Greening the global classroom: Experiences using MOOCs to advance sustainability education

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2015

Link to publication

Citation for published version (APA):

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Greening the global classroom:
EXPERIENCES USING MOOCS TO ADVANCE SUSTAINABILITY EDUCATION

Jessika Luth Richter and Charlotte Leire

Peter Arnfalk, Kes McCormick, Håkan Rodhe
Why a MOOC for sustainability education?

• Outreach for sustainability institutions/programmes on a larger scale
• Maintain capacity of online sustainability education
• Public service purpose of higher education
• To engage and connect learners interested in sustainability (including educators)
• Build an online sustainability educational community
Sustainability Education @ International Institute for Industrial Environmental Economics (IIIEE)

- Since 2005, two Masters programmes in Environmental Management and Policy (EMP) and Masters in Environmental Science, Policy and Management (MESPOM)
  - First year of EMP delivered online since 2006
- 2005-2010 IIIEE hosted the Energy for Sustainable Development online course (www.e4sd.org)
- Until 2012 IIIEE hosted the Young Masters Program (YMP, www.goymp.org)
- IIIEE Sustainable Consumption topic lectures on iTunes University
Greening the Economy: lessons from Scandinavia

• The topic…
  – is of high theoretical and applied relevance
  – is recognized by UNEP and by governments
  – reflects the IIIEE research agenda

• The course
  – examples and perspectives from Scandinavia
  – encouraged sharing examples and perspectives from the globe

https://www.coursera.org/learn/greening-the-economy
<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readings*</td>
<td>Complementing video lectures with written material and additional external links</td>
</tr>
<tr>
<td>Quizzes*</td>
<td>Testing knowledge from video lectures and compendium</td>
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<tr>
<td>Forum discussions*</td>
<td>Stimulating learner discussions on the key concepts, deeper learning and application</td>
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<tr>
<td>Course assignment*</td>
<td>Requesting learners’ own reflections and choice of greener initiatives for deeper learning and application</td>
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<tr>
<td>Peer assessment*</td>
<td>Evaluation of other learner assignment work, reflection upon own approach</td>
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<tr>
<td>Hangout</td>
<td>Allowing for instructors involvement/in-depth explanations, discussions and responses to learner discussions</td>
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<tr>
<td>In-video polls</td>
<td>Soliciting data from the learners</td>
</tr>
<tr>
<td>Community engagement</td>
<td>Promoting a feeling of a learner group</td>
</tr>
<tr>
<td>Additional literature</td>
<td>Offering more specific information on the key concepts; introducing learners to academic readings</td>
</tr>
</tbody>
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Global Classroom

- >20,000 signed up
- From 176 countries
- 34% from emerging economies
- 48% had not heard of Lund Univ.
- 26% full-time students, 13%, part-time students, 61% not students
Student Activity

- Close to 10,000 learners active
- Close to 1,500 learners completed
- 367 learners chose signature track

Number of times our 40 lecture videos and interviews have been watched
Number of quizzes and assignments submitted
Number of forum entries – posts and comments

Content Activity
All Time:
- 166,500 lectures viewed
- 22,761 exercises submitted
- 10,127 forum posts made

...viewed 57,000 times
Impact on students: feedback

95% - course material quality “good or excellent”
90% - video lectures “valuable or extremely valuable”
77% - improved understanding “quite a lot/very much”
75% - more or much more favourable view of Lund University and IIIEE
73% - would like, or maybe would like, to study the topic at a university

- Some learners have volunteered to work for the course as veteran forum moderators
- Discussion in forums about how students would integrate learning into their lives
- Compendium is downloaded and distributed
Impact on our Institution: reflection

- From skepticism to enthusiasm
- Library of video resources for on-site courses
- Missing interaction between course and lecturers
- Time still an issue
- Insight into links between research, education, and society
Future considerations for IIIEE MOOCs

- Placing MOOCs in the educational context
- Level of the course?
- What are the limits of “massive”?  
- A need to examine learner motivations more in depth, and in the context sustainability education
- Strengthen link between the MOOC and research-both ways
MOOCs for sustainability

- **Potential advantages**
  - Scale and reach
  - Open resources
    - learners, educators, organisations
  - Lifelong learning
  - Mobile learning
  - Networking

- **Potential challenges**
  - Embeddedness
  - Deeper learning
  - Learner/Educator roles and responsibility
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https://www.coursera.org/learn/greening-the-economy/