A shakeup of higher education, By Joseph E. Aoun, president of Northeastern University. Boston Globe (Opinion page) November 17, 2012

As President Obama develops his second-term agenda, his administration will no doubt focus on a range of higher-education priorities, including affordability, attainment levels, and career preparation. Yet as important as these issues are, something more fundamental is happening: We're witnessing the end of higher education as we know it.

This transformation is being brought on by "MOOCs" — massive open online courses being offered for little or no cost through entities like edX, Coursera, and Udacity, which aggregate classes from multiple universities onto a single computer-based platform. Millions of people are already utilizing them to tap into higher learning.

In the process, they're spurring a shakeup of higher education — with dramatic implications.

Most significantly, MOOCs are causing higher education to shift from a vertically integrated model to a horizontally integrated one. For centuries, higher education has been a vertical enterprise: Its core functions — knowledge creation, teaching, testing, and credentialing — all have been housed within colleges and universities. MOOCs disrupt this model by decoupling teaching and learning from the campus on a mass scale.

This shift will accelerate as MOOCs continue to take hold. As more people use massive online courses to assemble new educational pathways, the companies that provide them will likely turn to outside partners such as private testing firms to administer exams to large numbers of students, detaching assessment from colleges and universities. Next, credentialing will be separated from colleges as well, as students press providers to offer degrees or other formal validation of the knowledge and skills they've acquired. Still more external players may get involved in the credentialing process, such as state agencies or professional associations.

Before long, higher education will look very different than it does today. Vertically integrated universities will continue to exist, but they'll be joined by a variety of horizontally integrated competitors with the ability to perform the same core functions for many more people. In short, the monopoly that colleges and universities have on advanced learning and degree granting will be dismantled. Ultimately, this will cause even more aspects of higher education to be scrutinized.

First, the exclusionary model used by selective colleges and universities will be called into question. Today, it's common to judge a university's quality based on the number of students it rejects. MOOC providers rebuff this premise by enabling all comers to take courses, regardless of their qualifications. Although this approach has its limitations — currently, only 5 to 10 percent of students complete a typical MOOC — it also has rejuvenated the importance of access as a key part of higher education's mission.

Similarly, MOOCs are likely to put a new focus on outcome measures. In an environment where many online courses are readily and cheaply available, the "input" measures that colleges use to distinguish themselves — like the extent of their physical campuses or the SAT scores of their entering students — will become less influential. Instead, output measures — such as the college's graduation rate, or whether graduates get well-paid jobs — will become more important.

Consequently, MOOCs will force traditional colleges and universities to confront questions about their value propositions. As more students wonder why they should pay for a campus-based college education when they can take online courses for low or no cost instead, colleges and universities will have to demonstrate the benefit they provide more powerfully than ever. Those that can differentiate themselves and prove their "value-add" will succeed — and those that can't will fail.

In many ways, these developments have the potential to invigorate higher education by compelling traditional colleges and universities to become more accessible, committed to graduates' success and more distinctive and diverse.

At the same time, MOOCs have some potential downsides. They could promote a two-tiered system — one tier consisting of a campus-based education for those who can afford it, and the other consisting of low- and no-cost MOOCs. This stratification could be reinforced if the colleges and universities that offer massive online courses reserve degrees for the graduates of their physical campuses and provide lesser credentials for their MOOC graduates — in effect, creating a "luxury" brand and an "economy" brand.

MOOCs may also have the unintended consequence of constraining diversity in higher education. On a practical level, the need to test enormous numbers of students could lead MOOC providers to develop standardized assessments that have the virtue of efficiency but the vice of narrowness. In addition, as MOOCs lessen the importance of input measures as a way of judging the quality of traditional colleges and universities, the pendulum could swing too far in the other direction, leading to a myopic focus on colleges' output measures.

Whether the MOOC phenomenon becomes a boon or bane to higher education remains to be seen. But one thing is certain: It will change higher education forever.