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# DISTANCE LEARNING

## ... For Educators, Trainers, and Leaders

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- Facilitate Online Problem-Based Learning Using 4S PBL: Strategies and Technologies
- What's in a Name? Defining Multimodal Environments in Higher Education
- In a World of Immersive Behaviors, Why Not Reading Immersion to Strengthen Educational Skills?
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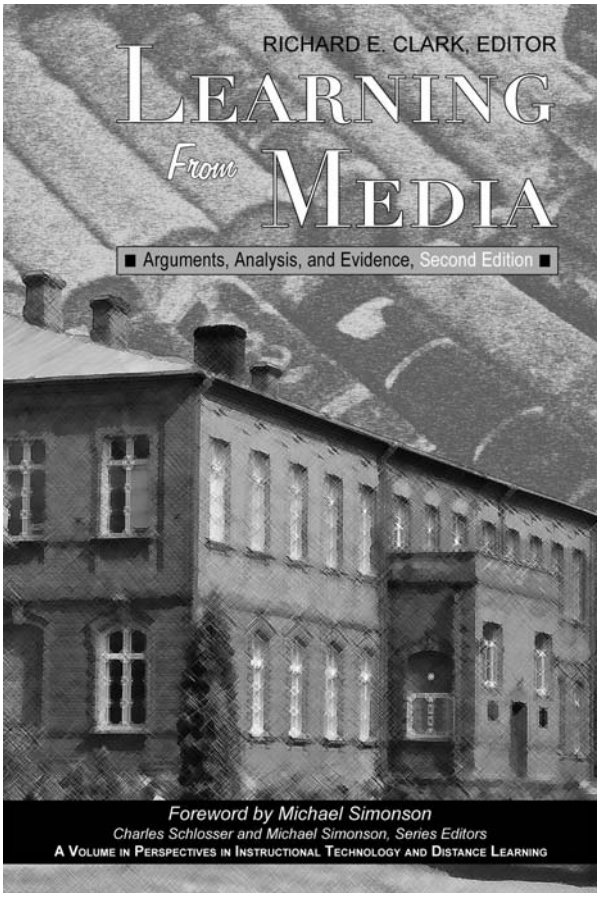


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# Massive Open Online Courses During the COVID-19 Pandemic

**Sabine Jean Dantus**

Massive open online courses (MOOCs) are open online courses available to any learner who wants to enroll. Many traditional educational institutions were forced to close their doors temporarily during the COVID-19 pandemic. Before the pandemic in 2020, the most significant increase in interest and enrollment in MOOCs happened in 2012 (Impey & Formanek, 2021). The most significant reason for MOOCs' pandemic success is that prestigious institutions have already partnered with platforms to provide courses, assuring that enrolled students get a high-quality education (Alamri, 2022). MOOC enrollments soared during the pandemic; with a low entry barrier, anyone may enroll in a MOOC regardless of their knowledge, education, or experience.

When the COVID-19 pandemic first hit, there was much uncertainty about what would happen next. An ensuing global lockdown forced many universities and colleges to close their physical doors and move instruction online. While this transition was difficult for some institutions, it has also opened new opportunities for massive open online courses (MOOCs). Furthermore, as the world continued to adapt to the new reality of the pandemic, it became clear that the pandemic caused some disruption to traditional education models. However, it is also clear that this disruption led to renewed interest in online distance learning, such as the MOOC.

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MOOCs are online courses open to anyone with an internet connection and often have no or low tuition costs. MOOCs are another form of distance learning, which means learners never have to set foot on a campus or attend classes in person. Learners log on from home anytime and anywhere, enroll in and complete a MOOC as their schedule permits. The most significant increase in interest and enrollment in MOOCs since 2012 was during the

COVID-19 pandemic (Impey & Formanek, 2021). When traditional educational institutions were forced to close their doors during the pandemic temporarily, in many cases, educators and administrators used this time to innovate and experiment with new ways of teaching and learning and succeeded in flipping the traditional education model on its axis.

## Early Beginnings

The rise of MOOCs coincided with the growing interest in the theory of connectivism. Connectivism, first proposed by George Siemens and Stephen Downs in 2005, is a learning theory that emphasizes the role of connections between people and ideas in knowledge construction and sharing (Knox, 2017). In response to George Siemens and Stephen Downes' 2008 course "Connectivism and Connective Knowledge" (CCK08), the abbreviation "MOOC" was coined (Knox, 2017). CCK08, the first MOOC, and other MOOCs during this early period were used to test the proposed learning theory of connectivism (Knox, 2017).

Connectivism is a specific way of thinking about networked learning that places the network at the heart of how people and groups learn (Chapman & Macht, 2020). Essentially, connectivism emphasizes the importance of the social context in which learning occurs and the role of social interaction in the construction and development of knowledge (Chapman & Macht, 2020). In the past, MOOCs were seen as ideal environments for testing connectivist principles because they provided opportunities for learners to connect with course content in new and innovative ways (Chapman & Macht, 2020; Knox, 2017).

## Bringing MOOCs Into the Mainstream

According to Knox (2017), Stanford University was instrumental in "mainstreaming" MOOCs, bringing them to prestigious universities and generating enormous enrollment numbers (para. 8). About 160,000 students enrolled in an Introduction to Artificial Intelligence course in 2011 by Stanford professors Sebastian Thrun and Peter Norvig, which outperformed past connectivist-inspired courses (Knox, 2017). The course centralized materials on a single webpage, using video lectures as core content, and assessed learners using automated multiple-choice questions. These elements represented the more orthodox pedagogical approach and became the open MOOC (xMOOC; Laurillard, 2020). Laurillard (2020) notes that these xMOOCs were considered "disruptive" to the online format due to the many course enrollees.

The Introduction to Artificial Intelligence course sparked widespread media attention, resulting in Sebastian Thrun's for-profit Udacity being founded in February 2012 (Knox, 2017). Udacity offers MOOCs independently of any educational institution (Knox, 2017). Two major U.S. MOOC providers, Coursera, and edX, followed shortly after. Professors Daphne Koller and Andrew Ng founded Coursera, a for-profit corporation, in April 2012 (Knox, 2017). Formed in May 2012, edX combines the earlier "HarvardX" and "MITx" projects launched by Harvard University and the Massachusetts Institute of Technology into a nonprofit meant to set edX apart from the for-profit projects of Coursera and Udacity (Knox, 2017). According to Knox (2017), as a United Kingdom response to the United States' dominance of MOOCs, The Open University led a United Kingdom partnership that launched the for-profit FutureLearn platform in September 2013. FutureLearn sought out high-ranking British institutions as partners, including the British Library and the European Space Agency (Knox, 2017).

These larger xMOOC platforms pioneered the paradigm of centralized platform software. This methodology

emphasizes teacher training and formal assessment and is based on behaviorist pedagogy (Knox, 2017; Laurillard, 2020). This focus on content and assessment follows a more established educational model than the connectivist MOOCs (cMOOCs) "process- and participatory-focused approach" (Knox, 2017, para. 11; Laurillard, 2020). Research on MOOCs has primarily focused on their design and pedagogical approaches, which is the xMOOC model we see today (Knox, 2017; Laurillard, 2020).

However, there is still much to learn about how MOOCs can be used to support connectivist learning since Blackwell and Wiltrout (2021) noted in their MOOC course that, unexpectedly, forum use rose the most during the pandemic. Blackwell and Wiltrout (2021) theorized that this rise in forum participation could be due to COVID-19 stay-at-home rules.

## MOOCs During the COVID-19 Pandemic

The COVID-19 pandemic challenged traditional education and made it difficult for people to access the knowledge they needed in person, so the MOOC was a great alternative. MOOCs have been around for a while and became popular in 2012, dubbed the year of MOOCs by the *New York Times* (Papano, 2012, as cited in Xie et al., 2020). MOOCs offer a flexible and affordable way to learn (AlQaidoom & Shah, 2020). One of the most notable reasons they were popular before the pandemic was that top universities provided many MOOCs so enrolled students could be sure they were getting a quality education (Alamri, 2022; AlQaidoom & Shah, 2020). The surge in popularity is also due to the accessibility of MOOCs, as they can be accessed from any device, anywhere, and at any time, known as "ease of use" (Alamri, 2022, p. 718).

The use of "MOOCs in education" has been endorsed by universities worldwide (Alamri, 2022, p. 718). During the pandemic, MOOCs are not just thought of as an alternative to traditional online learning (AlQaidoom & Shah, 2020). They also allow educators to explore and navigate MOOCs for material because there are a lot of videos, assignments, activities, and readings in MOOCs that educators can use in their classes (AlQaidoom & Shah, 2020). In addition, MOOCs can be used as a way for educators to learn about new technologies and how they can be used in the classroom, primarily through Instructure's Canvas.net platform.

MOOCs allow learners to customize their learning experiences on the platform by choosing from various courses, institutions, and instructors (AlQaidoom & Shah, 2020; Blackwell & Wiltrout, 2021). For example, Coursera (founded by Andrew Ng and Daphne Koller) offered college students, professors, and staff at more than 3,700 campuses and about 3 million people during the pandemic access to content around the globe (Coursera, 2022). Other MOOC providers include edX (founded by Harvard University and MIT) and Udacity (founded by Sebastian Thrun). These platforms offer a wide range of introductory and more advanced courses (Alamri, 2022).

At their peak during the pandemic, the largest MOOC platforms had almost three times as many visitors in February 2020 as in April 2020 (Shah, 2020). Through initiatives like these, Coursera provided access to its content by giving college students and learners worldwide access to their catalog for free through Coursera for Campus and Coursera for Government (Coursera, 2022; Shah, 2020). Impey (2020) explains that Coursera, an online platform that delivers MOOCs, reported a 640% increase in enrollment from mid-March to mid-April compared to the same period last year, expanding from 1.6 to 10.3 million. The increase was partly motivated by their university partners' providing free catalog access to 3,800 courses (Impey, 2020). During February and March 2020, enroll-

ment at Udemy, another MOOC provider, increased by more than 400% (Impey, 2020).

Impey (2020) notes that these spikes in enrollment in MOOCs coincide with the global lockdowns during the pandemic. Lockdowns have led to the cancellation of many in-person courses, which may have contributed to the increase in MOOC enrollments. Another reason learners enrolled in MOOCs during the pandemic was the "low-barrier to entry" requirement (Moore & Wang, 2021, p. 124). MOOCs are an affordable way to learn without paying a lot of tuition, like in traditional institutions, because they are often free or low-cost to enroll. The low barrier to entry means that anyone can enroll in the course, regardless of their level of knowledge, education, or experience.

MOOCs are universally available and can help people who do not have access to traditional education attain the knowledge they need. Lastly, MOOCs offer flexibility and convenience. For example, learners may be able to finish course materials in just a few evenings if desired. MOOCs often last a few weeks, but some courses are shorter if learners prefer a condensed course load. Universities and colleges usually offer MOOCs within a platform and often follow a similar structure to traditional courses, with video lectures, readings, discussions, interactive exercises, and assignments (Xie et al., 2020).

MOOCs usually include video lectures and other resources that learners can listen to and watch at their own pace, meaning learners are not pressured if they want to pause for a break for a few days, weeks, or more. Additionally, most MOOCs offer certificates of completion for courses, which can be used to demonstrate competency in a particular subject area and is a crucial motivator in the retention of learners and completion of courses (Moore & Wang, 2021). Chen and Chen (2022) explain that MOOCs are for those who have "intrinsic" and "extrinsic" motivation and are fueled by personal and professional motivations to complete a course (Moore & Wang, 2021).

## Conclusion

The pandemic has wreaked havoc on many aspects of life worldwide, including traditional schooling and education. With schools closed across countries and continents, learners lost out on vital in-person interaction with teachers and learning materials. However, amid this disruption, there has been some exciting progress in the distance education sphere. Innovative MOOCs allow learners to access valuable course content from the comfort of their homes. Whether MOOCs help makes up for lost ground or paves the way for future educational models remains visible. MOOCs play an essential role in ensuring everyone has access to quality education by breaking down traditional barriers. MOOCs have greatly expanded the scope and reach of educational opportunities for learners worldwide during the pandemic.

While MOOCs have the continued potential to revolutionize distance education, some challenges still need to be addressed before MOOCs can genuinely become a mainstay of distance education. One challenge is that the completion rates for MOOCs are notoriously low. However, despite this challenge, we see some exciting innovations arising from this disruption. For example, MOOCs have gained immense popularity over the past few years, delivering high-quality lectures and interactive coursework to millions of learners around the globe. Because they provide an alternative model that is not bound by geographical constraints or rigid time schedules, MOOCs offer a promising new way forward for education in the 21st century. Thus, while the pandemic caused some disruption and turmoil in education, it also seems to have paved the way for some truly innovative new directions in learning and knowledge sharing. As we

look toward the future with hope, optimism, and determination, the MOOC during and beyond the pandemic will continue to be a formidable force shaping our society and our approaches to higher learning online.

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