
What is a MOOC?

1.1. From distance learning to MOOCs

Whilst MOOCs – *Massive Open Online Courses* – undeniably represent a change of scale, they are nevertheless part of the age-old concept of distance learning. Thus, we feel it is relevant to begin this discussion with a brief history of distance learning, in order to highlight the ways in which MOOCs constitute a breakaway, if indeed they are one. This is one of the questions which we examine in this book.

In the United States, distance learning has been a reality since the late 19th Century (see [WAT 91]). Originally, distance learning centers would send students course material and exercises through the postal service; later, audio versions of the classes became available. In 1948, the University of Louisville (Kentucky) signed an agreement with the PBS (Public Broadcasting Service in the US) whereby the university could use the radio as a medium to support distance learning. Between 1950 and 1980, CBS (Columbia Broadcasting System), in collaboration with NYU, broadcast the series “Sunrise Semester”, which offered students university credits.

Originally, audio and video cassettes were also sent by post to students wishing to follow such distance-learning courses. At that early stage, one spoke not of “*e-learning*”, but of “distance learning”. With the televisual revolution, numerous filmed lectures are put only on YouTube and many video servers at universities, but also on

iTunes and other servers. A great many institutions also offer online courses; an example is MIT, with its free program *OpenCourseWare*, launched in 2001. Thereafter, a variety of other, increasingly-sophisticated online learning initiatives have been launched, including *Stanford Engineering Everywhere* (SEE), set up by Andrew Ng in 2007, offering a full course with university credits earned, or the *Open Learning Initiative* (OLI) offered by Carnegie Mellon University. In France, a television channel, Canal U, broadcasts numerous courses offered by prestigious institutions such as the Sorbonne or the *Collège de France*.

In addition, although it is not entirely in the domain of higher education, it is also worth mentioning the Khan Academy which, since 2006, has been making short educational videos publicly available, with a growing degree of success.

Between filmed versions of ordinary classes and courses enriched with videos or documents, there is one constant: the class is delivered to a listener or viewer upon whom no demand at all is made. Strictly speaking, he or she need only switch on the radio/television/computer. In this scenario, *the student is a passive receiver; there is no exchange between the teacher and the student*. In Quebec, thanks to the actions of certain pioneers such as the high-level politician Gilbert Paquette, the tele-university TELUQ (www.teluq.ca/), set up in 1972, very quickly made a name for itself as a major player in distance higher education. Today, it caters to around 18,000 students each year, taking 400 courses. In Quebec, the tele-university is simply a university like any other. It was briefly attached to the University of Quebec, but then regained its independence.

The *Open University* in Great Britain is, indubitably, the most accomplished example of *e-learning* as it was conceived before the dawn of the Internet. In addition to the elements described above, the “OU” makes widespread use of television, and offers full-fledged university-level courses, run in parallel to those delivered on site at universities and equivalent to those courses in status.

From the end of the 1990s onwards, we see the development of the Internet. At the start, this enabled universities to distribute Word and

PDF versions of paper brochures, and later audio files and finally, video files as well. In addition, the dawn of the Internet enabled students to register online, meaning it became possible for the content providers to monitor the amount of audience their classes were receiving. To begin with, there was no interaction with the teacher: it was a “*one-way*”, or “*top-down*”, approach.

Gradually, following the advent of *Web 2.0*, a very significant degree of interaction became possible. Forums were set up where students could make comments, engage in “*chats*” to interact with other students and with their teachers, and complete exercises online. In order to access these classes, it was necessary to register – i.e. the system could only be used by registered students and staff, as is the case in conventional universities. Certain universities then began to specialize in this type of distance learning. These were termed *open universities* – a nod to the British *Open University* set up in 1969. The *Open University*, which already had a significant body of experience acquired before the Web was born, now serves 100,000 registered students, and confers degrees on its students, who are clearly identified. The *Open University* is a true university, whose students live all over the country.

Western Governors University (WGU) – an entirely virtual university, set up in 1997, on the initiative of 19 US State Governors – also provides a very good example of the use of new technologies in higher education, before the dawn of MOOCs. Today WGU educates 45,000 students online for a tuition of \$3,000 per six-month term.

Additionally, at each university at local level, students have an Internet account, and what is known as a Digital Work Environment (DWE). Using this account, they can access files, and therefore classes, exercises, photos and videos, and interact with their teachers. Obviously, these accounts are personal, and strictly reserved for registered students. These environments are managed by the universities. Provided they have sufficient bandwidth, students can follow a filmed class, either in real time or time-shifted, from their homes (which relieves the issue of overcrowding in lecture theaters) and, once it has been recorded, the class remains accessible; students may watch it and re-watch it as many times as they wish. This is the

system adopted by many universities in France – particularly the Faculty of Medicine at UPMC, which has employed this system since 2007, for first-year teaching of medicine. It is also possible to distribute the material on CD-ROM; that solution was adopted by the University of Grenoble in 2006, for its first-year medicine teaching, under the guidance of a specialist in digital education, Daniel Pagonis and Jean-Paul Romanet, the Dean of the university, before the system was made entirely available online. At the NYU School of Medicine, and at the *Université Lyon*, 3D anatomy courses have been being made available online for many years. Many of these pioneering organizations also put exercises online. This is common practice in the teaching of computer science at UPMC, and in many other universities as well, because in computer science, it is possible to set a programming exercise and monitor its solution remotely.

In relation to these experiments, it cannot be said that MOOCs mark a new departure in terms of content. It is in the relationship between the teachers and the learners that the “revolution” lies, if indeed there is a revolution. To use the typical language of pedagogy, it can now be said that the learner is “at the heart of the system”, in the sense that he or she is no longer supposed to be a passive “receiver”, but rather an essential active player in his or her own learning. We hear the echo of the old adage employed by the teachers of yesteryear: to learn, you have to *want* to learn! Now, though, it is becoming possible and visible, because signing up for a MOOC is a deliberate commitment on the part of the learner, and so, as we shall see later on, is following that course to the very end.

The following diagram, taken from Wikipedia, illustrates the trajectory which, in the United States, led to the development of the concept of a MOOC, from its beginnings in online courses, on the one hand, and open universities on the other. Distance learning has never ceased to evolve since the birth of the open universities, the *OpenCourseWare* program piloted at MIT, followed by Harvard, and it has now birthed the concept of a MOOC as we know it today. Looking at the continuum shown in Figure 1.1, we can clearly see, firstly, that there is no significant change of direction and, secondly, if we overlook the possible pedagogical implications, we can state that *MOOCs are*

distance learning as the order of the day. We shall see that this affirmation is not false, but that it is, nevertheless, rather simplistic!

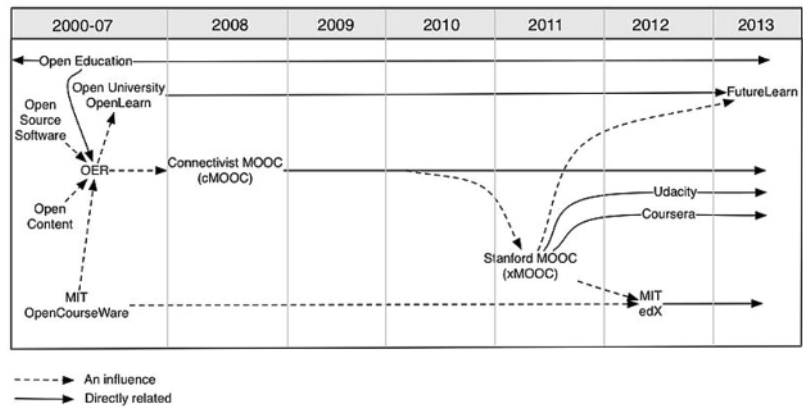


Figure 1.1. History of MOOCs. Figure drawn from Wikipedia

One of the changes in relation to this restrictive vision is the relationship between the teacher and the student, and the place of face-to-face teaching in these programs. Later on, we shall look again in greater detail at the importance of this accompaniment of distance learning by a presence-based program more or less “driven” by the questions raised by the students. This could be called “reverse learning”, because in this scenario it is the student who asks the questions and thereby, to a certain extent, “directs” his or her own learning.

1.2. What is a MOOC?

The phenomenon of MOOCs, and the term itself, arose in the United States. The birth of the first MOOC can be pinpointed to 2008 [COR 10]: the launch of an interactive online training course, by George Siemens and Stephen Downes, on “*Connectivism and Connective Knowledge*”¹. This course attracted several thousand participants all over the world. However, the first MOOC which truly

1 See <https://sites.google.com/site/themoocguide/3-cck08-the-distributed-course>.

catered to enormous numbers of subscribers was launched in the fall of 2011 by Professor Sebastian Thrun from Stanford. Thrun placed online a course on artificial intelligence, taught by himself and Peter Norvig, and specifically designed to be imparted over the Internet: 160,000 people signed up for the course. Of those, 20,000 managed to follow the course in its entirety, and 364 obtained the maximum possible grade. None of those 364 were Stanford students. Many people view this event as a major turning point. Its success led Sebastian Thrun to create his own start-up company, *Udacity*, which would gradually attract growing numbers of investors. Within its first year of existence, the site gained a following of nearly 400,000 subscribers.

Two months later, Daphne Koller and Andrew Ng founded *Coursera* – one of the first and best-known platforms in the US. *Coursera* now has more than 10 million students in 190 countries, and offers nearly 600 online courses; as compared with 2 million students and 200 courses for *edX* and fewer than 100 courses for *Udacity*. The site www.mooc-list.com offers an up-to-date list of all existing MOOCs.

MOOCs are defined by their audience and their format. These courses are open to one and all, and have no physical limitations because they are completely digitized and accessible over the Internet with no barriers. They may or may not be free, are accessible from any computer or tablet, and facilitate mass diffusion of knowledge. Yet as has been stated already, *students must register in order to follow the courses*, unlike with filmed classes shown on television. A MOOC is a tool which, to a certain extent, can be personalized by whoever is using it. Many MOOCs are cadenced; the pace at which the student is able to follow the course becomes an element for assessment. This means that there is a starting session, new material introduced during the session, exercises for students to do each week, quizzes and evaluations. Maintaining the pace and completing the exercises is a crucial element for gaining the certification. There are two ways in which to pursue this course: all at the same time, in a set session (thus there is a timetable for everybody), or indeed individually at a chosen time (with everyone being free to follow it whenever he or she is able

to or wishes to). As it is easier to remotely monitor who has done the exercises than it is to evaluate the quality of their answers, MOOCs are sometimes assessed more on the basis of the participation and assiduousness than the competence of the subscriber, with the person's competence being evaluated separately by way of the answers to the quizzes and exercises.

MOOCs are said to be “*massive*” because, as there are no prerequisites, the number of subscribers may, potentially, be very great. Thus, it is by the “massive” number of those subscribers that the MOOC is characterized, although it is still necessary to distinguish those who sign up from those who actually follow the course right through to the end. Certain MOOCs are followed by tens or hundreds of thousands of people, but this is not true of all such courses. The course is said to be massive as soon as it gains a sufficiently high number of subscribers – a much higher number than could possibly be envisaged with face-to-face teaching, ranging from a few hundred to over 150,000 students for the best-known MOOCs. Note, though, that this does not mean that all the subscribers actually follow the course. We shall come back to this point later on. We have already mentioned the 160,000 students registered on the MOOC in Artificial Intelligence offered by Stanford. The MOOC run by Martin Odersky at EPFL (*Ecole Polytechnique Fédérale de Lausanne*) on the SCALA programming language has catered for 50,000 people since it went online. This question of the number of people enrolled on the course – is it a characteristic of MOOCs or of *e-learning*? In other words, if a MOOC is taken by only twenty people, is it still a MOOC? The question is somewhat controversial, and “MOOCers” cannot find agreement on the subject. It becomes something of a philosophical issue, which inevitably evokes the story of the Ship of Theseus, all of whose parts have gradually been replaced: can it still be said to be the same ship? However, the question seems to be becoming less and less theoretical because, as we shall see, MOOCs for small groups certainly have a promising future. It should also be noted that, as the EPFL's experience testifies, a MOOC taught in English attracts ten times more people than a MOOC taught in French. The same is true for other languages.

MOOCs are also “*open*”, which refers to the fact that enrolment is unrestricted, open to all audiences, and is not conditioned by enrolment at the particular university or attainment of a particular level of study or professional status. However, the “*open*” in MOOC does not mean *Open Source* or *Open Access*; in other words, the software and the content are not necessarily open. Thus, it is not necessarily possible to retrieve the content in order to modify it, or the data of the participants. Neither does the word “*open*” signify “free”.

A MOOC is “*online*”, meaning that all the courses and exercises are organized for delivery on the Internet. It is not just a question of putting the content of the classes online, otherwise we would speak of “content distribution”. In a MOOC, there is a true pedagogical agenda, a progression. Exercises, homework and sometimes even exams are online. It is possible to follow the course from absolutely anywhere, provided one has access to the Web – not only on the benches in the university. Finally, a MOOC can be personalized and adapted to the pace desired by the student.

MOOCs are massive and open: the teaching is available not only to ten-odd students in a particular establishment, but to students all over the world. However, it should be noted that a MOOC, although it is open, registers its students; the organizers know who the students are; however, registration is free and there are no prerequisites. The fact that the courses are open to the general public means that when somebody asks a question on the forum attached to the course, they address not only the teachers but all the other taking the course at the same time, the world over. This gives rise to a new degree of autonomy, because the student does not only interact with the teacher; the students interact with one another; they can offer one another help, suggestions about modules to come, exercises to be done, etc.; they “construct” their course with their fellows. Here, we enter into the logic of collective knowledge construction; it is no longer a simple transmission of information or knowledge.

For example, Shimon Shocken, who gave a MOOC on computer science, posted a problem online with all the elements needed to solve it. That same evening, he realized that a student had asked a question on the forum, and at the same time as he, the teacher, was writing an

answer, he noticed that there was already a very large number of responses. Reading over the various messages posted on the forum, he realized that the Internet users, between them, had constructed the correct answer, and thus constructed the whole piece of knowledge. This phenomenon gives rise to emulation between the students following the MOOC.

Certain people speak of “*flipped teaching*” or “*flipped classrooms*” because, whilst it is important to avoid naively adopting the idealistic view of the student teaching the teacher, the exclusive link from the teacher to the student is called into question². Let us state that now, firstly, the interactions take place in both directions, and secondly, they occur between all the learners. It is in this regard that MOOCs truly differ from conventional online teaching or filmed classes. In light of a minimal definition put forward by a pioneer in the teaching of computer science online, Christian Queinnec, it can be said that *a MOOC is distance learning, accompanied by assessment which is also, essentially, remote, associated with social networks which favor exchanges between students.*

The co-founder of *Coursera*, Daphne Koller, states that she wishes to transform the passive time of students who, in class, listens to the educator transmit his/her expertise, into active time. This vision is a summary of the concept of flipped teaching: “*lectures at home and homework in class*”. If the lesson is available online, on the Web, the students can watch it before and/or after class. In this case, the class can become a time for exchanges which, instead of transmission from the teacher to the students (vertically), take place between the students (horizontally) and, ultimately, from the students to the teacher as well. The learner is engaged in an active learning approach. As Marcel Lebrun says on his blog (<http://lebrunremy.be/WordPress/>): “*the less I teach, the more they learn*”³. What must be understood is that what happens after class is more important than the class itself. According to the proponents of *Coursera*, the role of the teacher is destined to

2 The term “*flipped learning*” dates from 2007, originally introduced by two secondary-school teachers – Jonathan Bergmann and Aaron Sams – who posted their classes on YouTube so their students could prepare for them at home.

3 Original French: *moins j’enseigne, plus ils apprennent.*

change considerably over the years; from their point of view, the interaction is founded primarily on the fact of finding the correct response. In addition, the popularization of the Internet now enables everyone to have access to information, and to raw knowledge, thanks – amongst other things – to encyclopedias such as Wikipedia. Consequently, the teacher no longer has a monopoly on the transmission of knowledge and – which is more – the student can become aware of the limits of the teacher’s own knowledge. In addition, we notice an increasing number of students who, even during the class, run searches to verify what the teacher is saying. In France, lecture theaters, for first-year students, have become spaces where, more often than not, students check on their tablets and, with their peers comment on the teacher’s discourse. This may prove extremely challenging for teachers who have the feeling that their students are no longer truly listening. It is important to replace lecture-theater classes with MOOCs – a point to which we shall come back later. With MOOCs, the learners have the opportunity to interact, and the teachers are capable of adapting to the expectations and the levels of the students, which MOOCs help to pinpoint much more easily than correcting a homework assignment from time to time.

1.3. xMOOCs, cMOOCs and other SPOCs

Beyond the characteristics which are common to all types of MOOCs, we can distinguish two main types: one which we shall call “classic”, which entails the design of a MOOC which, like a teacher, guides the students following it, along a clearly-defined path; this is an “xMOOC” or “transmissive MOOC”. The other type, called a “connectivist” MOOC, is much less directive. The material is made available to the learners, but it is the learners themselves who construct their own course, manage their progression and, by interaction with other learners, construct their own learning. This is known as a cMOOC⁴.

⁴ See the discussion given by J. Mackness about the differences between cMOOCs and xMOOCs: <http://jennymackness.wordpress.com/2013/10/22/cmoocs-and-xmoocs-key-differences/>.

1.3.1. xMOOCs

An xMOOC is fairly close to the classic pedagogical model, because first and foremost, it is an existing course, made available online. According to Stephen Downes, the “x” denotes the presence of an eXtension to conventional teaching, in the same vein as MITx, which is the extension to MIT’s campus⁵. This course is supplemented by directed tasks, practical work, orientation toward online documentation, and evaluations. The knowledge is found on the MOOC, it is declared, and the course is, in principle, coherent and progressive. The learning objective and the nature of the acquisitions are predefined by the designer of the MOOC.

The primary objective of an xMOOC is the transmission of knowledge. Given its proximity to the conventional model of a course, an xMOOC requires a not-insignificant amount of individual activity, in spite of the existence of forums and peer correction, which is sometimes envisaged. Platforms such as *Coursera* or *edX* essentially offer xMOOCs.

Consider, for example, the xMOOCs offered by EPFL. These MOOCs are led by teaching staff. Certain MOOCs are aimed at improving the internal service provision in order to facilitate better teaching, using the flipped-classrooms model, with greater contact between the students and teachers and the deliberate absence of lecture-theater classes during the first year. There are also MOOCs with high visibility on the world stage, which are designed to promote the reputation of EPFL, by attracting participants from all over the world. Initial feedback from EPFL suggests that it is not certain that the school will do away with face-to-face lectures; they are not yet sure whether they wish to pursue the model to its full extent. For now, students have the choice between taking a conventional course and taking the MOOC.

The introductory MOOC on cell networks offered by Telecom Bretagne (Jean-Marie Gilliot) affords us another example. The description of the course is very precise, the objectives are declared and,

⁵ <https://plus.google.com/+StephenDownes/posts/LEwaKxL2MaM>.

although the knowledge required and the intended audience are not clearly defined, the format of the MOOC is rigidly structured. At the heart of it, this type of MOOC is similar to open *e-learning*. In the view of Matthieu Cisel⁶, the difference lies in the multiplicity of the activities set in addition to the classes. These activities may be for individual or group work, and the evaluations can be corrected either by the students themselves or by their peers. Generally, an xMOOC comprises 6 to 12 sessions; each sequence lasts around ten minutes, on top of which comes the time taken for exercises and the various activities. A session typically involves 1 hour of video, 3-4 hours of personal time to complete the exercises, and the time taken for reading.

1.3.2. *cMOOCs*

A cMOOC is a so-called *connectivist* MOOC (hence the “c”). It is based on a participative approach whereby each student carries out his or her own search for the best way forward, conducts exchanges with his or her peers and publishes his or her own conclusions. The pedagogical model is innovative, the knowledge is distributed, and partly self-generated, and the coherence of the course and the progression is constructed by the learner. The participants can enrich the MOOC, and the community helps to construct and distribute the content. A cMOOC is similar to the vision of free software, with a very prevalent sense of community. It falls into the category of a participative approach⁷.

A cMOOC favors an open teaching style, and is based on networks of content and of individuals. According to Wikipedia,

6 Matthieu Cisel is a doctoral candidate at the ENS, Cachan, who has taken a passionate interest in the “MOOC Revolution”. Readers can consult his blog at <http://blog.educpros.fr/matthieu-cisel/2013/06/30/une-typologie-des-mooc/>.

7 In his blog, Matthieu Cisel extends the idea of co-construction to research, whereby communities contribute to the construction of knowledge, with the slogan: “Osez la MOOR” (*Massive On-Line Open Research*). (In its original form, this makes a pun, as it sounds identical to an age-old French piece of wisdom: “*Osez l’amour*” – dare to love. A similar pun can be made in translation if we render the phrase as “Dare to do MOOR”. See: <http://blog.educpros.fr/matthieu-cisel/2013/09/20/osez-la-moor/>).

“connectivism” is a concept developed by George Siemens and Stephen Downes, wishing to revisit the question of learning in the digital age in a networked world. One of the seminal works in this area is “*A learning theory for the digital age*”, written by Siemens in 2004⁸. The fundamental notion is that of a network. The first ever connectivist MOOC – strictly speaking, the first MOOC, period – was that run by George Siemens and Stephen Downes, launched in 2008, relating, precisely, to connectivism! In a cMOOC, the teacher’s job is not to transmit knowledge to the students, but rather to facilitate exchanges between the participants about a topic.

There are many known examples of connectivist MOOCs. For instance, the aim of the MOOC *Itypa*⁹ (*Internet Tout y est Pour Apprendre* – The Internet: All you Need to Learn) is to enable the participants to learn from the possibilities offered by the Net. It is directly inspired by Siemens and Downes’ original MOOC. With *Itypa*, there is no formal evaluation carried out, and no diploma or certificate is awarded on completion. Each participant is completely independent, and nobody is duty-bound to hand in any produced work.

The MOOC offered by the University of Edinburgh, entitled “*E-learning and Digital Culture*” also falls into this category. In order to obtain the certification, the participants have to create a digital object, which is evaluated by their peers.

Stephen Downes¹⁰ explains his vision of a MOOC thus. Each student has to choose the content which is most appropriate for his or her needs and objectives. The MOOC is distributed: each participant can use the software to make their own contributions. Downes stresses the fact that a MOOC must encourage participation and contribution from those following it; there is no one piece of knowledge which serves everybody; the goal is interaction and exchange, facilitating the production of additional elements of knowledge.

8 See www.ingedewaard.net/papers/connectivism/2005-siemens-ALearningTheoryfortheDigitalAge.pdf

9 <http://itypa.mooc.fr/>.

10 <http://tipes.wordpress.com/2012/07/18/les-cours-en-ligne-ouverts-et-massifs-explication-en-francais-par-stephen-downes/>.

The table below is revised on the basis of that produced by Jean-Marie Gilliot, from Telecom Bretagne, who designed France's first ever MOOC. The model is taken from his personal Website, which contains suggestions of innovative techniques for use in higher education¹¹. This table very clearly draws the distinction between a connectionist MOOC (an xMOOC), which is similar to a traditional course, and a connectivist MOOC (a cMOOC), which is designed to be far more innovative.

	Based on traditional courses	Based on the connectivist model
Pedagogical model	Conventional: Lectures – Applied work – Practicals – Evaluations	Connectivism
Knowledge	In class – declared	Distributed – generated
Coherence	Given by the teacher	Constructed by the learner
Learning objectives	Defined by the teacher	Defined by each individual participant for his/her own purposes
Learning	Following the pre-set course	Navigating, forging connections
Resources	Defined in class	Contributed by the participants, in abundance
Exchanges with peers	Possible	Extremely important
Interactions	Forums on Website	Distributed; starting from a shared portal, each participant constructs their own blog
Synchronization	Pace set by the course designer	As and when convenient for participants
Resonance		Between peers
Encouraging independence and self-regulation		Mastery of e-skills

¹¹ <http://tipes.wordpress.com/2012/06/12/differents-types-de-moocs/>.

Innovation- and impact-oriented	Discipline-oriented	Interdisciplinary by nature
	Based on traditional courses	Based on the connectivist model
Certification	Attached to a university or to particular companies	Attached to a university or peer assessment (badges) ¹²
Continuous assessment	Automated	Between peers
Technical platform	Centralized	Web: Virtual Learning Environment
Position of the teacher	Professor depositing knowledge in students	Facilitator

Table 1.1. *The different types of MOOC*

According to *Unow* and Matthieu Cisel¹³, there are five criteria which distinguish an xMOOC from a cMOOC: the objective of the course, the level of prerequisites to enroll, the type of resources used, the type of activities offered and the degree of constraint.

An xMOOC is an academic MOOC, which means that it is necessarily attached to an assessment system appropriate for the academic objectives; the goal of an xMOOC (which is far more traditional than that of a cMOOC) is to transmit knowledge. With a cMOOC, on the other hand, the goal is rather the co-construction of content, the objectives are not set in stone, and each participant can make use of the tool as he or she sees fit.

Certain MOOCs claim to be both connectionist and connectivist. For example, we could cite the MOOC *Courlis*¹⁴, run by François Kohler at the University of Lorraine, on the subject of Applied Statistics. Here, the “xMOOC” part is led by the course teachers, and

¹² “Badges” are a form of electronic certification which has only recently been introduced. For further information, see: <https://backpack.openbadges.org/share/55751ea38a1c3cd8ee5e1d7298e919fd/>.

¹³ <http://blog.educpros.fr/matthieu-cisel/2013/06/25/mooc-une-proposition-de-grille-de-lecture/>.

¹⁴ <https://courlis-pf.univ-lorraine.fr>.

relates to the selection of resources, as the objective is to create as few resources as possible. A particular piece of work is set each week, with participants expected to bring additional knowledge to the table from outside the course. Some of the exercises are corrected by the students themselves and some by their peers. The cMOOC part of the course enables students to give exercises and examples of the application of the topic in their own domains of expertise. This part of the MOOC is much freer, much less rigid, but is fairly limited.

Finally, there are more possible prefixes than “x” or “c” for MOOCs. Jean-Marie Gilliot employs the term “iMOOC” for *investigation*-based learning, and examples can be found of “tMOOCs” for *task*-oriented MOOCs, or “pMOOCs” for *project*-based MOOCs.

1.3.3. SPOCs

Ultimately, in the characterization of MOOCs, we have just seen that the “massive” aspect, referring to a very large number of registered students, is not a very clear concept. Indeed, once a course is put online, the potential audience opened up is absolutely immense. However, does the number of people who actually sign up for the course change the nature of the object? Absolutely not. Hence, we can conceive of MOOCs designed for a limited audience: specifically, the students enrolled on a conventional program at a university. To speak of an online class specifically designed for an audience of students enrolled on a particular course, imparted by the teaching team, we have recently seen the emergence of the term “SPOC: *small private online courses*”. This term was popularized by Armando Fox, head of online education at Berkeley, who has become a zealous proponent of SPOCs after having experienced online teaching himself, on a “software engineering” course taught with David Patterson [FOX 13]. The acronym “TORC” is sometimes heard as well: it means “*tiny online restricted courses*”.

At the heart of it, a SPOC is a MOOC designed for a class of students who are registered at a university in the conventional manner. We shall see later on that a SPOC is a tool for changing the

pedagogical perspective. With a SPOC, the teachers' hope is that the students will become active participants in their own learning formation: "...if MOOCs are used as a supplement to classroom teaching rather than being viewed a replacement for it, they can increase instructor leverage, student throughput, student mastery, and student engagement. I call this model the SPOC..." [FOX 13]. Hence, if MOOCs are destined, if not to revolutionize then at least to change teaching in universities, this should result in an explosion in the number of SPOCs. We shall come back to the topic of MOOCs and pedagogy in Chapter 5.

1.3.4. SOOCs

One of the difficulties encountered with MOOCs is the diversity of the levels of the students, and the lack of any prerequisites which could account, in part, for the failure rate. We shall revisit this point later on. Hence, there has been a recent development: Small Open Online Courses (SOOCs) are now running, where all students wishing to take the course are obliged to take a test beforehand to determine their level. Amar Kumar¹⁵, from Pearsons Labs, views MOOCs as a sort of Russian nesting doll, with the three levels of courses offered on the basis of the same documentation: MOOCs, SOOCs and SPOCs.

15 "Will SOOCs eat MOOCs for breakfast?", A. Kumar, Pearsons labs, <http://labs.pearson.com/will-soocs-eat-moocs-for-breakfast/>.

