students throughout the world. The reason: young people now prefer to earn their living as soon as possible, knowing they will get trained by their employers, and can easily take after-hours online courses provided by global higher education institutions; adults prefer more flexible education options; and international students prefer less locally focused universities. But some people still want to physically attend a university to think about what they want to do with their lives, make lifelong friends and experience unprecedented freedom. The UCLouvain student body is less varied than in the past, making teaching a simpler affair. UCLouvain lecture halls have been subdivided into classrooms equipped for active learning. Parents are confident in entrusting their teenagers to UCLouvain, and UCLouvain is proud to be a large, local, old-fashioned university.

Professor and edX CEO Anant Agarwal would not be proud.

'This is not a good scenario,' he flatly stated. 'For any university. Maybe it helps students for a few years, but real training takes place elsewhere. The described university is a small, closed place, and any online training comes from outside. Even from a 2018 perspective, never mind 2050, this scenario describes the university of the past.'

Thus began a February brainstorming session the day after Prof. Agarwal was awarded a UCLouvain honorary doctorate for his groundbreaking work in online education. UCLouvain Rector Vincent Blondel invited him to discuss the future of online learning and higher education – and how UCLouvain should prepare for it – with Digital University Senior Adviser Yves Deville, Louvain moocXperience Manager Françoise Docq, and Louvain School of Management Professor Valérie Swaen.

His initial words resonated like a wake-up call to which the immediate implied answer was a question: Are the traditional university's days numbered?

What is – and will be – the role of a university?

The university in the 2050 scenario reminded Prof. Agarwal of the old days in India, when very rich people took their children to elite, exclusive schools. 'It's too much of a niche', Prof. Swaen agreed. 'The emphasis is entirely on the young, while lifelong learners of all ages are completely absent.' Absent because they're getting their education online from companies, or from universities that found a way to survive in an online world. Prof. Agarwal would like to see universities play an important role in lifelong learning, rather than just the small, niche role.

Of course, even today an individual can earn a higher education degree without ever

stepping foot on campus. This understandably ruffles feathers at some universities. 'An online program could be acceptable for a master degree', Professor and Digital University Senior Adviser Deville said. 'But for a bachelor's degree, we like students to be here on campus.'

The problem is not about what universities want. It's about what students want, need, and can get. Why should they spend money to attend a university when all coursework can be completed online and when market demands, educational needs and – especially – education delivery are drastically changing? Clearly, maintaining the university as it has historically been conceived is not an intelligent goal. Retaining top-notch professors, corporate connections and funding sources would be a nightmare.

Prof. Agarwal would like to see universities play an important role in lifelong learning, rather than just the small, niche role

What, then, is a university's mission? To give people a general education so they can simply go out into the world? To educate as many people as possible? An elite few? To educate young people? To offer lifelong learning?

'And what type of education?' Rector Blondel asked. 'Do we just train them for the market? Managers don't see today's university as useful, even though we provide teaching by researchers.' Managers' companies have their own researchers, or other resources, to achieve the same result. But if in the future companies will indeed provide education to more people, that education will remain narrow and market-oriented. 'A university teaches fundamentals', Prof. Agarwal said. 'The professional world teaches tools – for example, Excel. In the future, a university should teach both.'

Fundamentals and tools. Can't both be learned online? Again, what's so special about a physical presence at a university? Certainly, every university says it offers something unique, but it has to put a name on that something. 'At MIT,' Prof. Agarwal said, 'students are encouraged to do crazy things, it's a way of teaching them that sometimes you should break the rules.' He was talking about a cultural value. Which values does a given university want to impart to its students? Critical thinking, leadership, ethics? The point, he added, is that 'every university has a culture, and that's a good thing.' The university's key added value, its main role, is imparting that culture to its students.

What is that culture? It has to be defined. 'Once you define it', Prof. Agarwal said, 'then ask yourself: Do you need four years to impart it? Do you need six months? One year? Let's say it takes two years. Then high school students could already take online university courses for a year, spend two years on-campus at university, and spend the final year both working and taking online courses, perhaps from the university, that apply directly to their jobs. So the final year is embedded in a job.' If additional education or training is required or desired, a subsequent online MicroMasters programme could fit the bill. MicroMasters

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programmes, offered on edX.org, are a series of master's courses to help learners advance their careers and are created by top universities and recognised by companies. MicroMasters programmes offer a valuable, standalone, industry-recognized credential, and are credit-eligible and provide in-demand knowledge and may even be applied to accelerate a master's degree.

This would imply a reduced role for the traditional university in terms of student attendance, slashed from four to two years. Rector Blondel, referring to Erasmus and other exchange programmes, made the point that 'part of the culture of studying at UCLouvain is to not be at UCLouvain for a certain period, for example by spending several months abroad at another university.' The question prompted by the initial wake-up call seemed palpable: Is online education a threat to universities? Or is it an opportunity? Prof. Agarwal thinks that it would actually imply an expanded role for the university, where the university is involved with the student in a lifelong manner through both in-person and online engagement.

Culture can also be imparted online. The University's culture can also be imparted via MOOCS. 'I teach an electronics course', Prof. Agarwal said. 'I tell my students not to worry about what a device does, but to understand its principles so you can invent the next one. This creates a culture of invention. You can even impart culture better online because it's paradoxically more personal. Students say they feel like it's a one-on-one experience, they say, "I felt like you were in the room with me, I could pause you and repeat." In other words, the university can harness online delivery to its own benefit. Culture and content become intertwined. 'The future is that students will pick from both forms, online and on-campus.'

The university will not only have to offer both in an omnichannel manner, but be more flexible than ever.

Chopped into pieces: modular education

Currently, in terms of proportion of online content, higher education institutions offer four course types.[1] A 'traditional' course uses no online technology and all content is delivered in writing or orally. A 'web-facilitated' course (up to 29% online content) uses web-based technology to facilitate what is essentially an in-person course; it might incorporate a learning management system or web pages to post the syllabus and assignments. A 'blended' or 'hybrid' course (30-79%) blends online and in-person delivery, using substantial online content and discussions and a reduced number of in-person meetings. Finally, an 'online' course (80+%) delivers most or all content online and typically entails no in-person meetings.

These definitions imply a flexibility of delivery that either empowers or challenges universities. Yet in many countries online higher education is already a reality. In the US, for example, in 2016, 31.6% of higher education students – six million – took at least one online course. Interestingly, 52.8% of students opting for online courses also took on-campus courses and 56% of students who opted exclusively for online education lived in the same state as

their institution. In other words, distance can be local. In addition, only 1.5% of students who took exclusively online courses were outside the US – thus distance is also rarely international in the US.[1] Meanwhile, in France, 37 higher education institutions offer more than 530 online degrees to more than 45,000 students.

Prof. Agarwal's vision of the future of higher education entails that universities meet three challenges. First, they must make education 'modular': education should be 'chopped into pieces' that learners can join together as needed or desired as they move back and forth between education and professional activity. These 'pieces' of education must be recognised: learners receive a credential after a short period of education or training (a few months, a year, etc.).

Universities must make education 'modular': education should be 'chopped into pieces' that learners can join together as needed or desired

Second, universities must make education 'omnichannel': both on-campus and online pieces of education should be offered, they should be equal in value, quality and integrity, and learners must be free to choose either.

Third, higher education should target 'lifelong learners' aged 18 to 68. Professionals should easily find pieces of education that address their professional needs. Crucially, the distinction between initial and lifelong education should disappear.

The 'modular' quality would thus be the foundation of future higher education. Higher education institutions should be able to more easily use one another's pieces of education at a global level; acknowledge pieces of education provided by other education providers (companies, professional associations, civil societies, etc.); and create added value by 'embedding' and transforming these education pieces into specific higher education credentials.

Building blocks

With this in mind, consider an alternative scenario:

By 2050, the number of lifelong learners has been increasing for years. Thus 21st-century society clearly requires lifelong learning providers and UCLouvain focuses on being one. Programmes have been chopped into small 'pieces' of a duration no longer than three months and their completion is recognised by new types of credentials. Most learning activities are offered online and in ways that allow professionals to make concrete connections between their job and their skill development. Faculties have been trained to enter global networks involving both higher education operators and companies in order to be able to detect emerging needs and create joint ventures to meet them. Such collaboration simultaneously boosts teaching and research. The new lifelong learning

credentials are acknowledged by network partners, and UCLouvain has become famous within Europe as a high-level continuing education provider that is always on top of new challenges. Of course, online courses and credentials also benefit workers and companies in and around the university. Because this new dynamic is a boon to the university's three missions and increases its revenues, UCLouvain doesn't really regret the decrease in the traditional learning targets of 18- to 24-year-olds, who now represent only 20% of enrolments. Young people themselves know that they will be better trained and skilled-up by companies. Universities are a place to go when you're older and looking for new opportunities to further your career.

'This is a good scenario', Prof. Agarwal said, replacing 'pieces' with a new term. '"Chunks" of education allow for flexibility. There is no flexibility in the traditional university model – you go in one end and come out the other with everything in between planned in the form of a degree programme. That calcifies a class system in society.'

Is the traditional university so rigid? Rector Blondel responded with a bit of nuance. 'No two students at UCLouvain have the same programme. There are a lot of electives. Also, the Erasmus exchange programme is already a foundation. If I want to be based here but then borrow some chunks from Naples and get credits with those chunks, then I can get a personalised programme.' Before throwing out the baby with the bathwater, he seemed to be saying, let's recognise what we have and can build on. Besides, he asked, 'How do you train a dentist in three-month chunks?' The student would need to know what skills he needs to be a good dentist: self-knowledge would be required. And yet beginners don't know what they need to learn.

A modular system could impart that self-knowledge incrementally and help determine the student's path. Taking up the dentist example, Prof. Agarwal said, 'A more modular system would deliver the basics of both medicine and hygiene and public health – say, two modules in one year – which together would qualify the student to become a dental hygienist. If students only do well enough in the two modules to be a hygienist, that is what they will be advised to pursue. If students performed well, they can be advised to continue with another module and another and another to eventually become a dentist.'

With modularity, he said, education becomes more democratic. 'It's not so different from the so-called "black box" systems, but the box is opened, broken apart, and one chooses from among the chunks, and can "mix n' match" with online choices.' But the advising function is crucial, because these are tough choices to make as an adolescent.

Won't people simply collect certificates, without any organisation or coherence? And how will the market deal with this? 'What does a certificate represent really?' asked Louvain School of Management Professor Valérie Swaen. 'Even when considering bachelor's degrees, employers are looking for more detail. They want the degree to tell them more about what its holder can actually do. So certificates should make outcome skills explicit and precisely explain what its holder has the ability to do.'

Certificates should be conceived as 'blocks'. Like Legos, they can be interconnected, and they can come from different universities, just as different universities can 'plug into' other universities' 'Legos' (modules)

Prof. Agarwal emphasised that certificates should be conceived not only as 'pieces' or 'chunks' but, more precisely, 'blocks': any given block's six sides are interfaces defined in a way that allow it to be stacked with other blocks in order to ensure continuity. Like Legos, they can be interconnected, and they can come from different universities, just as different universities can 'plug into' other universities' 'Legos' (modules) to fill what they lack and in the end award a degree with their name on it.

Applying this philosophy to lifelong learning would make switching fields easier. Today the reason people don't switch is because they can't. If universities considered students customers, the latter would be able to take courses that truly impart lifelong skills. The reality is that a traditional university takes in students till they're 22, then they're on their own. The only time a graduate hears from the university is when it comes asking for money.

All of these ideas aren't new. They've been talked about for 20 years, but the tools haven't existed, so there were always unanswerable questions, such as how a head of household could leave a family behind for six months of study abroad. Now the technology is here. Lifelong learning will become easy because it's online. This changes the game: the MBA's raison d'être was making lifelong contacts out of your fellow students; subsequent success was based on who you knew, not what you knew. But as Rector Blondel said, 'Students today are already networked to the extreme. They don't need an MBA.' What they need is skills, on demand, throughout their careers. This is why lifelong learning students are the future of higher education and the future of higher education is inextricably linked to online learning – so what's the future of that?

Massive open or small private online courses?

Take the example of a UCLouvain MOOC. Is it a good idea to open it to everyone in the world rather than keeping it private for UCLouvain students only? It's certainly an ideal, because it is in line with open education values and it's enriching for UCLouvain students to be in touch with global learners. But for the professor its management is a burden and requires resources.

In addition, MOOCs are known to suffer a significant dropout rate. Because the course is free, the students have nothing to lose by abandoning it. Free access brings mass but not necessarily motivated students. This challenges the relevance of a totally free model.

When MOOC certificate programmes require a fee, student completion rates rise. Sow what if students were required to pay a nominal fee, less than the certificate fee, for an individual MOOC? edX conducted that experiment. 'When the course was free', Prof. Agarwal said, 'the course completion rate was in the single digits, but when students paid, the completion rate was 60-80%, and for the MicroMasters programme certificate it was 80%.' So a paying model is not necessarily in contradiction with openness values: you start a course for free and pay if you find the course valuable.

To address the burden on professors, students could be offered teaching assistantships the year after they complete the course and work

as course managers for the professor. This is already on the verge of happening. In a pilot project, professors hire instructors to facilitate online courses. Internal applicants (from universities) are prioritised even if some instructors are external. Such online instructors represent a new kind of singular teaching assistant, that Prof. Agarwal calls a 'community TA'. They fit with the digital culture of horizontal interactions: community peers help and support each other. It's a good opportunity for motivated students to delve deeper in their understanding of the course and a good opportunity for professors to get help with the increased number of students that results from online openness.

'The future of open online education is still to create and experiment', Prof. Agarwal concludes. New business models to explore, new roles and jobs to imagine, rethought boundaries between teaching and learning, rethought boundaries between a university student and a global learner. The scenario of higher education in 2050 is still to write.

[1] Allen, I. E., Seaman, F., Poulin, R. and Straut, T. T. (2016), 'Online Report Card – Tracking Online Education in the United States' (http://files.eric.ed.gov/fulltext/ED572777.pdf).