MOOC Exploratory Committee Report: Executive Summary

The Texas A&M University Massive Open Online Courses (MOOC) Exploration Committee was assembled and charged by the Provost in the Fall 2012 to explore and recommend approaches for TAMU with respect to MOOCs. The committee includes voting representatives from the colleges, from the Galveston and Qatar branch campus and the following groups: Library (1), Office of Graduate Studies (1), and Undergraduate Studies (1). Drs. Snell and Henrichs from Instructional Technology Services serve in ex officio capacity.

A MOOC is a type of online course aimed at large-scale participation and open access via the web. MOOCs are a recent development in the area of distance education, and a progression of the kind of open education ideals pioneered by the Khan Academy and MIT Open Courseware projects. Though the design of and participation in a MOOC may be similar to college or university courses, MOOCs typically do not offer credits awarded to paying students at schools. In November 2012 the American Council of Education (ACE) announced that it would be working with Coursera and EdX to determine if specific MOOCs should be worth credit. While MOOCs may have extremely high initial enrollments, only a small percentage of those who enroll actually complete a course.

MOOC Benefits (random order):

- Promote and enhance TAMU brand (showcase our research and teaching excellence)
- Use MOOC online learning tools and usage data to improve teaching and learning for our on-campus students.
- Promote student recruitment into specific TAMU programs
- Remediation tool for undergraduates
- Keep former students connected to the University
- Fulfill mission of providing educational opportunities to the citizens of the state of Texas
- On campus MOOC enrollments may address need for increased number of seats in core courses to meet expanding enrollments.
- Online component for hybrid-designed on-campus course

MOOC Issues (random order):

- Sustainability
- Ensuring the highest quality courses
- Business Model
- Faculty incentives for MOOC participation
- Intellectual property rights for materials delivered via MOOC
MOOC Costs (random order):

- Cost of course development and teaching (course redesign, audio/video production, TAs to support the class, etc.)
- Cost associated with joining a consortium

The MOOC landscape is evolving at a fast pace and the MOOC Exploratory committee understands that any recommendations made at this time may seem to be out-of-step or invalid six months or a year from now. Furthermore, the committee understands that there will be additional questions that will need to be addressed as TAMU further explores MOOCs and that those questions will require a more focused future discussion.

The committee envisions that Texas A&M will have a modest number of MOOCs that will facilitate brand building, expand potential educational models, and provide a set of tools such as analytics that can inform about the effectiveness of on campus teaching. Brand building is not just marketing; it is making TAMU expertise and outreach efforts visible, establishing a pipeline to recruit the brightest students from MOOCs, and keeping TAMU connected with former students and the surrounding community. The potential generated by brand building and the technologies behind MOOCs will also generate new educational models that could be deployed on campus. Finally, any MOOC solution must address on campus teaching as TAMU is predominantly a traditional campus-based institution. That means that MOOC consortia with an eye toward using the tools and analytics behind the MOOC to enhance on campus teaching are more aligned to our purposes.

The TAMU use case and continued focus on campus-based teaching more clearly align us with EdX over Coursera and Udacity. EdX is not just a consortium to host MOOCs but rather a non-profit devoted to the highest quality of education online and in the classroom. The tools behind EdX’s MOOCs are designed to also work with smaller, campus based courses. Further, EdX’s goals include conducting research into student learning.

Committee Recommendations:

- Texas A&M University should consider joining the EdX Consortium. All three mainstream MOOC providers have their strengths, but it is the opinion of the committee that the EdX Consortium more closely aligns with the goals for excellence in our on-campus education, distance education degrees and certificates and outreach education to students of all ages around the world. EdX is a not-for-profit enterprise of its founding members, Harvard and the Massachusetts Institute of Technology, and it counts both the University of Texas System and Rice University as members of its EdX Consortium. In addition to offering online courses, the members of the EdX Consortium are dedicated to research on how students learn and how technology can “transform learning” for both students on-campus and around the world.
Prior to joining EdX, the university needs to have the support of its faculty and academic administration. The committee recommends a process be initiated to inform both groups and to gauge their support for joining EdX and entering the MOOC space.

Universities joining the EdX Consortium are expected to financially support the consortium (At least one member of the committee has expressed a concern about the significant cost to join EdX). Developing and delivering a quality world-wide MOOC requires significant resources. To take full advantage of the technology and research data to improve our on-campus education, TAMU will need to dedicate full-time staff resources and provide faculty time to develop and deliver MOOC classes and continue research based on the EdX student data.

A MOOC Advisory Council (MAC) should be formed by the Provost to develop detailed strategies and outcomes aligned within the mission of Texas A&M University, and an assessment methodology to gauge the general progress and success of the MOOC initiative in achieving its objective. The MAC also will develop the framework and implementation plan for the development costs, operating costs and guidelines for the development and delivery of up to two pilot MOOCs in 2014. There should be significant academic representation on the MAC to include faculty, students, instructional staff, ITS, CTE, Library, branch campus, and Provost’s Office.

MOOCs might be considered an extension of distance education. However, because of the high visibility they represent, a competitive campus RFP process should be developed to prioritize the development of TAMU MOOCs. MOOC course proposals should include an assessment of how learning goals are to be met, and how the instructor is to evaluate student learning. Guidelines should reflect strong support for training (both technical and pedagogical) for faculty interested in developing MOOCs.

Any TAMU MOOC offered for credit should go through the normal course approval process and require separate approval as a MOOC-based course even if that course was previously approved as a face-to-face, hybrid, or online course. If there is a desire to change a non-credit TAMU MOOC to a credit-bearing course, that course will need to go through the normal course approval process.

To transform our on-campus education through technology, the committee recommends that the university select one or more projects that make use of the EdX technology and research to enhance our on-campus and distance education programs. Some possible examples include the following: (1) Undergraduate engineering and core curriculum classes in support of the College of Engineering’s 25 by 25 initiative, (2) Extension of the Core Curriculum Technology Enhancement Grant program, and (3) Graduate distance degree and certificate programs.

While the committee believes that joining the EdX Consortium is the best match for Texas A&M University, EdX might not be the best match for other members of the Texas A&M University System. A conversation with the Texas A&M University System should be initiated to determine the System’s interest in EdX.
MOOC Committee Final Report

BACKGROUND

The Texas A&M University Massive Open Online Courses (MOOC) Exploration Committee has been assembled and charged by the Provost to explore and recommend approaches for TAMU with respect to MOOCs. The committee includes voting representatives from the colleges, from the Galveston and Qatar branch campus and the following groups: Library (1), Office of Graduate Studies (1), and Undergraduate Studies (1). Drs. Snell and Henrichs from Instructional Technology Services serve in ex officio capacity. A list of committee members can be found in the addendum to this report.

A MOOC is a type of online course aimed at large-scale participation and open access via the web. MOOCs are a recent development in the area of distance education, and a progression of the kind of open education ideals pioneered by the Khan Academy and MIT Open Courseware projects. Though the design of and participation in a MOOC may be similar to college or university courses, MOOCs typically do not offer credits awarded to paying students at schools. In November the American Council of Education (ACE) announced that it would be working with Coursera and EdX to determine if specific MOOCs should be worth credit. While MOOCs may have extremely high initial enrollments, only a small percentage of those who enroll actually complete a course.

Currently, most MOOCs rely on streamed, recorded video lectures, homework, and tests that are automatically graded. In addition, student-organized study and discussion groups have been associated with the classes. Many of the MOOCs have come from disciplines that lend themselves to machine graded assessments. While MOOCs have generated a great deal of excitement, the business models are still evolving. For example, while there is typically not a charge for enrolling in a MOOC, there might be a charge for a certificate and a proctored exam.

MIT, Harvard, Stanford and others are providing a handful of high quality courses each semester, and they view the immediate benefits as bolstering their university brand. There are a number of schools considering offering coursework for credit to degree seeking students and/or their own students (e.g., San Jose State, UT System, Georgia).

The MOOC landscape is evolving at a fast pace and the MOOC Exploratory committee understands that any recommendations made at this time may seem to be out-of-step or invalid six months or a year from now. Furthermore, the committee understands there will be additional questions that will need to be addressed as TAMU further explores MOOCs and that those questions will require a more focused future discussion.

There are several major players in the MOOC field. Coursera, edX and Udacity are companies that have academic roots.

Coursera  https://www.coursera.org/

Coursera sees itself as a social entrepreneurship company that partners with the top universities in the world to offer courses online for anyone to take, for free. They envision a future where the top
universities are educating not only thousands of students, but millions. They feel their technology enables the best professors to teach tens or hundreds of thousands of students.

Through this, they hope to give everyone access to the world-class education that has so far been available only to a select few. They want to empower people with education that will improve their lives, the lives of their families, and the communities they live in.

The founders are Daphne Koller, the Rajeev Motwani Professor in the Computer Science Department at Stanford University and the Oswald Villard, University Fellow in Undergraduate Education, and Andrew Ng, Associate Professor of Computer Science at Stanford University and the Director of the Stanford Artificial Intelligence Lab.

**EdX** [https://www.edx.org/](https://www.edx.org/)

EdX is a not-for-profit enterprise of its founding partners Harvard University and the Massachusetts Institute of Technology that features learning designed specifically for interactive study via the web. Based on a long history of collaboration and their shared educational missions, the founders are creating a new online-learning experience with online courses that reflect their disciplinary breadth. Along with offering online courses, the institutions will use EdX to research how students learn and how technology can transform learning—both on-campus and worldwide. Anant Agarwal, former Director of MIT's Computer Science and Artificial Intelligence Laboratory, serves as the first president of EdX. EdX's goals combine the desire to reach out to students of all ages, means, and nations, and to deliver these teachings from a faculty who reflect the diversity of its audience. EdX is based in Cambridge, Massachusetts and is governed by MIT and Harvard.

In October 2012, the University of Texas System joined EdX’s efforts. The move makes the UT System the second institution to join EdX since its launch, following the University of California, Berkeley, which joined in July. The UT System will offer at least four courses through the platform within the next year.

Unlike other schools, which only offer certificates of completion through EdX, the UT System will allow students to earn credits toward a degree through the platform. They hope to better meet the learning needs of a wide range of students, raise graduation rates, and cut the cost of higher education, all while maintaining their commitment to education of the highest quality.

**Udacity** [https://www.udacity.com/](https://www.udacity.com/)

Udacity is a for-profit venture that believes university-level education can be both high quality and low cost. Through the economics of the Internet, they have connected college-level teachers to hundreds of thousands of students in almost every country on Earth. Udacity was founded by three Stanford roboticists, Sebastian Thrun, David Stavens and Mike Sokolsky. They believe much of the educational value of their university classes could be offered online for very low cost.
LMS-based MOOC

A learning management system (LMS) could be used to support a MOOC. Major LMS vendors (Desire2Learn and Blackboard) are promoting their products as capable of supporting MOOC courses. Several active MOOCs are currently being hosted on Blackboard CourseSites. CourseSites is a cloud-based version of Blackboard’s Learn product giving instructors up to 5 free course websites. The committee discussed the possibility of using the TAMU Blackboard environment, eCampus, to support a TAMU MOOC. There were concerns about the cost of additional infrastructure to scale to a large number of users, extending the current license to include MOOCs and management strategies for managing large numbers of student accounts.

COMMITTEE WORK

The initial committee meeting was held November 16, 2012. During that time, the Provost’s charge to the committee was reviewed and committee members were introduced and shared thoughts, experiences and perspectives on MOOCs. The Committee was informed about the creation of an online organization in the new TAMU eCampus learning management system that contains links to MOOC resources for committee member’s use. During the committee discussion it was voiced that a primary benefit that a MOOC could provide to TAMU was to promote and enhance the TAMU brand. Other benefits discussed included, promotion of and student recruitment into specific programs, use as a remediation tool, and a means to keep alumni connected to the university.

There was discussion on costs. Internal costs might include faculty incentives like release time, up to two FTE for course re-design, possible video production costs, and multiple TA’s to support the class. There may also be costs associated with the MOOC platform. The UT System paid $5 million to join edX. That cost bought them rights to the MOOC code and the use of the learning analytics. The Coursera model does not require any institutional costs. The Coursera revenue streams are through charges to students for certification, career service recruiting fees received, and institutional licensing of course materials.

The December 3, 2013 meeting was a Skype meeting with Coursera co-founder, Daphne Koller. Daphne met with the committee for an hour. She gave an overview of the Coursera platform and answered questions from the committee. Highlights of the meeting include:

1. No course development by Coursera so IP rights are clear.
2. Coursera has an eight person operations team.
3. MOOC Course selection by mutual agreement.
4. Platform runs on Amazon cloud services.
5. Most courses are dual purposed to support both on-campus and MOOC students.
6. Platform is ADA compliant – WAVE tested.
7. No institutional costs to join Coursera.
On April 1, 2013 the committee met with EdX’s leader for strategic partnerships, Johannes Heinlein. Johannes met with the committee for an hour via a Skype meeting. He gave an overview of the EdX organization and answered questions from the committee. Highlights of the meeting include:

1. Not for profit organization.
2. The learning platform is being offered as open source software.
3. Focus on pedagogy research that can help drive and complement what happens on campus.
4. Course selection left to member universities.
5. Looking for a max 18 consortium members.
6. Share all data with partners within FERPA rules.
7. Currently developing analytic tools.
8. Stanford’s Class2Go system being integrated into EdX platform.
9. Universities joining the EdX Consortium are expected to financially support the consortium.

On April 15, 2013 the committee met with leaders from Udacity via a one hour Skype meeting. Clarissa Shen, head of strategic partnerships and business development and Sebastian Thrun, Co-founder and CEO attended from Udacity and answered questions. Highlights of the meeting include:

1. Committed to academic excellence.
2. Intellectual property – what the faculty do, they own.
3. Majority of profits go back to the university.
4. Strategic in getting partners, require business plan and show sustainability.
5. Analytic software developed to know what students are doing.
6. Focus on student needs rather than force into semester schedules.
7. Provide high-touch production efforts with partners from planning to construction.
8. Development process a semester in length, storyboard course.
9. Use Mathematica and Mat Lab integration.
10. Provide separate authentication for MOOC site and for credit site.

**Committee Recommendations:**

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## ADDENDUM

### Committee Membership

Pierce Cantrell, Chair  

Members

- Kim Dooley, Associate Dean  
- Kevin Glowacki, Asst. Professor  
- Lisa Brown, Interim Director, Office of Extended Education  
- Rene' Mercer, Instructional Design Specialist  
- Sam Mannan, Professor and Director  
- Melanie Lesko, Instructional Assistant Professor  
- Eric Riggs, Assistant Dean  
- Stephen Balfour, Director, Liberal Arts IT  
- Margaret Foster, Assistant Professor MSL  
- Jon' Jasperson, Clinical Associate Professor  
- Jana Corley, Management Analyst  
- Todd Kent, Assistant Professor  
- Simon J. Sheather, Professor and Head  
- Suma Datta, Executive Director Honor's Program  
- Kevin Curley, Lecturer  

Ex Officio

- Jim Snell, Director  
- Carol Henrichs, Assistant Director  

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