Massive Open Online Course: Pedagogy

Sergio Luján Mora
sergio.lujan@ua.es
@sergiolujanmora
Increasing MOOC Completion Rates Through Adaptive Learning: A Case Study

Cas van Cooten

c.h.vancooten@students.uu.nl

supervised by
Dr. Matthieu BRINKHUYS (Utrecht University)
Dr. Fabiano DALPIAZ (Utrecht University)
mr. drs. Tim VAN ESSEN (Deloitte Netherlands)
& Nils POMPE (Deloitte Netherlands)

Academic year 2016/2017
17th July 2017
<table>
<thead>
<tr>
<th>Dropout Reason</th>
<th>Source(s)</th>
<th>Hypothesised Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course difficulty</td>
<td>[9], [11]</td>
<td>Track user skill level and dynamically scale course difficulty and/or pace.</td>
</tr>
<tr>
<td>Course inflexibility</td>
<td>[1], [9], [12]</td>
<td>Release course content all at once [46] to make course self-paced.</td>
</tr>
<tr>
<td>Course workload</td>
<td>[10]</td>
<td>Adaptively pace course in accordance with user needs.</td>
</tr>
<tr>
<td>Lack of incentive</td>
<td>[11], [12]</td>
<td>Create direct incentive by providing certification, or create indirect incentive by challenging the user. The latter can be achieved by adaptively scaling the MOOC’s difficulty level in accordance to user needs.</td>
</tr>
<tr>
<td>Lack of interactivity</td>
<td>[12]</td>
<td>Increase MOOC interactivity by providing adaptive content.</td>
</tr>
<tr>
<td>Lack of time</td>
<td>[12]</td>
<td>Shorten MOOC length by providing only content that delivers the most value.</td>
</tr>
<tr>
<td>Other priorities (work/personal)</td>
<td>[10], [11]</td>
<td>Increase MOOC incentive (see above).</td>
</tr>
</tbody>
</table>

Table 2.1: Dropout reasons and their hypothesised (adaptive learning) measures
TAXONOMY OF STUDENTS
Emerging Student Patterns in Coursera-style MOOCs

# of Students

Lurkers
Drop-Ins
Passive Participants
Active Participants

MOOC Weeks

1  2  3  Finish

Phil Hill (@PhilOnEdTech)
Emerging Student Patterns in Coursera-style MOOCs
Emerging Student Patterns in Open-Enrollment MOOCs
Abstract

Massive open online courses (MOOCs) are one of the most prominent trends in higher education in recent years. The term ‘MOOCs’ represents open access, global, free, video-based instructional content, videos, problem sets and forums released through an online platform to high volume participants aiming to take a course or to be educated. With time and place flexibility, MOOCs gathers scholars and ‘like-minded fellow learners around the globe’. Although it has a great prominence in its implementation, there is a lack of research studies and critical papers examining its current situation around the world. For this aim, beginning with the definition and a brief history of MOOCs, this paper examines it from various dimensions: pedagogical and technological implementations around the world and its research focus. Therefore, a literature review on MOOCs characteristics, timeline of its development and a blend of practical issues with the experiences of well-known MOOCs providers are presented.
### Learner backgrounds

- **Vocational learners**: professionals looking to maintain their knowledge of a field or explore new areas in order to develop their careers through flexible and lower cost independent learning models.

- **Educators and researchers**: education professionals using MOOCs and their resources in their own or other academic fields as open educational resources for reuse and remixing in their own work with students.

- **Higher education students**: enrolled students accessing MOOCs as learning and teaching resources as part of existing courses utilising video lectures, reading lists and other open educational resources.

- **'Hobby' learners**: the long tradition of adults engaging in their own self-directed programmes of study, now able to capitalise on the various 'open web' initiatives such as Wikipedia.

- **Prospective students**: potential students who are looking to explore different course options and assess if a course may be a potential fit, or who may come to be inspired to embark on more formal studies.
Figure 2. The profile of MOOCs students (adapted from Universities UK, 2013)
PEDAGOGY
ERPA 2014

Students' preferences and views about learning in a MOOC

Watted Abeer*, Barak Miri*

*Technion - Israel Institute of Technology, Haifa 3200003, Israel

Abstract

In this paper we examine students' preferences and views about learning in MOOCs and specify the criteria that make MOOCs a constructive learning environment. We employed the qualitative methodology which included the use of an online survey with open questions and semi-structured interviews. Specifically, we explored MOOCs design features and how students' competencies can influence their participation in MOOCs. The results of this study may enhance students' continuity and may help educators develop constructivist MOOCs.

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Peer-review under responsibility of the Organizing Committee of the ERPA Congress 2014.

Keywords: constructivist MOOCs; motivation; qualitative methodology; retention rates; students' perceptions.

1. Introduction
• Duration: 5 to 15 weeks.
• Each week: 2 to 11 lecture videos.
  – Most of them (81%) were 8-to-20 minutes in length and only few MOOCs included lecture videos of more than 30 minutes long.
  – Most of the lecture videos (71%) integrated quiz questions and few lecture videos incorporated open-ended questions to help students understand the subject matter.
  – Most of them (76%) included power point presentations, and only few used a white board or just talked out loud.
  – Most of the videos the lecturers used visualizations, such as: animations, stimulations, figures, graphs, schemes, 3D pictures, tables, and examples from the daily life.
• In all the MOOCs that were analyzed, many forums were administrated.
  – They were divided by subjects such as: general discussion, lectures, assignments, study groups, technical problems, and course feedback.
  – In (71%) of the courses the lecturer was very active in the forums, answering students' questions.
• MOOCs assignments were divided to three types:
  1. Quizzes, which included: weekly quizzes, integrated quizzes in the lecturer videos, mid-term exams, final exams, and homework assignments,
  2. Peer-graded assignments, which included: open-ended questions, final projects, and personal reflection,
  3. Discussion forums, which were graded according to the average of votes, posts, and views.
The results indicated five learning competencies that may affect students' participation, persistence, and continuity in learning a MOOC:

– linguistic competence in English,
– prior knowledge in the subject matter,
– broad-mindedness,
– self-regulation and self-efficacy,
– and communication skills.
• The students' participation can also be affected by four design features that determine the value of a MOOC:
  – clarity of explanations,
  – visualization of abstract concepts,
  – support and communication,
  – and variety of assignments.
An overview of the world of MOOCs

Meltem Huri Baturay

"Turan Güneş Bulvari 648, Cadde İpek University Campus, Ankara, 06550, Turkey"

Abstract

Massive open online courses (MOOCs) are one of the most prominent trends in higher education in recent years. The term ‘MOOCs’ represents open access, global, free, video-based instructional content, videos, problem sets and forums released through an online platform to high volume participants aiming to take a course or to be educated. With time and place flexibility, MOOCs gathers scholars and ‘like-minded fellow learners around the globe’. Although it has a great prominence in its implementation, there is a lack of research studies and critical papers examining its current situation around the world. For this aim, beginning with the definition and a brief history of MOOCs, this paper examines it from various dimensions: pedagogical and technological implementations around the world and its research focus. Therefore, a literature review on MOOCs characteristics, timeline of its development and a blend of practical issues with the experiences of well-known MOOCs providers are presented.
Basically, MOOCs courses based on three areas:

- **Video lectures**: Video lectures in MOOCs have various presentation styles, from talking heads to lecturing instructors. Subtitles (primarily English, but other languages are being introduced) are provided by Coursera. The running time for the lecture videos is usually 5-10 minutes each with invideo quizzes embedded.

- **Assessment**: Assignments are primarily evaluated through the use of: (a) auto-graded multiple choice questions or auto-graded programming assignments, (b) peer review assessment where students themselves evaluate and grade assignments based on a defined rubric set.

- **Forums**: Forums are where students post questions and other students replies, and are the main method of student interaction between course takers and instructors. Forums usually consist of general discussion, subject-specific discussion, course feedback, and technical feedback threads.
Additionally, MOOCs also include:

- **Readings**: Most MOOCs do not require students to buy books, and most readings are available online or provided by course instructors; however, Coursera makes money through an affiliate program with Amazon.com.

- **Live video sessions**: In addition to the weekly lectures, there are live video sessions with the course instructor.

- **Activities**: A range of instructional activities are offered, with the aim of allowing students to further test their understanding of the course concepts.

- **Additional video resources**: These were scripted videos to help comprehension of scenes.

- **Social media**: Students are encouraged to continue their discussions on dedicated pages on other social media platforms, such as Facebook and Google+.
• One of the problems MOOCs researchers study on are how to assess learning with those great number learners. Automated grading systems are being used in general.
• Most of the assessment in MOOCs are implemented through multiple choice questions with automated answers and peer feedback.
• However, new techniques have been proposed for developing more sophisticated automatic grading systems and trends are emerging to try to include feedback from a variety of sources such as machine algorithms, teachers, experts, and peers.
STUDENTS WITH DISABILITIES
Convention on the Rights of Persons with Disabilities (CRPD)

Convention
- Ratifications/Accessions: 177
- Signatories*: 161

Optional Protocol
- Ratifications/Accessions: 92
- Signatories*: 92

(* Signatories include countries or regional integration organizations that have signed the Convention and its Optional Protocol)
- 10th Anniversary of the adoption of CRPD: 2006 to 2016
- Infographic on the CRPD and the COSP (prepared October 2016) (Word, PDF)
- Status of Ratifications to the CRPD (prepared May 2016) (JPG, PDF) (also available at the UN Enable Facebook page)
- Support Universal ratification of the CRPD
- Full text of the Convention
- The Convention in Brief
- Guiding Principles of the Convention
- Entry into Force

THE CRPD
CRPD Homepage
Conference of States Parties to the CRPD
Committee on the Rights of Persons with Disabilities
Ratifications and Signatures of the CRPD and Optional Protocol
Map of Signatures and Ratifications
Status of Ratification Interactive Dashboard
Monitoring of Implementation
Civil Society
Convention in Brief
Timeline of Convention Events
Frequently Asked Questions on the Convention
Why doesn’t Kyrgyzstan ratify Convention on Rights of Persons with Disabilities?

Frequent change of officials doesn’t allow ratifying the Convention on the Rights of Persons with Disabilities in Kyrgyzstan, the chairman of the Public Foundation «Providing legal assistance to disabled people» Tolkunbek Isakov said today at a press conference in 24.kg news agency.

According to him, the convention entered into force on May 3, 2008. Kyrgyzstan signed it in 2011, and for six years nothing has changed.

«The Convention provides for those rights of persons with disabilities who must be in a civilized constitutional state. The bill on ratification of the convention should be submitted to the Parliament by our government, as there are no initiatives from the deputies themselves,» Tolkunbek Isakov said.

«Once we were close to our goal. But each time some factors hinder the ratification, and first of all, this is a frequent change of heads of government and ministers, a misunderstanding of this issue. There was an opinion that a large number of funds would be required to implement the convention, and some sanction would follow for its non-fulfillment. But this is a delusion of our officials,» he added.

«We made an independent calculation. Taking into account the fact that 23 billion soms will be required for social housing, the relevant conditions — about 7 billion, as a result it will take 30 billion soms, but this is calculated for ten years. In the end, it turns out that this is a drop in the ocean, about 2.5 percent of the state budget for 10 years. And these conditions will be directed not only to persons with disabilities, but also to the elderly, women with children and others. Most of the population would benefit,» Tolkunbek Isakov said.

«The most important thing is that Kyrgyzstan undertakes not to create all conditions momentarily, but...»

20 December 2018, 10:00 UTC

Amnesty International welcomes the first move by the Parliament of Kyrgyzstan to ratify the Convention on the Rights of Persons with Disabilities (CRPD).

“This is an important step towards combating the violations of the rights of persons with disabilities. The unanimity of the vote brings hope that the final ratification is fast approaching. When the Convention is ratified, persons with disabilities must be at the front and centre of any action that the government takes to implement the Convention, including on working groups or committees,” said Anna Kirey, Deputy Director for Eastern Europe and Central Asia at Amnesty International.

“Amnesty International was honoured to support Kyrgyzstani partners in campaigning for the ratification of CRPD”

Anna Kirey, Deputy Director for Eastern Europe and Central Asia at Amnesty International
CHAPTER IV

HUMAN RIGHTS

15. Convention on the Rights of Persons with Disabilities

New York, 13 December 2006

Entry into force: 3 May 2008, in accordance with article 45(1).

Registration: 3 May 2008, No. 44910
<table>
<thead>
<tr>
<th>Country</th>
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<tr>
<td>Israel</td>
<td>30 Mar 2007</td>
<td>28 Sep 2012</td>
</tr>
<tr>
<td>Italy</td>
<td>30 Mar 2007</td>
<td>15 May 2009</td>
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<td>Luxembourg</td>
<td>30 Mar 2007</td>
<td>26 Sep 2011</td>
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</table>
Convention on the Rights of Persons with Disabilities and Optional Protocol
4. States Parties shall ensure that a child shall not be separated from his or her parents against their will, except when competent authorities subject to judicial review determine, in accordance with applicable law and procedures, that such separation is necessary for the best interests of the child. In no case shall a child be separated from parents on the basis of a disability of either the child or one or both of the parents.

5. States Parties shall, where the immediate family is unable to care for a child with disabilities, undertake every effort to provide alternative care within the wider family, and failing that, within the community in a family setting.

Article 24
Education

1. States Parties recognize the right of persons with disabilities to education. With a view to realizing this right without discrimination and on the basis of equal opportunity, States Parties shall ensure an inclusive education system at all levels and lifelong learning directed to:

(a) The full development of human potential and sense of dignity and self-worth, and the strengthening of respect for human rights, fundamental freedoms and human diversity;

(b) The development by persons with disabilities of their personality, talents and creativity, as well as their mental and physical abilities, to their fullest potential;

(c) Enabling persons with disabilities to participate effectively in a free society.
2. In realizing this right, States Parties shall ensure that:

   (a) Persons with disabilities are not excluded from the general education system on the basis of disability, and that children with disabilities are not excluded from free and compulsory primary education, or from secondary education, on the basis of disability;

   (b) Persons with disabilities can access an inclusive, quality and free primary education and secondary education on an equal basis with others in the communities in which they live;

   (c) Reasonable accommodation of the individual's requirements is provided;

   (d) Persons with disabilities receive the support required, within the general education system, to facilitate their effective education;

   (e) Effective individualized support measures are provided in environments that maximize academic and social development, consistent with the goal of full inclusion.

3. States Parties shall enable persons with disabilities to learn life and social development skills to facilitate their full and equal participation in education and as members of the community. To this end, States Parties shall take appropriate measures, including:

   (a) Facilitating the learning of Braille, alternative script, augmentative and alternative modes, means and formats of communication and orientation and mobility skills, and facilitating peer support and mentoring;

   (b) Facilitating the learning of sign language and the promotion of the linguistic identity of the deaf community;

   (c) Ensuring that the education of persons, and in particular children, who are blind, deaf or deafblind, is delivered in the most appropriate languages
THE SALAMANCA STATEMENT
AND FRAMEWORK FOR ACTION
ON SPECIAL NEEDS EDUCATION

Adopted by the
WORLD CONFERENCE ON SPECIAL NEEDS EDUCATION:
ACCESS AND QUALITY

Salamanca, Spain, 7-10 June 1994
2. We believe and proclaim that:
   • every child has a fundamental right to education, and must be given the opportunity to achieve and maintain an acceptable level of learning,
   • every child has unique characteristics, interests, abilities and learning needs,
   • education systems should be designed and educational programmes implemented to take into account the wide diversity of these characteristics and needs,
   • those with special educational needs must have access to regular schools which should accommodate them within a child-centred pedagogy capable of meeting these needs,
regular schools with this inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all; moreover, they provide an effective education to the majority of children and improve the efficiency and ultimately the cost-effectiveness of the entire education system.

3.
We call upon all governments and urge them to:
• give the highest policy and budgetary priority to improve their education systems to enable them to include all children regardless of individual differences or difficulties,
• adopt as a matter of law or policy the principle of inclusive education, enrolling all children in regular schools unless...
EXCLUSION

SEGREGATION
EXCLUSION

SEGREGATION

INTEGRATION
Universal Design for Learning
UDL at a glance
About Universal Design for Learning

Universal design for learning (UDL) is a framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn.

UDL at a Glance

See how the UDL framework guides the design of instructional goals, assessments, methods, and materials that can be customized and adjusted to meet individual needs.
Universal Design for Learning
theory and practice

by Anne Meyer
David H. Rose
David Gordon
Chapter 1: Re-Envisioning Education through UDL
- Introduction
- Reducing Barriers
- A New Approach: Universal Design for Learning
- Stability in Theory and Practice of UDL
- Changes in Theory and Practice of UDL
- Changes in the Media Used to Convey UDL
- End Notes

Chapter 2: Expert Learning

Chapter 3: The Variability of Learners

Chapter 4: Universal Design for Learning

Chapter 5: A Framework for UDL Implementation

Chapter 6: Designing for All: What is a UDL Curriculum?

Chapter 7: Learning through Practice: Voices from the Field
Chapter 1: Re-Envisioning Education through UDL

Introduction: New Technologies as Learning Tools

In 1984—the year we founded CAST—education, technology, and society were about to undergo enormous changes. Apple had just introduced the Macintosh, the first user-friendly, mass-market personal computer that offered a graphical user interface, display options, multimedia, and networking. Microsoft took up the challenge, vowing to provide the software that would make it possible to put personal computers in every home in the world. The nascent Internet was just beginning to serve as a means of communication and document exchange, primarily in university and government communities.

At the same time, the landmark report A Nation at Risk, commissioned by the Reagan administration, decried the state of education in the United States and urged massive reforms to guarantee greater educational opportunities for all. This, in turn, coincided with a burgeoning civil rights movement to grant individuals with disabilities access to all areas of society, including education. The aspiration to provide all individuals with full and equal educational opportunities had been thwarted by the limitations of existing technologies, prejudice and low expectations—and other barriers that impede societal change. Now, as new technologies promised to be powerful agents for change, and society had become more open to diversity, it began to seem possible to turn the aspiration of free and appropriate education for all into reality.

When we were forming CAST in the 1980s, we envisioned the new technologies as learning tools that could be radically different from the medium of print. Because digital tools offered flexibility in how content was displayed and acted on, we believed that they could be powerful levers for students who most needed better leverage—students with disabilities. We had met each other at a children's hospital clinic where we were members of a multidisciplinary team of diagnosticians evaluating children with learning difficulties. Coming from this medical model, our early work focused on the problems of diverse learners, those “in the margins” who struggled with learning. We didn’t question the diagnostic findings, but we were dissatisfied with our recommendations which seemed to have limited effectiveness.
Universal Design for Learning (UDL): Fact Sheet

**UDL is...**
- ✓ A way to optimize teaching to effectively instruct a diverse group of learners.
- ✓ Based on insights from the science of how people learn.
- ✓ Flexible in how students access material, engage with it and show what they know.

**UDL is not...**
- ✗ A curriculum or technology platform.
- ✗ One method of teaching all students. A variety of methods are used to give all students an equal opportunity to succeed.
- ✗ An “us” vs. “them” resource. UDL benefits all kids, not just those who struggle.

**UDL’s three core principles help optimize lesson plans for all learners**

1. **Representation:** Provide information in more than one format—like audio, video and hands-on learning—to help students access material in ways best suited to their learning strengths.
2. **Action and expression:** Offer flexibility in how kids interact with the material and show what they’ve learned, such as choosing to take a test, give an oral report or do a group project.
3. **Engagement:** Look for different ways to motivate students and sustain their interest, like letting them make choices and giving them assignments that feel relevant to their lives.
Action and expression: Offer flexibility in how kids interact with the material and show what they’ve learned, such as choosing to take a test, give an oral report or do a group project.

Engagement: Look for different ways to motivate students and sustain their interest, like letting them make choices and giving them assignments that feel relevant to their lives.

Teacher training in UDL can help schools work on...

- Providing more than one way to interact with material and express knowledge
- Using technology platforms and other materials that align with UDL principles
- Making assessments accessible to all and providing timely interventions
- Maintaining high expectations for kids with IEPs and English language learners

Spotlight: Transitioning to UDL

UDL involves educators learning new skills and collaborating. Here are some ways New Hampshire’s D.J. Bakie Elementary School started transitioning to UDL in 2009:

- Made time for teachers to work together to identify which skills they want to target
- Piloted different presentation formats and different options to demonstrate learning
- Enabled teachers to meet regularly to help evaluate and refine these approaches

For more information, go to u.org/udl. And to learn how to advocate for schoolwide teacher training on this topic and others, go to u.org/schoolwide. Published in February 2018. All rights reserved.