MOOCs and Joseph Lancaster: Lessons from a Two-Hundred Year Precedent in Mass Learning on a Global Scale

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Over the past three years, Massive Open Online Courses, or MOOCs, have spanned the globe, educating millions with the potential to reach millions more. Taught by leading academics from top institutions, the courses are as complete as those offered in traditional settings; yet, in being web-based and tuition free, they disregard long-standing geographic and economic barriers. These qualities have led many to see MOOCs as a significant step towards universal education and the fulfillment of the United Nation's goal of education as a human right. MOOCs, however, are not without precedent. As others have noted, the twentieth century witnessed several—generally unsuccessful—attempts at using film, radio, and television for large-scale learning. What has been mostly forgotten is that combining technology and methodology to increase efficiency and reach a "massive" number of students predates all of these examples. This study argues that the attempt to use technology for the purpose of mass education dates at least to the early nineteenth century with the educational system of Joseph Lancaster (1778–1838). Furthermore, the Lancasterian system was far more successful than most pre-MOOC applications of educational technology, having a profound and global impact. As such, the Lancasterian system deserves to be reevaluated in the context of recent developments and, as a predecessor to MOOCs, its successes and failures should serve as distant guideposts to further MOOC development.

Keywords: MOOCs; Joseph Lancaster; Lancasterian system; global education

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1. Introduction

In late 2011, Stanford University's Sabastian Thrun offered an online introductory course to artificial intelligence. Free of charge, the course quickly drew over 160,000 students from 190 countries, allowing Thrun access to more than 50,000 times the number of students that regularly attended his on-campus version of the same course. Having, in his own words, "seen Wonderland," he left Stanford to begin the online education platform Udacity (Lewin, 2012). Following Thrun's example, faculty from leading universities across the United States and around the world began to create online versions of their own courses, placing them on newly established platforms that include Coursera and edX in the United States, Iversity in Germany, FutureLearn in the United Kingdom, XuetangX in China, and JMOOC in Japan. Collectively known as MOOCs—or, Massive Open Online Courses—these and dozens of other platforms have reached millions of students and are on track to educate millions more.

MOOCs are "Massive" in that they have the means to reach an unprecedented number of students using "Online" technology that is "Open" to any individual user, and typically free. While similar to older online education services, such as OpenCourseWare (OCW), MOOCs go beyond these earlier activities by providing users with a student-oriented complete-package experience that includes varying degrees of student interaction and peer evaluation. MOOC supporters argue that this new combination of technology and methodology will revolutionize education in three areas. The first is that in being free and easily accessible, MOOCs will encourage lifelong learning and enable non-traditional students to further their education mid or post career. (This is now the primary focus of several MOOC platforms, including Udacity.) The second is that MOOC technologies will provide administrators with unprecedented big data that, according to edX president Anant Agarwal, will "reinvent education" for generations to come. The third, and final, is that MOOCs will universalize education. In the words of Coursera founder Daphne Koller, they will "establish education as a fundamental human right, where anyone around the world with the ability and the motivation could get the skills that they need to make a better life for themselves, their families, and their communities" (Koller, 2012).

Of the three areas, the first two are already being realized: MOOCs have proven to be an effective disseminator of lifelong learning and big data research focused on user patterns is underway. MOOCs, however, have been less successful in the third area of universalizing education. Studies show that even though course enrollment is unprecedented, most users have already completed some level of higher education. In addition, a disproportionate number come from the wealthiest strata of society. These trends are particularly evident in lesser-developed parts of the world where high-speed internet access tends to be an unaffordable or an unavailable luxury. Moreover, even in places where internet access is readily available, the educational background needed to effectively use the current generation of MOOCs place them beyond the reach of under-schooled populations. Nevertheless, despite these barriers to the global spread of MOOCs, the potential for universal education—using MOOCs to achieve quality education on the most "massive" of all possible scales—remains a long-term possibility, and one that the world cannot afford to ignore.

MOOCs are not the first coupling of technology and pedagogy to aim at mass education. Prior to the internet, there were sustained and well-documented attempts at using television, radio, and film for mass education in the form of both on-site (classroom) and off-site (distance) learning. In fact, as this study demonstrates, such efforts extend back at least two centuries to the

mechanized learning and global spread of Joseph Lancaster's educational system. The following looks to the example of the Lancasterian system and, in the context of recent MOOC trends, examines the way in which it combined technology with methodology to achieve an affordable and massively-scaled system of learning that swept across much of the early modern world.

The value of connecting the Lancasterian system to MOOCs is three-fold. First, in arguing that Joseph Lancaster's system was an early example of technology being used for mass education, it shifts the traditional emphasis on Lancasterian schools as a form of urban education (Dickson, 1986), religious education (Sedra, 2011), market-oriented education (Hogan, 1989) or public education (Kaestle, 1973), to being instead a pioneering system of global education in the tradition of MOOCs and other more recent efforts. Second, by appealing to the Lancasterian system as an early example of mass education, MOOCs also gain a far richer educational context than the typically limited view of placing them as an extension of the Open University (Hollands, 2014) or as the newest incarnation of distance learning (Shrivastava, 2014). Third, and most significantly, showing the Lancasterian system to be a MOOC precedent not only leads to a recontextualization of both systems, but it also allows for a reevaluation of current MOOC practices. In other words, the successes and struggles of the Lancasterian method become natural, if distant, guideposts for effective and appropriate MOOC development.

2. The Lancastrian System as Technology for Mass Education

In the late 1700s, primary education in England was limited to preparatory schools for the elite, parish and private schools for those who could afford them, and a hodgepodge of substandard charity schools for the large, poor, and increasingly urban population. In January 1798, Joseph Lancaster, an eighteen-year-old son of a London shopkeeper, opened a new type of school for the city's growing underclass: one that could physically and financially accommodate the massive number of children trapped in poverty while at the same time bring them the highest quality of learning. He began by posting a notice above his door that read, "all that will may send their children and have them educated freely, and those that do not wish to have education for nothing, may pay for it if they please" (Lancaster, 1821, p. vii). The appeal quickly took Lancaster and his students from a modest one-room schoolhouse to a school warehouse filled with some 800 boys and 200 girls (viii). The challenge was that with so many students paying little to nothing, Lancaster could not afford to hire a teaching staff and had to instead find an alternative method that would enable one adult—Lancaster himself—to instruct hundreds of children. He solved the dilemma of creating a school that would be affordable, massively-scaled, and unparalleled in quality by innovatively combining available technologies with a regimented system of cooperative learning and peer instruction (the "monitorial" system) to create a highly mechanized environment focused on maximizing both economy and efficiency.

While studies focused on the history of education technology are numerous, most pass over Lancaster's era in favor of late "industrial age" or "information age" technologies. Emphasis, in particular, is placed on mechanical and digital *tools* of learning. Nevertheless, as defined by Bernard Gendron (1977) and used by Paul Saettler (1990) in his monumental study of technology in American education, technology is "any systemized practical knowledge, based on experimentation and/or scientific theory, which enhances the capacity of society to produce goods and services, and which is embodied in productive skills, organization, or machinery."

Accordingly, technology in education includes not only "machinery," but also any number of other systematic organization-related developments that have been designed to further learning processes, including those used by Lancasterian schools and MOOCs.

Though the term "technology" is rarely used in the context of the Lancasterian system, the mechanical or factory-like quality of Lancaster's schools was without precedent and attracted widespread attention. Inspired by the ease with which one teacher could effectively instruct hundreds of students—a success that Lancaster eagerly publicized in widely-read and translated books and pamphlets—educators and policy makers from all parts of the world began to visit the London school to learn the method. On hearing of Lancaster's successes, George III became a supporter, as did many other persons of wealth and power on both sides of the Atlantic including, eventually, Simón Bolívar. The result was that by the 1820s there were Lancasterian schools throughout England, Scotland, Ireland, Germany, Poland, Spain, Russia, the Netherlands, Sweden, Denmark, Italy, Greece, Turkey, Asia Minor, the United States, Jamaica, the Bahamas, the Dominican Republic, Argentina, Brazil, Panama, Venezuela, Colombia, Ecuador, and Peru. On a smaller scale, the model was also used by missionaries and educators working in China, Singapore, India, Sri Lanka, Sierra Leone, Senegal, South Africa, Madagascar, Egypt, and the South Seas (Lancaster, 1821; Lancaster, 1933; Kaestle, 1973). In short, the Lancasterian system was a worldwide phenomenon and, quite probably, the earliest complete system of learning to be practiced across the globe.

The Lancasterian system did not create new technologies. Rather, it took available technologies and innovatively applied them to learning. To enable one person to effectively teach a massive number of students, Lancaster decided that classrooms needed to be redesigned. He specified that floors, for example, be built at a sloping angle of six inches for every twenty feet so that the teacher could view every child. The flooring itself was to be brick, not board, to lessen the reverberation of hundreds of students walking, and ceilings were similarly constructed to eliminate any echo. For air circulation, he recommended that schools take a then-common ship technology of using sail to funnel fresh air into lower cabins and apply it to the classroom by hanging similarly constructed "windsail" to the ceiling. To minimize unnecessary movement, Lancaster recommended that desks be built with places to either hang or insert slates so that students could reach them from a sitting position. Desks themselves were to be organized for group learning, with each group or "class" lined up alongside a "pasteboard" to once again minimize required movement. These movement-saving innovations extended even to hats: they were to be affixed with string that would allow them to be worn on students' backs in order to save nails, shelves, and the "sixteen hundred motions" that would be required of eight-hundred boys taking their hats off in the morning and then retrieving them at the end of the day (Lancaster, 1805; Lancaster, 1821).

Lancaster's obsession with economy and efficiency extended to his selection of classroom materials. His guidelines were detailed and exhaustive, even covering the best types of ink and ink stands. He also insisted on the use of clocks. In an era when "time discipline" was not universally practiced, clocks would be essential to the mechanization of learning. In his own words, they would add "precision to systematic operations, and allow the teacher to time every duty" (Lancaster, 1821, p. 5). Another technology that was not yet widely used in most schools, but which Lancaster popularized by making it a central part of his system, was the slate. As Lancaster explained in his manual, slate technology was more economical than paper, allowed for far more practice, served to prevent "idleness," procure "quietness," and assured that each

student remained engaged with the lesson (Lancaster, 1805, p. 55).

Perhaps Lancaster's most innovative application of technology were "pasteboards." While educators had relied on wax boards (the Mediterranean), sand boards (South Asia), lacquered boards (East Asia), and slate (Europe) to teach reading and writing from earlier times, using enlarged versions of these technologies for cooperative learning had never been broadly practiced. Lancaster introduced the approach, hanging large "pasteboards" along the walls of his classroom around which he built work "stations" where students would gather in their designated groups to learn reading, writing, and arithmetic. While these boards do not seem to have been initially erasable, by the time the Lancasterian system arrived in the United States, American leaders in the movement were recommending the use of new erasable devices—the modern blackboard—that had arrived from England independent of the Lancasterian system a few years earlier but that were still rarely seen on either side of the Atlantic (Kidwell, et al., 2008; Wylie, 2012). Lancaster's pasteboards, and later blackboards, allowed students to problem-solve as a group, which pushed learning away from individualized tutoring methods to cooperative and active learning. The method revolutionized education, with blackboards in particular being "effusively praised as a magical new technology of learning" (Tyack & Cuban, 1995, p. 55).

Lancaster organized these technologies into a methodical system of cooperative and often active learning. Historically, most attempts at using technology for mass-scale education—including educational television, radio, and film—pedagogically failed to engage students. These technologies were by nature one-directional exercises in "passive learning," and only became "active" when used by a skilled progressively-minded classroom teacher (Cuban, 1986). The Lancasterian system was different. The technologies and their application required students to be constantly on the move, responding to and interacting with peers and subject matter. "Activeness" was, in fact, a feature characteristic of the system, with Lancaster insisting that the learning process be one of "constant emulation, variety, and action," and claiming that the "social and active modes of instruction" used by his system left children "hoping they should *not* have a holiday" [italics added] (Lancaster, 1821, p. 16, 11).

The most "active" of all Lancasterian students were the student leaders, or "monitors," who served as conduits between the teacher and the children in all matters of schooling. This included instruction, assessment, attendance, and discipline, as well as cleaning and other chores. In the final years of the system, these lead students were occasionally paid, making the position similar to that of an assistant teacher. In the beginning, however, they were selected from among the students based on their superior understanding of a subject, and on the agreement that they would only "monitor" for a portion of the day. Lancaster specified that no matter how gifted students might be, they should not be permitted to serve as monitors for more than a third of their time to allow them to pursue their own learning under the direction of other monitors (Lancaster, 1805, p. 38; Lancaster, 1821, p. 7).

In a pre-Lancasterian school, a teacher might instruct students on, for example, multiplication by calling each student individually to the front of the classroom for one-on-one instruction or recitation. The other students, meanwhile, remained at their desks where they memorized their own lesson or, perhaps more typically, sat unattended and unengaged while waiting their turn. In a Lancasterian school, ten to twelve students would form a standing semicircle around a pasteboard or blackboard and begin working on a problem as a group. The monitor, who Lancaster insisted should always be "active, not stationary," would be at the center, leading the students towards a solution by group recitation. This would be followed by having students attempt to

solve the problem in front of their peers. They would take turns at the board, replacing each other at the direction of the monitor whenever they erred. The monitor would then dully evaluate and note each student's performance and, when deemed appropriate, a separate "inspector-general" monitor would assess whether any of the students should be promoted to a higher class (Lancaster, 1821, p. 1, 21).

In this way, Lancaster enabled a massive number of youth to study under the same roof through the use of structural technologies and a highly mechanical or factory-like routine. Combining these with early forms of cooperative learning and peer evaluation, he devised a type of mass pedagogy that has become the hallmark of recent MOOC developments.

3. Recontextualizing MOOCs in Light of Lancaster

Although MOOC research is still in its infancy, several widely-discussed studies have appeared over the past year. These include the results of a San Jose State University experiment (Firmin et. al., 2013) that showed MOOCs to be a poor substitute for traditional learning, and studies out of the University of Pennsylvania (Christensen et al., 2013) and Harvard-MIT (Ho et al., 2014) that highlight low completion rates as well as the above-mentioned wealth and academic pedigree of most MOOC users. Other less-discussed studies have focused on MOOC pedagogy (Bayne & Roos, 2014) and on how MOOCs are being used by universities (Hollands & Tirthali, 2014). The latter concluded that MOOCs have already "catalyzed a shift" in leading academic institutions around the globe, and that there is "no doubt that online and hybrid learning are here to stay." A study by the Babson Survey Research Group (Allen & Seaman, 2014) reached the same conclusion, showing that despite a vocal and growing opposition to MOOCs, support for the online courses is growing at a faster rate. Although these and other studies typically mention OpenCourseWare, and while they might give passing reference to the influence of Salman Khan or earlier attempts at educational television and radio, the deeper historical context of MOOCs has been largely ignored. Rather, the general focus has been on the future, with many contending that MOOCs are revolutionizing global education. If the MOOC movement is indeed a revolution, it is one with deep roots, running back at least two centuries to the Lancasterian system.

Being more familiar than the Lancasterian system, MOOC technologies need less of an explanation. Some shared characteristics nevertheless deserve comment. First is that like the Lancasterian system, MOOCs did not create new technology but instead combined and applied earlier innovations in new ways. Online lectures, for example, have been available since the late 1990s, and cloud computing, RSS feeds, file-sharing, and online surveys or testing are all familiar in their individual forms. Nevertheless, it was only with MOOCs that educators combined these elements into a complete student-oriented system. Second, in tandem with these technologies, MOOCs rely on cooperative learning and peer evaluation, much as the Lancasterian system did two centuries ago. Third is that despite the use of cooperative learning, MOOCs "promote" students on an individualized level. This was also true of the Lancasterian system, which promoted students independently of peers and without regard to age. Students would advance at their own pace, moving at different rates for each subject. The brightest among them would eventually serve as monitors with a few being certified to become teachers at other schools. This unusual combination—learning as a group to be promoted as individuals—did not

survive the system, being replaced by the current age-based and nearly universal graded system in the mid nineteenth century. MOOCs are in the process of turning back time by once again combining individual progress with a form of group learning that takes place independent of any graded system. If MOOCs were limited to university settings, such developments might be of limited note. Yet, in being "open" to all—edX alone has roughly 150,000 high school users (Atkeson, 2014)—MOOC technology is offering an alternative to the graded system that allows students to be "promoted" by progress rather than age.

Despite these similarities, placing the Lancasterian system as a two-hundred year precedent to MOOCs is not without problems. While Lancasterian schools predated public education and aimed at providing the poor with basic instruction, MOOCs are typically used as a supplementary system by wealthier and more advanced students. (Attempts at using MOOC platforms in the poorest and most educationally-neglected parts of the world are underway but, as shown by recent experiments with refugee children, the challenges remain daunting (Parr, 2014).) Whereas Lancasterian schools pursued unprecedented numbers by not only *using* innovative technologies but by *becoming* a type of mechanized system, MOOCs are less defined as a system and thus open to far more variation and experimentation within the confines of the technology. Finally, Lancasterian classrooms were physical places of learning with clear limits on the number of students they could handle. On the contrary, MOOC technology allows for long-distance online classrooms in which "massive" means having no restrictions. Lancaster's unprecedented one-thousand pupil classroom would today make for a small MOOC.

There is nothing to indicate that MOOC creators are consciously following the Lancasterian tradition or are even aware of the precedent. Nevertheless, there are several advantages to placing MOOCs in the context of the Lancasterian system. The prime benefit is in gaining a sense for the historical depth and tremendous breadth of what MOOCs are attempting to achieve. In 2012 to early 2013, academics and pundits alike heralded the arrival of MOOCs with unchecked adulation. The New York Times, as one example, declared 2012 to be "The Year of the MOOC" (November 2, 2012). However, by late 2013, unforeseen obstacles—such as low student retention and the realization that most users were already educated—challenged such optimism and led many to speculate an early end to the movement. The Washington Post, for example, ran an article under the rhetorical title, "Are MOOCs Already Over?" (December 12, 2013). Placing MOOCs in a two-hundred context shows that the greater goal of providing massively-scaled, affordable, and quality learning through the combination of technology and methodology is not new, and is hence not a short-lived fad that will soon pass. Rather, while specific characteristics might change, and while popularity might wane, the general approach remains the same. The Lancasterian system began with the goal of combining technology and methodology to take education beyond traditional social and economic barriers and reach as wide a population as possible. MOOCs have been forged from this same basic mold.

4. Gleaning Lessons from Lancasterian Precedence

Both the Lancasterian system and MOOCs began as practical responses to immediate needs. In both cases, the innovative use of technology led to unprecedented success on a global scale. At the same time, both sets of technologies have placed limits on pedagogical options. With the Lancasterian system, cooperative learning was limited to ten or twelve students, a

number that was appropriate for "pasteboard" technology. MOOCs, in place of pasteboards or blackboards use message boards—one of the internet's oldest technologies—enabling students to debate, advise, and assess each other on a scale that goes far beyond earlier attempts at massive learning. Users can now interact with any number of fellow students from any number of locations. A basic advantage of the Lancasterian system is that cooperative learning through pasteboard or blackboard activity was required. Individual progress was entirely dependent on communal learning. In contrast, interaction with peers remains an option with most MOOCs. Although a simple click can connect students from all parts of the world, many users decline to make their learning cooperative, preferring instead to progress on their own. The aforementioned Harvard-MIT study cites the use of discussion forums as varying from course to course, ranging between 6.5% and 70% of students. Early MOOC commentary often distinguished between xMOOCs and cMOOCs, with the latter entailing more "connectivity," or community involvement. While the distinction between the two types of MOOCs has recently been blurred, an approach that makes cooperative learning part of the very mechanics of a system—as it was with Lancasterian schools two centuries ago—will lead to an educational experience more steeped in community.

The greater challenge that faced Lancaster in the past and MOOCs in the present is in assessment. As explained, Lancaster addressed the problem by having students evaluate other students. MOOCs too use a system of peer assessment, although one that is used inconsistently and that has undergone constant change (Hollands, 2014). Coursera has taken the lead in this effort, using a "scoring rubric" to guide students in evaluating their peers. Their effort has been the subject of much attention, with most of it focused on the viability and applicability of the system (for example, O'Toole, 2013; Balfour, 2013; Piech et al., 2013). After all, peer learning has historically been practiced in environments where instructors could ensure that students had the educational background needed to assess their peers, that students were then linked with an individual or group similarly qualified and, finally, that the students thoroughly understood and fairly applied the established rubric. With tens of thousands of students of all ages and backgrounds enrolling in MOOCs, each of these steps becomes considerably more difficult. Nevertheless, within the humanities in particular, MOOCs need to find some mechanism for assessment that goes beyond an auto-graded format. Should they succeed, MOOCs will continue in their push towards a collaborative learning model with course offerings in any number of subjects; if they fail, their appeal may be limited to more easily assessable STEM fields.

A third challenge that confronted Lancaster, and which MOOCs today have yet to resolve, is the lack of interaction with primary instructors. Elite colleges have, in fact, voted again MOOC development over this issue. The most notable example, Amherst College, cited its commitment to "learning though close colloquy" as its primary reason for declining MOOC involvement (Kolowich, 2013). In sum, the effective use of cooperative learning, the need for peer assessment, and the lack of direct interaction with primary instructors have each challenged MOOC development. Two centuries ago they proved similarly difficult with the development of Lancasterian schools. Lancaster built the social mechanics of his system around cooperative learning. The latter two issues, however, contributed to its eventual collapse. As shown, the initial response to Lancaster's ingenuity was that of awe. Lancasterian schools opened on every continent and in every part of the then-connected world, establishing perhaps the first global system of education. However, by the 1830s and 1840s, opposition to the impersonal and factory-like quality of the Lancasterian model became widespread. One American educator, for

example, complained that Lancasterian schools had "set aside the old method of spontaneous effort and individual exertion," and taught its students "to march on like a platoon of soldiers, as if they were moved by one spring and were parts of a single machine" (Schultz, 1973, p. 167). Others targeted the specific method of using cooperative learning and peer assessment. As an example, David Stow, a leading educator in the movement to replace Lancasterian schools with smaller classrooms, critiqued the system by asking if "a young untrained and inexperienced boy shall take the place of a mature and cultivated master?" Peer learning, he argued, led to the "semblance but not the reality of education" (Stow, 1846, pp. 110–111). Despite all that the Lancasterian system had to offer, the impersonal machine-like quality of the system, the lack of individualized attention from instructors, and the use of "monitors" to teach and evaluate other students meant less student-teacher accountability, little expertise in day-to-day learning, and poor quality assessments.

Such criticisms only gained momentum with the development of alternative systems of education. After all, when the Lancaster system first appeared, the belief that it was superior to other options—or lack of options—was universal. So effective was the approach that Saettler describes an incident where a student's parent accused the local Lancasterian school of using "evil magic," for there was no other way to explain the rapid progress that his son was making in basic mathematics (p. 34). In other words, as others have noted, it was the very success of the Lancasterian system that led to its eventual demise; by proving it possible to educate the poor masses at a minimal cost, Lancasterian schools played a key role in the spread and popularization of public education. And, as it turned out, publicly-funded schools on both sides of the Atlantic could afford lower student-teacher ratios and the reintroduction of small-scale classrooms, which allowed for direct student-teacher interaction and assessment (Cubberley, 1919; Kaestle, 1973).

MOOCs too have the potential to be undone by their own success. After all, as with the Lancasterian system, it is not only students but also educators who are learning from the approach. The MOOC appeal—flexible, free, and interactive—could eventually be adopted in part or whole by other learning systems that are better equipped to deal with student assessment and more geared toward the development of student-teacher relations. Or, should MOOCs effectively address these shortcomings—as the Lancasterian system failed to do—they could continue their global spread unabated.

5. Conclusion

At the time of Joseph Lancaster's death in 1838, papers praised him as having been "a benefactor of the human race," whose system of education was to "the accumulation and speed of mental power what steam is to inanimate matter. All countries have adopted it, and whatever new schemes it may temporarily encounter, it must ultimately triumph everywhere" (*New York Star*, 1838). In fact, as explained, although certain Lancasterian methods endured, small-scale classrooms with close student-teacher interaction were already replacing the larger factory-like schools. Nevertheless, the Lancasterian system was indeed an educational coup in economy and efficiency, creatively combining available technologies and methodologies to provide an affordable, open, and quality education for an unprecedented number of students. In this sense, even though Lancasterian slate and pasteboard technologies belong to the distant past, the funda-

mental approach of Lancasterian schools has continued to "triumph," doing so most recently in the form of present-day MOOCs.

By reappraising the Lancasterian system in light of MOOC development, not only does the older system gain modern relevance, but the new system acquires historical and contextual depth. MOOCs, in short, become part of a long-term effort in mass education. Moreover, in connecting the two systems, Lancasterian methods become a natural guide for current MOOC development. Although two-hundred years removed from the Lancasterian experience, MOOCs have applied readily available tools in new and innovative ways that, much as with the Lancasterian system before it, have enabled a limited number of educators to reach an unlimited number of students. Similarly, like the earlier system, MOOCs promote students on an individualized basis, doing so through a combination of cooperative learning and peer evaluation. While this approach has allowed unprecedented access to learning. Lancasterian precedence suggests that enthusiasm for the method has the potential to be short lived. With Lancasterian schools, the novelty and initial success of the system gave way to an alternative model of smaller classrooms with direct student-teacher interaction that was nevertheless affordable. It is not clear whether MOOCs will follow the same route or, perhaps learning from the past, continue to innovate and evolve in a new direction. Whichever the case, until MOOCs point to a more appealing alternative, as did the Lancasterian system before it, or evolve into that alternative, their innovative application of technology and methodology will continue to inspire.

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