Presidential Session -
Systematic Reviews of the
Research on Emerging Online
Technologies: What’s Been
Done; What’s To Come

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MOOC Trends and
Recent Data

Weirdness #1...
June 15, 2017
Massive List of MOOC Providers Around The
World, Class Central
3MOOC, K-MOOC, and T-MOOC?
https://www.class-central.com/report/mooc-providers-list/

Weirdness #2...
Email inbox: June 10, 2018
edX (Summer discounts)
https://www.edx.org/course

Weirdness #3...
Email inbox: June 11, 2018
Coursera
https://www.coursera.org/

Weirdness #4...
September 26, 2018
The Future of Professional Credentialing
... in an Engagement Announcement
Joshua Kim, Inside Higher Ed

The future bride graduated from the University of Vermont with a bachelor’s degree in anthropology and is currently pursuing a master’s degree in public health. She is employed as a care navigator with Apple.

The future groom graduated from Worcester Polytechnic Institute with a bachelor’s degree in mechanical engineering and is currently pursuing a master’s degree in mechanical engineering. He has been accepted in the Harvard Business School COO program and plans to start in November. He is currently working as a technical program manager at Apple.

They are planning on a summer wedding in 2020.
Weirdness #5…
January 22, 2018
A Review of MOOCs Stats and Trends in 2017, Dhawal Shah, Class Central

August 19, 2018
Cumulative Growth in Number of MOOCs, 2011-18
Almanac 2018, Chronicle of Higher Education
https://www.chronicle.com/article/Top-5-MOOC-Providers-By-Number/244090?cid=cp216

MOOC Research Gaps and Summaries

November 2014
Where is Research on Massive Open Online Courses Headed? A Data Analysis of the MOOC Research Initiative
Dragan Gasevic and colleagues (including George Siemens), IRRODL

February 2016
A Systematic Analysis and Synthesis of the Empirical MOOC Literature Published in 2013-2015, IRRODL
George Veletsianos and Peter Shepherdson

August 2017
A Contemporary Review of Research Methods Adopted to Understand Students’ and Instructors’ Use of Massive Open Online Courses (MOOCs)
Ruiqi Deng and Pierre Benckendorff

"Second, triangulation of a wider range of research methods and data sources should be undertaken. Beyond triangulation of surveys and interviews or log files, MOOC scholars are encouraged to combine other research methods to triangulate findings, such as story studies and focus groups.” (p. 605)
“To gain a deeper and more diverse understanding of the MOOC phenomenon, researchers need to use multiple research approaches (e.g., ethnography, phenomenology, discourse analysis) add content to them.” (p. 583)


“Dependence on Particular Research Methods May Restrict our Understanding of MOOCs.”


**MOOC Study #1: MOOC Research**

A Systematic Review of Research Methods and Topics of the Empirical MOOC Literature (2014-2016)


**Article Search Strategies**

Key words: “MOOC” and “Massive Online Open Course(s)"

Databases: Scopus and peer-reviewed journal articles

Phase 1: October 2014 - November 2016 (146 in total)

Phase 2: December 2016 - July 2017 (51 in total)

**Research Purpose & Questions**

To gain a deeper and more diverse understanding of the current MOOC phenomenon by reviewing recent articles.

1. What are the research methods researchers employed in empirical MOOC studies?
2. What are the research topics or focuses in MOOC studies?
3. How are researchers of empirical MOOC studies geographically distributed?
4. In terms of the delivery of the MOOC, what are the countries which are attracting the most research?

**Systematic Review of Research Methods in MOOCs (2014-2016)**


RQ1: What are the research methods researchers employed in empirical MOOC studies? (N = 146)
Number of Data Sources for MOOC Research (2014-2016)  

RQ1: What are the research methods researchers employed in empirical MOOC studies?

<table>
<thead>
<tr>
<th>NUMBER OF DATA SOURCES</th>
<th>TOTAL</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>64</td>
<td>43.84%</td>
</tr>
<tr>
<td>2</td>
<td>46</td>
<td>31.51%</td>
</tr>
<tr>
<td>3</td>
<td>24</td>
<td>16.44%</td>
</tr>
<tr>
<td>&gt;3</td>
<td>12</td>
<td>8.22%</td>
</tr>
<tr>
<td>TOTAL STUDIES</td>
<td>146</td>
<td>100%</td>
</tr>
</tbody>
</table>

Systematic Review of Research Methods in MOOCs (2014-2016)  

RQ2: What are the research focuses in MOOC studies?

<table>
<thead>
<tr>
<th>Primary/general focus of MOOC delivery (set of 146 studies) (note: some studies have more than one area of focus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student-focused</td>
</tr>
<tr>
<td>Design-focused</td>
</tr>
<tr>
<td>Context and impact</td>
</tr>
<tr>
<td>Others</td>
</tr>
<tr>
<td>Instructor-focused</td>
</tr>
</tbody>
</table>

Systematic Review of Research Methods in MOOCs (2014-2016)  

<table>
<thead>
<tr>
<th>No.</th>
<th>Journal</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>International Review of Research in Open and Distance Learning (IRRODL)</td>
<td>31</td>
</tr>
<tr>
<td>2</td>
<td>Computers &amp; Education</td>
<td>13</td>
</tr>
<tr>
<td>3</td>
<td>British Journal of Educational Technology</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>Online Learning</td>
<td>7</td>
</tr>
<tr>
<td>5</td>
<td>Distance Education</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Educational Media International</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>Internet and Higher Education</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>Journal of Computer Assisted Learning</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>Computers in Human Behavior</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>Open Learning</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>Journal of Online Learning and Teaching</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>Journal of Asynchronous Learning Network</td>
<td>3</td>
</tr>
</tbody>
</table>


- RQ3: How are researchers of empirical MOOC studies geographically distributed?

Systematic Review of Research Methods in MOOCs (2014-2016)  

Location of MOOC Research Team Members (2014-2016)

Countries of MOOC Delivery in Research Sample

<table>
<thead>
<tr>
<th>Country</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>53</td>
</tr>
<tr>
<td>China</td>
<td>29</td>
</tr>
<tr>
<td>Spain</td>
<td>13</td>
</tr>
<tr>
<td>UK</td>
<td>7</td>
</tr>
<tr>
<td>Japan</td>
<td>4</td>
</tr>
<tr>
<td>Australia</td>
<td>4</td>
</tr>
<tr>
<td>Canada</td>
<td>6</td>
</tr>
<tr>
<td>Others</td>
<td>11</td>
</tr>
</tbody>
</table>


RQ1: What are the research methods researchers employed in empirical MOOC studies?

Data Collection Methods in Empirical MOOC Studies

- Survey: 10
- Interview: 12
- Focus Group: 6
- Questionnaire: 9
- Course Data: 5
- Observation: 4
- Learning Analytics: 3
- Analysis of forum messages: 1


- Content analysis
- Web data
- Survey and interview
- Participating online interactions
- Design process
- Design process
- Twitter based network interaction analysis

Specific Focus of MOOC Research (2014-2016)

- Self-regulated learning
- Cheating
- Social learning
- Engagement
- Satisfaction
- Communication
- Interaction
- Quality of MOOC
- Retention and completion/dropout
- Instructional/MOOC design
- K-12/Pre.college
- Performance/evaluation


Phase #2: The Study Expanded
MOOC Study #2: MOOC Research
A Systematic Review of MOOC Research Methods and Topics:
Comparing 2014-2016 and 2016-2017

Systematic Review of Research Methods and Topics in MOOCs:
Comparing 2014-2016 and 2016-2017

Figure 1a. Research methods used in empirical MOOCs studies (2016 – 2017) (n=51)

Figure 1b. Research methods used in empirical MOOCs studies (Note: Phase One (2014 – 2016) (n=146); Phase Two (2016 – 2017) (n=51))

Figure 2a. Data collection methods used in empirical MOOCs studies (2016 – 2017) (n=51) (Note: some studies contain more than one data collection method)

Figure 2b. Data collection methods used in empirical MOOCs studies (Note: some studies contain more than one data collection method and this figure only includes the main data collection methods)

Figure 3a. Specific data analysis methods for MOOC research (2014-2016 and 2016 – 2017)
**INDIANA UNIVERSITY BLOOMINGTON**


**Figure 3b. Specific data analysis methods for MOOC research**
(Note: some studies contain more than one data analysis method)

**Figure 4a. Primary/general focus of MOOC delivery (2016 – 2017)**
(Note: some studies contain more than one area of focus)

**Figure 4b. Primary/general focus of MOOC delivery (Note: some studies contain more than one area of focus)

**Figure 5. The location of the first author of MOOCs studies (2014 – 2017)**
(Note: this figure only includes the main countries)

Collaboration among authors

Figure 6. Collaboration among the authors of MOOCs studies (2016 – 2017) (n=51)

Figure 7. Countries of MOOC delivery in which the research was conducted (2014 – 2017) (n=197) (Note: this figure only includes the main countries)

Phase 3: The Study has expanded again!

Figure 1. Number of empirical MOOC studies annually published in different journals from 2013-2018 (N=321 studies)

Figure 2. Research methods used in empirical MOOCs studies from 2013-2018 (N=321 studies)

Table 1

<table>
<thead>
<tr>
<th>Journals</th>
<th>Number of empirical studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Review of Research in Open and Distributed Learning</td>
<td>91</td>
</tr>
<tr>
<td>Computers &amp; Education</td>
<td>22</td>
</tr>
<tr>
<td>British Journal of Educational Technology</td>
<td>15</td>
</tr>
<tr>
<td>Online Learning</td>
<td>14</td>
</tr>
<tr>
<td>Distance Education</td>
<td>11</td>
</tr>
<tr>
<td>Journal of Online Learning and Teaching</td>
<td>11</td>
</tr>
<tr>
<td>The Internet and Higher Education</td>
<td>10</td>
</tr>
<tr>
<td>Computers in Human Behavior</td>
<td>9</td>
</tr>
<tr>
<td>Open Learning</td>
<td>8</td>
</tr>
</tbody>
</table>

Total Number of Empirical MOOC Studies Published in Different Journals from 2013-2018

Journals that published empirical MOOC studies (2013-2018)
Types of MOOC research methods used in different countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Quantitative</th>
<th>Qualitative</th>
<th>Mixed-methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>18%</td>
<td>37%</td>
<td>45%</td>
</tr>
<tr>
<td>UK</td>
<td>26%</td>
<td>36%</td>
<td>18%</td>
</tr>
<tr>
<td>China</td>
<td>21%</td>
<td>23%</td>
<td>51%</td>
</tr>
<tr>
<td>Spain</td>
<td>46%</td>
<td>33%</td>
<td>21%</td>
</tr>
<tr>
<td>Australia</td>
<td>45%</td>
<td>36%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Figure 3. Types of MOOC research methods used in the five countries with the most MOOC research from 2013-2018 (N=321 studies)

Types of MOOC research methods used by year (2013-2018)

Figure 4. Types of MOOC research methods used in each year from 2013-2018 (N=321 studies)

Data collection methods used in empirical MOOCs studies

<table>
<thead>
<tr>
<th>Method</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey</td>
<td>188</td>
</tr>
<tr>
<td>Platform data</td>
<td>117</td>
</tr>
<tr>
<td>Interview</td>
<td>60</td>
</tr>
<tr>
<td>Assessment</td>
<td>41</td>
</tr>
<tr>
<td>Discussion forum</td>
<td>27</td>
</tr>
<tr>
<td>Observation</td>
<td>20</td>
</tr>
<tr>
<td>Focus group interview</td>
<td>19</td>
</tr>
</tbody>
</table>

Figure 5. Data collection methods used in empirical MOOCs studies from 2013-2018 (N = 321 studies)
(Note: some studies contain more than one data collection method and this figure only includes the main data collection methods)

Tired of MOOCs...?

If not, you might read...

*Pushing Toward a More Personalized MOOC: Exploring Instructor Selected Activities, Resources, and Technologies for MOOC Design and Implementation*

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Annisa Sari, IU, annsari@iu.edu

THANKS!