How ready are students to flip the classroom using online educational material?

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How ready are students to flip the classroom using online educational material?

• How do SFU students and instructors perceive the benefits and drawbacks of using open online learning resources in their courses?
  • Are students ready...?
  • Are faculty ready...?

• What’s your experience? Do you think it is worth using these resources? Do you find that your students prefer conventional learning material or not?
Title: Assessing the Potential of Open Online Learning Resources to Enhance SFU Teaching and Learning

Funding: SFU Teaching and Learning Development Grants, May – December 2015

Grant recipient: Mark Roseland, Centre for Sustainable Community Development

Project team: Maria Spiliotopoulou, Angela Lara, George Poulakidas, and Donya Samadi.
Phase 1

- Development of an inventory of open online learning resources pertaining to the four major aspects of sustainable development (SD)
  - Environmental science for SD
  - SD policy and governance
  - Socio-ecological health
  - Management principles and practices for sustainability
How many related MOOCs did we find and what types were they?

Identified MOOCs

- SD IN GENERAL: MOOCs indirectly-related (1), MOOCs directly-related (6)
- MANAGEMENT PRINCIPLES AND PRACTICES FOR SD: MOOCs indirectly-related (6), MOOCs directly-related (9)
- SOCIO-ECOLOGICAL HEALTH: MOOCs indirectly-related (7), MOOCs directly-related (11)
- SD POLICY AND GOVERNANCE: MOOCs indirectly-related (7), MOOCs directly-related (12)
- ENVIRONMENTAL SCIENCE FOR SD: MOOCs indirectly-related (6), MOOCs directly-related (7)
What are the challenges with using MOOCs?

Seasonal vs. Self-paced MOOCs

- Seasonal: 44
- Self-paced: 6
Phase 2

- Pilot study with 168 undergraduate students in 3 courses within FENV

- “Rules”
  - Total anonymity: students were not identified by name or student ID
  - Questionnaires did not impact their grades
  - Data collected was for use in this study only and was stored in SFU servers
  - Students were free to opt out (but didn’t)
  - We asked for their honest responses (and got them!)
Some interesting data

- **Number of participants**
  - REM100: 126
  - SCD201: 24
  - SCD301: 19

- **Age (median)**
  - REM100: 21.5
  - SCD201: 19.8
  - SCD301: 24

- **International students (% of total)**
  - REM100: 10.53%
  - SCD201: 17.39%
  - SCD301: 12.70%

- **Gender**
  - SCD201: Male 10, Female 1, No reply 0
  - SCD301: Male 10, Female 1, No reply 0
  - REM100: Male 50, Female 25, No reply 0
  - Total: Male 76, Female 32, No reply 0

- **Enrolled in more than 4 courses this semester (Fall 2015)**
  - REM100: 68%
  - SCD201: 75%
  - SCD301: 61%
How much of the online material did the students prepare in advance of the class?

<table>
<thead>
<tr>
<th>Course</th>
<th>Read more than half of the online reading</th>
<th>Watched more than half of the online videos</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCD201</td>
<td>48%</td>
<td>83%</td>
</tr>
<tr>
<td>SCD301</td>
<td>63%</td>
<td>0%</td>
</tr>
<tr>
<td>REM100</td>
<td>65%</td>
<td>51%</td>
</tr>
</tbody>
</table>

- Read more than half of the online reading
- Watched more than half of the online videos
What were the students’ perceptions for OER use in the classroom?

<table>
<thead>
<tr>
<th>Course</th>
<th>Agree/Somehow Agree for More Videos</th>
<th>Prefer OER Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCD201</td>
<td>65%</td>
<td>78%</td>
</tr>
<tr>
<td>SCD301</td>
<td>68%</td>
<td>53%</td>
</tr>
<tr>
<td>REM100</td>
<td>73%</td>
<td>62%</td>
</tr>
</tbody>
</table>

Legend:
- Blue: More videos in future courses (agree/somewhat agree)
- Green: I'd prefer courses with OER (agree/somewhat agree)
Did the students show preference for online or printed textbooks?

SCD students: printed or online textbook

- Printed: 60
- Online: 29
- No reply or no preference: 12

REM100 students: printed or online textbook

- Printed: 79
- Online: 34
- No reply or no preference: 13
Why prefer online OER and why printed?

• In favour of online OER/textbooks:
  • Less waste, saving paper, “better for the environment”;
  • Less weight to carry around;
  • Less expensive or even entirely free;
  • Easier to access;
  • Portable – especially for those with a long commute;
  • Allows for interaction and Googling.

• In favour of printed OER/textbooks:
  • Doesn’t strain the eyes like when reading long texts off a screen;
  • Possible lack of focus when reading online, lots of distractions;
  • Used to highlighting and taking notes on the margins;
  • Internet and/or a computer is not always readily available or reliable;
  • More helpful in building vocabulary and writing skills;
  • Simply, preference for physical, tangible books – feels “more personal”.

Student quotes

“Apologies. I could not find this material through our course website.”

“This is a great initiative!”

“I like old school style” (male, 19y old)

“I don’t trust paper” (male, 23y old)

“B!tc*, you know how much tuition I pay?”
Findings summary

• 67.5% of the students and 50% of the instructors involved showed interest in using OER in their future courses

• Online resources:
  • ...can be accessible and user-friendly, so as to improve learning outcomes
  • ...need to be free, engaging, captivating, interactive, and overall interesting to the student
  • ...should be more than simply stating information and include storytelling and ample multimedia
  • ...have to contain accurate, peer-reviewed, and complete information, and be developed and offered by reputable institutions
Thank you!

- Find our final report here:

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  www.sfu.ca/cscd.html