

## MOOCs: ARE THEY WORTH THE HYPE?

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When the Nazarene International Higher Education Council (IHEC)<sup>1</sup> gathered in Indianapolis, Indiana on June 20-21, 2013, educational leaders from the 53 Nazarene colleges, universities, and seminaries had the opportunity to explore creative ways to strengthen our educational delivery systems. I had the privilege of serving on a panel and presenting the current status and future opportunities offered by MOOCs.

A MOOC is a Massive Open Online Course that encompasses a variety of instructional and web-based technologies that provide a novel online course delivery platform. MOOCs take advantage of the internet, artificial intelligence, access to digital content, advances in online assessment, open licensing, social networking analytics, and open source programming to provide a robust online educational environment. I first became aware of the potential of MOOCs while attending a conference in October 2012 sponsored by the New England Board of Higher Education<sup>2</sup>. All of the major players were there from MIT, EdX, Coursera, EduCause, and Mozilla. Since then, MOOCs have taken the higher education stage by storm with articles appearing weekly in the *Chronicle of Higher Education*<sup>3,4</sup>, *The New York Times*<sup>5</sup>, *Time Magazine*<sup>6</sup>, as well as all the major trade journals<sup>7,8,9,10</sup>. Consistent in their estimation is the likelihood of a large-scale change in higher education, as we know it, as well as the potential demise of the small liberal-arts tuition driven institution<sup>11</sup>. While I am confident that brick-and-mortar colleges will remain, we must stay on the cutting edge of best practice and also willing to adopt new methodologies as necessary to remain competitive, relevant, and accessible.

<sup>1</sup> [http://web.nazarene.org/site/PageNavigator/GA13\\_IHEC\\_Home.html](http://web.nazarene.org/site/PageNavigator/GA13_IHEC_Home.html)

<sup>2</sup> New England Board of Higher Education “[The University Unbound: Can Higher Education Compete and Survive the Age of “Free” and Open Learning?”](#) October 15, 2012, at the *Federal Reserve Bank of Boston*

<sup>3</sup> “[What You Need to Know About MOOCs](#)”. *The Chronicle of Higher Education*. Retrieved July 10, 2013.

<sup>4</sup> Shirky, Clay (July 8, 2013). “[MOOCs and Economic Reality](#)”. *The Chronicle of Higher Education*. Retrieved July 8, 2013.

<sup>5</sup> Pappano, Laura. (November “[The Year of the MOOC](#)”. *The New York Times*. Retrieved July 8, 2013.

<sup>6</sup> Webley, Kayla (September 4, 2012) “[MOOC Brigade: Will Massive, Open Online Courses Revolutionize Higher Education?](#)”. *Time*. Accessed July 10, 2013.

<sup>7</sup> Waldrop, M. Mitchell (March 13, 2013). “[Massive Open Online Courses, aka MOOCs, Transform Higher Education and Science](#)”. *Scientific American*. Retrieved April 28, 2013.

<sup>8</sup> Zhu, Alex (September 6, 2012). “[Massive Open Online Courses – A Threat Or Opportunity To Universities?](#)”. *Forbes*. Retrieved July 8, 2013.

<sup>9</sup> <http://www.educause.edu/library/massive-open-online-course-mooc>

<sup>10</sup> <http://www.insidehighered.com/search/site/mooc>

<sup>11</sup> <http://epic2020.org>

There are four main players in the MOOC environment; Kahn Academy<sup>12</sup>, Udacity<sup>13</sup>, Coursera<sup>14</sup>, and EdX<sup>15</sup>. Khan Academy, created in 2006 by Salman Khan, is a non-profit educational website which delivers a free online collection of more than 4,300 video micro-lectures that have been accessed over 240 million times to date. The ability to deliver short focused educational tutorials on specific topics has transformed the classroom lecture. The flipped classroom<sup>16,17</sup> is a pedagogical model in which students watch short video tutorials outside of class allowing in-class time to be spent on application, discussion, and peer-learning group exercises. Problem-Based Learning<sup>18</sup> and Connectivist Learning<sup>19</sup> in which the inquiry is student-centered, resulting in more active learning and increased student engagement, has proven difficult to implement in the traditional college lecture-style classroom format. Advances in web-based instructional technologies and course design based on gaming theories<sup>20</sup> provide a new platform to implement Problem-Based and Mastery -Learning<sup>21,22</sup> pedagogies across a broader range of disciplines. In the classroom the professor is transformed from a content provider to a facilitator of learning.

MOOCs first garnered public attention in 2011, when Stanford University offered an artificial intelligence class that attracted 160,000 online students of which 23,000 completed the course successfully. Professor Sebastian Thrun left Stanford to form *Udacity*, a for-profit venture that now has 24 active online courses. *Coursera*, a for-profit venture capital based company, was launched in April 2012 by two other Stanford Professors and now has over 4 million users. In 2002, MIT launched *OpenCourseWare* with the goal to provide anyone online access to all of the educational materials from MIT's undergraduate and graduate courses. By 2008 *OpenCourseWare* had over 50 million visitors and access to 7800 courses in 6 different languages<sup>23</sup>. MIT and Harvard joined forces in the fall of 2012 to form non-profit *EdX*, a

<sup>12</sup> [www.khanacademy.org/about](http://www.khanacademy.org/about)

<sup>13</sup> <https://www.udacity.com>

<sup>14</sup> <https://www.coursera.org/about>

<sup>15</sup> <https://www.edx.org/about-us>

<sup>16</sup> February 2012, “[7 Things You Should Know About Flipped Classrooms](#)”, *EDUCAUSE*, accessed July 12, 2013

<sup>17</sup> Berrett, Dan (February 19, 2012). “[How 'Flipping' the Classroom Can Improve the Traditional Lecture](#)” *The Chronicle of Higher Education*, accessed July 12, 2013

<sup>18</sup> Gallow, DE, and Grant, Hewlett “[What is Problem-Based Learning](#)”, retrieved July 8, 2013.

<sup>19</sup> Kop, Rita “[The challenges to connectivist learning on open online networks: Learning experiences during a massive open online course](#)”, *International Review of Research in Open and Distance Learning*, Volume 12, Number 3, 2011, accessed July 10, 2013

<sup>20</sup> Chou Yukai, (April 25, 2013 ) “[Top 10 Education Gamification Examples that will Change our Future](#)”, accessed July 15, 2013.

<sup>21</sup> Bloom, Benjamin. “[The 2 Sigma Problem: The Search for Methods of Group Instruction as Effective as One-to-One Tutoring](#)”, *Educational Researcher*, Vol. 13, No. 6 (Jun. - Jul., 1984), pp. 4-16, accessed July 17, 2013.

<sup>22</sup> Brandman, Relly (May 13, 2013) “[5 Tips: Learn more effectively in class with Mastery Learning](#)”, accessed July 16, 2013.

<sup>23</sup> (December 3, 2008) “[OCW Welcomes 50 Million Visitors](#)” accessed July 15, 2013

MOOC-based learning platform built on the concept of open-source programming. The two institutions each contributed 30 million dollars to the venture and were soon joined by UC Berkeley and The University of Texas System. The goal is to move beyond online video learning and transform education through “through cutting-edge technologies, innovative pedagogy, and rigorous courses.”<sup>15</sup> *Edx* is committed to “research that will allow us to understand how students learn, how technology can transform learning, and the ways teachers teach on campus and beyond”<sup>15</sup> Due to the very high number of students enrolling in these courses, researchers have access to data in unprecedented volume. As a result they are able to take advantage of “Big Data”<sup>24</sup> algorithms and learning-analytic tools<sup>25</sup> to deduce how students learn, take a corrective and tailored online response, and apply real-time modification to the students learning and assessment experience. This is much the same as how Google and Amazon provide customized search results and personalized buying recommendations.

MOOCs provide worldwide access to education at an affordable price, most often free. In an electronics class offered by MIT through *EdX* this past fall, 154,763 students registered, 10,547 students made it to the midterm, 8,240 took the final and 7,157 students received certificates for successfully completing the course. MIT Professor Anant Agarwal, who is also the President of *EdX*, indicated that this was the most difficult version of the course he has offered. Enrolled in the course were high-school students from the Sant School in Ulaanbaatar, Mongolia. One of these students received a perfect score on the final assessments. Through the power of technology and the MOOC platform, these exceptional students, from a developing country, who would normally have gone unnoticed, are now on the radar of one of the world’s best universities.<sup>26</sup> Can the Nazarene network of educational institutions make use of this methodology to bring Christian Higher Education to world areas with content created by our best faculty and content experts?

With the cost of college soaring and student debt on the rise there is certainly motivation for a new paradigm in Higher Education and some feel that MOOCs provide an answer<sup>27</sup>. In addition, several schools in the United States have introduced the “\$10,000 degree”.<sup>28,29,30</sup> For example,

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<sup>24</sup> Catropa, Dayna (February 24, 2013). "[Big \(MOOC\) Data](#)". *Inside Higher Ed*. Retrieved July 17, 2013.

<sup>25</sup> MacKay, R.F. (April 11, 2013). "[Learning analytics at Stanford takes huge leap forward with MOOCs](#)". *Stanford Report*. Stanford University. Retrieved July 15, 2013.

<sup>26</sup> Agrawal, Shilpa (July 19, 2012), "[Bringing MIT Course Content to High School Students in Developing Countries: 6.002x in Mongolia](#)", accessed July 15, 2013.

<sup>27</sup> Kolowich, Steve (March 18, 2013) "[The Professors Who Make the MOOCs](#)", accessed July 9, 2013.

<sup>28</sup> Koppel, Nathan and Belkin, Douglas (October 7, 2012) "[Texas Pushes \\$10,000 Degree](#)" accessed July 11, 2013.

<sup>29</sup> Onink, Troy (May 15, 2013) "[Georgia Tech, Udacity Shock Higher Ed With \\$7,000 Degree](#)". *Forbes*. Retrieved July 17, 2013

<sup>30</sup> Huckabee, Charles (January 28, 2013) "[23 Florida Colleges Accept Governor’s \\$10,000 Degree Challenge](#)", *The Chronicle of Higher Education*, accessed July 11, 2013.

Southern New Hampshire University launched the *College for America* with support from an EDUCAUSE Next Generational Learning Challenge grant<sup>31</sup>, funded by the Bill & Melinda Gates Foundation. The *College for America* offers a competency-based associate degree program that has no prescribed courses, no traditional faculty, and no grades. This new assessment design is based on key competencies that the student must master that replace the traditional earned credit-hour based transcript. In spring 2013, the *College for America* obtained approval from the U.S. Department of Education (DOE) to be eligible for Title IV, Higher Education Act (HEA) funding, the first in the nation to be approved.

I grew up in an age when music was delivered pre-packaged in a well thought out album complete with cover art and a purposeful sequence of songs that often told a story in their totality. Today's generation is accustomed to personalized playlists and selecting their music from multiple sources and artists. The MOOC model of course delivery fits well with the iTunes generation. Unlike the traditional well thought out curriculum with course sequence, pre-requisites, and stages of learning, MOOCs allow a student to choose to take any course they want, in any sequence, from a range of professors at elite universities who are experts in their field. Many would argue that this could best meet a student's individual learning needs. If a robust means of assessing competencies can be developed that demonstrate a clear mastery of the knowledge and required skills and abilities then we may see a shift in what employers look for when hiring their workforce. This new way of delivering and assessing learning could start to compete with the traditional college degree. The Christian Liberal Arts, however, is more than just the acquisition of knowledge. A Christian college experience involves learning how to learn, becoming an informed citizen, learning to think critically, and participating in the public discourse, all within a Christian context. Does the MOOC platform provide a pathway for learning that some say can only be acquired through living together in community? For fields of study with exact answers like science and mathematics an online delivery platform might work well for the transference of knowledge, however it is up for debate whether MOOCs can replicate the small seminar environment where ethics, theology, politics and philosophy are discussed and debated.

It is important for our educational leaders to explore what all of this "MOOC-Hype" means for Christian Higher Education and for the Church of the Nazarene's commitment to provide educational opportunities throughout the world. I would like to see the IHEC and IBOE provide a mechanism for our 53 Nazarene colleges, universities, and seminaries to coordinate and collaborate in finding creative ways to use this new technology and course delivery platform to achieve our global mission.

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<sup>31</sup> Kazin, Kate (November 28, 2012), "[College For America: Bringing Higher Education To Where Students Live And Work](#)", *Next Generation Learning Challenges*, accessed July 16, 2013.