Title
The Wrong Turn to Learning: An Analysis of Research on Modern Online Courses to Determine the Negative and Positive Effects on Student Performance in Universities

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The Wrong Turn to Learning: An Analysis of Research on Modern Online Courses to Determine the Negative and Positive Effects on Student Performance in Universities

According to the children's rights activist organization, Humanium, "More than 72 million children are not in school and 759 million adults are illiterate and do not have the awareness to find an education" ("Right to Education"). In order to fight this world issue, online courses have been created to bridge the gap of education between the world and the classroom. Through these Massive Open Online Courses, or MOOC's for short, those seeking knowledge are able to become students at a university of their choice by the simple click of a button. With the so-called, "MOOC Mania" explained by David Kirp, a professor at the University of California Berkeley, lawmakers and school administrators all around the world, especially in California, have been trying to implement online courses into the daily curriculum of prestigious universities. As a cheaper alternative, MOOC's are able to cut costs through the enrollment of hundreds of students with no need of a physical classroom, which is very attractive to people such as Khadijah Niazi, an eleven-year-old student from Pakistan, who had been deprived of an education because of her country's political struggles explained in an article of the *Times Magazine*. Although MOOC's have gained much popularity, a study conducted by Tatiana Semenova and Lyudmila Rudakova, students at the National Research University Higher School of Economics in Moscow, showed that "the odds of successful completion will differ for participants with differing educational experiences" (230). Although this truth has been proven to not be efficient for certain students, "venture capitalists are on the hunt for the next Facebook, the next Google, the next eBay— particularly the opportunity in MOOCs" and it is not long until that sweet spot of traditional education and online education is found (Kirp 16). As online education becomes a practice in universities, education has become somewhat more accessible. However, many studies have found that MOOC's are not capable of serving the vast spectrum of the different types of students, which is why, in order to fix the issue of traditional curriculum being ousted by online education, university administrators must challenge their implementation for the benefit of student achievement and determine what the institution values educationally.

Since the rise in popularity of online education, its potential was always an unstable option for substituting traditional education. According to an article titled "Tech Mania Goes to College" by David Kirp a writer for, *The Nation,* MOOCs were promoted as a "better, cheaper, and more available mode of higher education" (13). It was not until 2008 that MOOCs became this new innovation in learning and was headlined in the *MIT Technology Review* as, "The Most Important Education Technology in 200 Years" (Kirp 13). As this talk and buildup increasingly surrounded online education, "the MOOC experiment became a business model that carried credit and most importantly charged tuition" (Kirp 14). With this expectation that online education could significantly make education cheaper,

scholars and leaders saw its potential, especially in California with lawmakers such as Governor Jerry Brown and the University of California school system. According to Kirp's research, California saw a significant decrease over the years in school funding, from twenty-seven percent of funding dedicated to public education to just a little over ten percent. With this financial crisis in education, MOOC's were a promising alternative to traditional schooling with less money needed and more income, but this substitute was not much of a favorable option among faculty and professors when the governor attempted to put a part of the state's budget into research and implementation of such online courses. With this uproar and feedback from professors of MOOC's being "an unprecedented political encroachment, a challenge to academic standards, and a step toward privatizing higher education," lawmakers pulled back their support of the online education alternative and the potential was left in an awkward state of hibernation (Kirp 13). Although the government in California ended up not supporting the cause for online education, the evolution of the technology did not stop there because as Kirp continues to explain in his article, the rest of the country saw its potential and did not let government obstacles stop its expansion.

Due to the mixed reactions and little support of MOOC's in California in 2013, it seemed as if it would be a while until online education would become an effective substitute for traditional education, but at the University of California Berkeley, new research was being conducted without the governments money shortly after it could not get support by state officials. In David Kirp's research, he interviewed Armando Fox, the dean of Berkeley Law School and a partner of the UC President who said, "Berkeley is the home of one of the world's highest-ranked computer science programs which is why we had to do something, we could not be left out" (14). With motivation and desire still present, Berkeley, MIT, and Harvard joined together to find the potential in MOOC's, but this time, professors and those who respected the traditional practice of education took a leading role in the development of this technology, unlike its previous government officials predecessor. In this attempt to transform MOOC's to be more efficient, researchers with experience in education came in with a different perspective of the potential in online education. As Armando Fox explains, "The problem with the work so far was that MOOCs were sold as just a way to save money but the way we see it, it is the 21st century textbook" and with this perspective of the market, they created an online course called Edx which was proved to be a successful project (Kirp 14). Showcased at a convention in the fall of 2012, "Edx showed a 90% passing rate of a given course rather than a 60% success rate in traditional courses" (Kirp 14). With the progress made by Berkeley, MIT, and Harvard, the research on MOOC's has made significant developments in the understanding of how they should be used but, with these breakthroughs, new topics of interest have risen. As David Kirp concludes his article, he says, "the hope and money behind MOOCs are creating pressure on colleges

and universities to replace faculty members with online video lectures" (17). Kirp's statement may have been exaggerated because faculty members will have crucial roles in administrating these online courses but the question of the future of traditional teaching still keeps doubters of this new way of teaching skeptical. In this uncertainty, one known fact has not yet been addressed and that is the idea that, online education does not serve all students, but with the fast-growing development in technology, MOOC's could just be the new way of teaching for everyone in order to be smart financial alternative.

Compared to other countries, the United States is notorious for their record student debt which is why MOOC's offer a suitable replacement to the current expensive educational system. In a *Time*s article written by Amanda Ripley titled, "College is Dead. Long Live College!", it is noted that "the Federal Reserve Bank of New York has estimated that Americans owe about nine-hundred-fourteen billion to one trillion dollars in student debt" (33). As more and more people become of age to attend college, this estimate is bound to increase with the ideas that student debt is worth the financial burden but with new information about the education system, that perspective is beginning to alter the image of universities. Also noted in Ripley's article is that "40% of students at 4-year colleges do not get the desired degree but rather at 6 years", and that is partly due to barriers of entrance and exit discussed in a research project of the barriers to taking massive open online courses, conducted by researchers at the "National Research

University Higher School of Economics in Moscow" (Ripley 33). According to the lead researchers, Tatiana Semenova and Lyudmila Rudakova, "admission to gain a traditional education in 4-year universities come with barriers to entrance, such as academic achievements and personal characteristics, and barriers to exit such as success in an individual's academic record", which is why MOOCs are very attractive to not just administrators trying to save money, but also to students who desire a form of education (Rudakova and Semenova 229). Through online education, inequality in education is resolved as "there are no requirements to becoming a student except to register" and this opportunity is most evident in places where education is scarce (Rudakova and Semenova 230).

With the accessibility of MOOC's, the ability to enroll for an education becomes easier and this is evident as MOOC's have been shown to connect an education to people all around the world. "On September 17, 2012, the Pakistani Government shut down access to YouTube" and, to Khadijah Niazi, a student on the Massive Open Online Course, Udacity, this was an obstacle to her education, as many lessons were uploaded on to this platform (Ripley 35). Without access to YouTube, Niazi could not learn her course material for the upcoming exam but with Udacity, she received help from unlikely sources. After feeling the outrage of her situation, Niazi posted onto her discussion board "'I am very angry, but I will not quit' and in about an hour she got responses from people all around the world posting notes and information for Niazi to study" (Ripley). In

this particular course, "the directory of students enrolled included people from 125 countries", and with this diverse network, Niazi was not only able to pass her class but MOOCs were able to show to the world the potential of this type of new education (Ripley 35). By connecting people around the world to an education, people with internet connection are able to get a form of higher education and join a community that do not take this opportunity for granted. On a positive note, MOOC's are capable of giving a type of education unlike traditional schooling. With applications such as Udacity, an eleven-year-old girl from Pakistan can "complete a Physics 100 class, a challenging course for the average college freshman" but as Ripley finds out, she will always favor a traditional education because, as Niazi says, "I would love to really meet my teachers in person and learn with the whole class and make friends--instead of being there in spirit" (Ripley 41). From this statement made by Niazi, we find that there is still an aspect of traditional education that MOOC's do not have and that is the ability to have a personal teaching experience which many find more crucial than the opportunities that MOOC's offer.

Administrators, lawmakers, and reporters can comprise a large collection of the results of MOOC's, but it is through the students where the true performance of online education can be discovered. At the University of Akron, Susan Ramlo, the author of "Students' Views About Potentially Offering Physic Courses Online", compiled a list of opinions from students towards a physics course offered within their majors which was primarily online. In her research, she posed the question, "Do students who attend a large public university want to take courses online especially science courses perceived to be difficult such as freshman-level physics courses?" (Ramlo 490). After collecting the data among the student population, Ramlo had split opinions on the perspectives on MOOCs but both opposing notions of the issue did not support it fully in some way. On one side of the argument, or factor 1, students condemned the presence of online courses. In one statement from a student, they stated, "I am coming to the University for a reason. People do not pay money to sit in their dorms learning online. If I wanted to take an online course, I would take them at one of those online schools" (Ramlo 495). On the opposing side, or factor 2, students had certain requirements to when it would be appropriate to teach the course online. Going off the idea that "online courses simulating laboratories are not equivalent to those that are hands-on", those who were somewhat in favor of MOOCs said only certain classes would be an acceptable subject (Ramlo 494). Because of the lack of hands-on interaction and face-to-face contact, online courses take away that trait given by traditional education or as one student from Ramlo's research suggests, "'you cannot feel it'" which is why online courses are not for all disciplines of learning (495). Every subject has a way of teaching and with classes such as EDx, the education is limited. And with that limitation, students become barred of their education which is why MOOCs must be carefully placed, it cannot serve every type of students.

As a result of the fast and accessible internet, MOOCs come with the expectation that it takes away the inequality of accessibility that a university education struggles with, but as Tatiana Semenova and Lyudmila Rudakova found in their research, online courses come with obstacles just like traditional education. Similar to the work Susan Ramlo conducted in her research of student views of online courses, Semenova and Rudakova gathered similar information but focused more on certain characteristics which included "the 2 levels of barriers to gaining success, which are individual characteristics such as experience and course characteristics such as work load, and barriers to passing the class which include previous subject knowledge" (230). After observing results, which can be seen in table 2 of Semenova and Rudakova's findings below, there were important correlations within characteristics that determined whether or not students would succeed

Table 2
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Characteristics of Students in Online Courses (survey data)

Indicator	Foundations of microeconomics (N = 4,000)	Financial markets and institutions (N = 3,156)	Macroeconomics (N = 2,061)	Industrial organization (N = 911)
Average age, years	28	30	29	29
Gender	56% male	59% male	56% male	55% male
Related subject experience (% with experience)	55	38	63	34
Related work experience (% with experience)	31	20	22	26
Level of education (% with higher education (BA, specialist, MA, postgraduate degree))	84	86	86	88
Experience with online learning (any platform) (% with experience)	48	46	57	59
Intention to complete the course (% planning to complete)	77	65	79	80
Actual course completion (% completing the course of those who planned to do so)	6	31	20	12

Referring to the level of education component, "students with higher education have better chances of completing a course because they were better prepared to absorb the information" and when looking at the actual course completion of the subject group, the ratio to those intending to complete the course is very low (Rudakova and Semenova 234). With this information, MOOCs are no longer a form of equal education. As Semenova and Rudakova have found, "performance depends on students' sociodemographic characteristics and level of preparation", and if individuals are not capable of these unspoken requirements, they are better off taking the online course in a traditional educational system where they will have the resources to learn efficiently (242).

Since their initial arrival in 2008, MOOC's have become beneficial to the development of modern educational but through the research conducted by Susan Ramlo on student opinion and Semenova's and Rudakova's on barriers to success in MOOC's, online courses, through its

attempt at implementation, have also damaged traditional education by not serving university communities of students with diverse characteristics. From Ramlo's study, the University of Akron is a small representation of students that are already opposed to being taught through a computer which lowers the rate of motivation to learn which is an important component to why people take an online course. Once motivation is taken out of students, the individuals characteristics that define a character is what MOOC's must work with that Semenova and Rudakova prove to be a weak structure to work with. Furthermore, research has proven that online courses are a hit or miss format for education which is why, in order to fix this issue, universities using online courses must halt their implementation of MOOC's and clearly define to students whether or not they are enrolling in a school of professors or computers. Once universities specify their motives of using MOOC's, students will then be able to choose how they are willing to learn, making them responsible for the results they get, not the education. Surprisingly, an example of how universities should function are online schools as they already define, to the consumer, that the type of education they will receive will be online. With this solution, student success rates in completed classes should be predicted to rise drastically especially with the recent MOOC hype and each individual paying good money for an education will receive the brand of teaching they desire. Modern MOOC implementation is very dangerous to the way students who require a traditional format of learning and if our educational system continues down this electronic path, the values for education that we have used to teach students for centuries will disappear. As researchers and software engineers continue to make online education more accessible to all types of students, there is hope in online education but until that time comes where MOOCS serve all students, traditional education should look to textbooks and professor for an education.

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