
Meina Zhu
Annisa Sari
Curtis J. Bonk
Indiana University


Beatles Audio (6 secs): http://curtbonk.com/20-years-medium-audio.html
Beatles Video (6 secs): http://curtbonk.com/20-years-medium.html

Email inbox: June 10, 2018
edX
https://www.edx.org/course

Email inbox: June 10, 2018
edX
https://www.edx.org/course

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Email inbox: June 10, 2018
edX
https://www.edx.org/course
Email inbox: June 11, 2018
Coursera
https://www.coursera.org/

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

June 14, 2018
Free MOOCs Face the Music
Lindsay McKenzie, Inside Higher Ed
https://www.insidehighered.com/news/2018/06/14/edx-introduces-support-free-online-courses

December 25, 2016 vs. January 22, 2018
A Review of MOOCs Stats and Trends in 2017,
Dhawal Shah, Class Central

January 22, 2018
A Review of MOOCs Stats and Trends in 2017,
Dhawal Shah, Class Central

Here is a list of the top five MOOC providers by registered users:
1. Coursera — 30 million users.
2. edX — 14 million users.
3. XuetangX — 9.3 million users.
4. FutureLearn — 7.1 million users.
5. Udacity — 5 million users.
"MOOCs have had a significant role in helping the traditional and the "new traditional" graduates to quickly up-skill before employment or to quickly "come on board" in their new job. MOOCs have provided flexible, on-demand, collaborative, and just-in-time learning opportunities through which to obtain relevant and applicable skills." (p. 78)
September 2016
MOOCs, Graduate Skills Gaps, and Employability: A Qualitative Systematic Review of the Literature

"In 2013, research had already indicated that MOOCs offered unprecedented choice, customization and gave thousands of participants the possibility to have greater ownership and control over their learning experiences "rather than being constrained by centralized, instructor-controlled learning based on delivery of pre-fabricated curriculum" (McLoughlin, 2013). (p. 78.)

2015
Instructional quality of Massive Open Online Courses (MOOCs).
Margaryan, Bianco, & Littlejohn, Computers & Education, 80, 77-83.

"As MOOCs proliferate, drawing in increasing numbers of faculty and learners worldwide, the issue of their instructional quality becomes increasingly pressing." (p. 82)

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
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

<table>
<thead>
<tr>
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<th>Continent</th>
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June 2015
Who Studies MOOCs? Interdisciplinarity in MOOC Research and its Changes over Time, IRRODL
George Veletsianos and Peter Sheperdson

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

<table>
<thead>
<tr>
<th>Analytic Method</th>
<th>Frequency (% of Total Papers)</th>
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<td>Randomized experiment</td>
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<td>Latent variable analysis</td>
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<td>Discourse analysis</td>
<td>3.5</td>
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</table>

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

<table>
<thead>
<tr>
<th>Data Collection Methods, Results, and Dates</th>
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<tbody>
<tr>
<td>Method</td>
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<tr>
<td>Search: Scopus</td>
</tr>
<tr>
<td>Search: Journal of Online Learning and Teaching</td>
</tr>
<tr>
<td>Search: Twitter</td>
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<tr>
<td>Search: Google Scholar</td>
</tr>
<tr>
<td>Search: EduTECH Digital Library</td>
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<td>Search: Erasmus Library</td>
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<tr>
<td>Forward Referencing search</td>
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<tr>
<td>Reference list check</td>
</tr>
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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

<table>
<thead>
<tr>
<th>Research Strand</th>
<th>Frequency (% of Total Papers)</th>
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<td>Content and impact</td>
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<td>Instructor-focused</td>
<td>8.2</td>
</tr>
<tr>
<td>Other</td>
<td>9.6</td>
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</table>
A Contemporary Review of Research Methods Adopted to Understand Students’ and Instructors’ Use of Massive Open Online Courses (MOOCs)

Ruiqi Deng and Pierre Benckendorff

August 2017

There are a number of research avenues which could be explored based upon the findings of this study. First, additional research strategies should be considered to understand students’ and instructors’ experience in using MOOCs.” (p. 605)

Apart from diary studies, other qualitative research approaches have also been adopted by MOOC scholars. Focus groups were either adopted on their own, or with other qualitative research methods to probe participants’ motivation and experience.” (p. 605)

Quotes: Veletsianos et al. (2015-2016)

“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 Research (6 studies)

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?

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)

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

<table>
<thead>
<tr>
<th>Design</th>
<th>Quantitative</th>
<th>Qualitative</th>
<th>Mixed methods</th>
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</thead>
<tbody>
<tr>
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<td>9</td>
<td>26</td>
</tr>
<tr>
<td>Design-focused</td>
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<td>12</td>
<td>17</td>
</tr>
<tr>
<td>Context and impact</td>
<td>9</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Instructor-focused</td>
<td>0</td>
<td>3</td>
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</table>
Systematic Review of Research Methods in MOOCs (2014-2016)  

<table>
<thead>
<tr>
<th>No.</th>
<th>Journal</th>
<th>Total</th>
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</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>12</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-mediated Learning</td>
<td>9</td>
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<td>9</td>
<td>Computers in Human-Beckwith</td>
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<td>10</td>
<td>Open Learning</td>
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<tr>
<td>11</td>
<td>Journal of Online Learning and Teaching</td>
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<tr>
<td>12</td>
<td>Journal of Asynchronous Learning Network</td>
<td>3</td>
</tr>
</tbody>
</table>

RQ1: What are the research methods researchers employed in empirical MOOC studies? (N = 146)

Location of MOOC Research Team Members (2014-2016)  

Specific Data Sources for MOOC Research (2014-2016)  
RQ1: What are the research methods researchers employed in empirical MOOC studies?

### Specific Analytic Method for MOOC Research (2014-2016)

<table>
<thead>
<tr>
<th>Method</th>
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<tbody>
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<td>CAUSAL</td>
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<td>INTERPRETIVE DESIGN</td>
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<tr>
<td>CASE STUDY</td>
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<td>EXPERIMENTAL DESIGN</td>
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<td>INTERPRETIVE CASE STUDY</td>
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<td>LEARNING ANALYTICS</td>
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<tr>
<td>PHENOMENOLOGY</td>
<td></td>
<td></td>
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<tr>
<td>CULTURAL CRITICISM AND CURRICULAR ANALYSIS</td>
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</table>

### Number of Data Sources for MOOC Research (2014-2017)

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<thead>
<tr>
<th>Number of Data Sources</th>
<th>TOTAL</th>
<th>PERCENT</th>
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<td>43.84%</td>
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<tr>
<td>2</td>
<td>46</td>
<td>31.51%</td>
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<tr>
<td>3</td>
<td>24</td>
<td>16.44%</td>
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<tr>
<td>&gt;3</td>
<td>12</td>
<td>8.22%</td>
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<tr>
<td>TOTAL STUDIES</td>
<td>146</td>
<td>100%</td>
</tr>
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</table>

### Data Sources of MOOC Research (Note: when part of 2 or more data sources) (2014-2016)

<table>
<thead>
<tr>
<th>Data Source Type</th>
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<td>DISCUSSION FORUM DATA</td>
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<td>PLATFORM DATA</td>
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<tr>
<td>ASSIGNMENT</td>
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<tr>
<td>SURVEY</td>
<td></td>
</tr>
<tr>
<td>FOCUS GROUP INTERVIEW</td>
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<tr>
<td>OBSERVATION JOURNALS</td>
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<tr>
<td>LEARNING ANALYTICS</td>
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<td>GRADES</td>
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<td>SOCIAL MEDIA</td>
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</tr>
<tr>
<td>INTERVIEW</td>
<td></td>
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### Findings

- RQ2: What are the research focuses in MOOC studies?
Specific Focus of MOOC Research (2014-2016)

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


- Countries of MOOC Delivery in Research Sample


February 2016
A Systematic Analysis and Synthesis of the Empirical MOOC Literature Published in 2013-2015
George Veletsianos and Peter Shepherdson, IRRODL, 17(2), 198-221

"Based on these results, we suggest that an expansion of the methodological approaches used in MOOC research is urgently needed. Given that research into MOOCs is expected to inform learning in all environments and not just MOOCs (Rose et al., 2015; Singer, 2014), a broader methodological toolkit is imperative." (p. 214)

February 2016
A Systematic Analysis and Synthesis of the Empirical MOOC Literature Published in 2013-2015
George Veletsianos and Peter Shepherdson, IRRODL, 17(2), 198-221

"Fruitful future research endeavors in this area may focus on examining how particular methodologies have shaped the field, whether research methods are favored by researchers from particular disciplines, and some conferences and journals more than others distort the dominant narratives in the literature." (p. 214)
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)

Data Analysis Methods

- Descriptive statistics: 12%
- Content analysis: 3%
- Inferential statistics: 0%
- Learning analytics: 0%
- Discourse analysis: 3%
- Thematic analysis: 3%
- Social network analysis: 3%
- Grounded approach analysis: 0%

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


Research focuses of empirical MOOCs studies

- Context and impact: 28%
- Instructor-focused: 13%
- Design-focused: 3%
- Student-focused: 48%
- Others: 5%

Figure 4a. Primary/general focus of MOOC delivery (2016–2017) (n=51) (Note: some studies contain more than one area of focus)


Table 2

<table>
<thead>
<tr>
<th>Research method used in each research topic (2014-2017) (n=197)</th>
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<th>Mixed methods</th>
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<td>6</td>
</tr>
<tr>
<td>Instructor-focused</td>
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<td>6</td>
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</table>

Note: Some studies have more than one focus. And we did not include the "other" category in this table.

Figure 5. The location of the first author of MOOCs studies (2014–2017) (n=197) (Note: this figure only includes the main countries)
October 2015
Predictors of Retention and Achievement in a Massive Open Online Course
Greene, Oswald, & Pomerantz
http://aer.sagepub.com/content/early/2015/05/08/0002831215584621

"If MOOCs are to fulfill their promise as a way of providing all learners with opportunities to obtain education at a low cost, much more research is needed regarding how to engage these students and help them to be successful in these environments." (p. 952)

Additional Findings

Research Background

- MOOCs can be beneficial to both learners and instructors (Hew & Cheung, 2014)
- Instructors are one of the five main components of MOOCs; the other four are learners, topic, material, and context (Kop, 2011)
- Few studies have examined instructional design from MOOC instructors’ perspectives (Margaryan et al., 2015; Ross, Sinclair, Knox, Bayne, & Macleod, 2014; Watson et al., 2016)

MOOC Study #3: MOOC Instructor Personalization and Addressing Learner Diversity
Research Purpose
This study explores instructor motivations for offering MOOCs and the design innovations in MOOCs to better understand MOOC design practices and to provide suggestions for future MOOC instructors.

Study #3: Findings Recap
1. There is a lack of learner monitoring and feedback (i.e., mostly self and peer monitoring/feedback).
2. More emphasis on personalization in the design of the course than in the delivery of it.
3. Subtitles and transcripts are the most common ways to address cultural and linguistic differences.
4. Automated grading and feedback more prevalent than automated alerts, advice/counseling, and plagiarism detection.
5. Instructors have high interest in learning techniques for personalization in their next MOOC.

Future Research Might Explore...
1. Specific instructional design practices for personalization and cultural sensitivity (e.g., focus groups, content analyses, active participation in MOOCs, reviews of historical records, additional surveys, or a combo).
2. How emerging technologies (AR, VR, personal digital assistants, and AI) can be used to address learner needs.
3. Need to develop guidelines, frameworks, and models for more engaging, culturally sensitive, and personalized learning environments.

MOOC Study #4: MOOC Instructor Design Challenges and Considerations

Research Questions
1. What motivates instructors to offer MOOCs?
2. What instructional innovations do MOOC instructors perceive?
3. What do instructors perceive as the strengths of their MOOCs?
4. How would they redesign the MOOC?

Research Methods-Data collection
Sequential mixed methods design (Creswell & Clark, 2007)
Data Collection:
(1) surveys, (2) interviews, and (3) course reviews.
Participants:
- 143 survey participants (10% response rate)
- 12 interviewees

Sequential Exploratory Design (a)
Data Collection ➔ Data Analysis ➔ Data Collection ➔ Data Analysis ➔ Interpretation of Data Analysis
### Research Methods - Data Collection

<table>
<thead>
<tr>
<th>No.</th>
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<tr>
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<td>Coursera</td>
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<tr>
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<td>5</td>
<td>UK</td>
<td>Public Health</td>
<td>FutureLearn</td>
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<tr>
<td>6</td>
<td>UK</td>
<td>Language and Literacy</td>
<td>FutureLearn</td>
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<td>Coursera</td>
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<td>8</td>
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<tr>
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<td>India</td>
<td>Management</td>
<td>edX</td>
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</table>

### Significance & Conclusion

1. This study provides a window into the decision making of more than 100 MOOC instructors. Few studies have tapped into such a database.
2. This study provides key insights into instructors’ motivations for offering MOOCs as well as instructional innovations in MOOC design.
3. The results may inform MOOC stakeholders (i.e., institutions) of how to foster instructor motivation and instructional innovation in MOOCs.
4. This study can be used to train instructional designers on the design of MOOCs as well as the expectations of MOOC instructors that they may be working with.

### Future Research Might Explore...

1. The relationship between instructor motivation and the types of instructional innovations in MOOC design.
2. Changes in MOOC instructor motivation across several MOOCs.
3. MOOC instructor motivation by discipline, country, or region of the world.
4. MOOC instructional professional development and instructor teaching skill changes from designing MOOCs.

### MOOC Study #5: Malaysian and Indonesian MOOC Instructors


### Research Questions

1. What are the instructors’ reasons to offer MOOCs?
2. How do instructors design their MOOCs?
3. What challenges do instructors experience in designing their MOOC?

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October 2015

Predictors of Retention and Achievement in a Massive Open Online Course


“If MOOCs are to fulfill their promise as a way of providing all learners with opportunities to obtain education at a low cost, much more research is needed regarding how to engage these students and help them to be successful in these environments.” (p. 952)
Research Methods - Data collection

- Research Design: mixed method design (Creswell, 1999)
- Data Collection: Survey, interview, course review Web-based survey: 20 closed-ended questions + 2 open ended questions; 9 interview questions.
- Participants: 46 survey participants (15.6%) and 9 interviewees (3 Malaysian + 6 Indonesian)

Study #5: Findings Recap and Future Directions

1. Primary motives: include: (1) personal interest, (2) research purposes, (3) experience teaching a large online course, (4) institutional encouragement, and (5) altruism.
2. Offering recognition such as certificate, badge, points, or transfer credit to increase student enrollment.
3. Top challenges include encouraging collaboration, fostering engagement, video development, and time.
4. Future research might add perspectives from students, affiliated institutions, and MOOC providers

Khe Foon (Timothy) Hew (2018)
https://www.courseTalk.com/
Hew (2018, p. 1) analyzed 4,565 courseTalk review comments of 10 highly rated MOOCs. He found “six key factors that can engage online [MOOC] participants and nine reasons for participant disaffection.”

1. Problem-centric learning supported by clear explanations.
2. Active learning supported by timely feedback (e.g., assignments, projects, discussion).
3. Course resources that cater to participants’ learning needs or preferences.
4. Instructor attributes (e.g., passion, enthusiasm, humor, variety of examples).
5. Peer interaction.
6. Instructor availability.

Future Directions

- An expansion of methodological approaches in MOOCs research is needed.
- Limited research still exists on instructor-related MOOC topics.
- Additional research might explore the role(s) of instructional assistants (or former learners who are tutors or mentors).
- Need to understand the learner better (drop-ins, latecomers, no-shows, engaged, non-engaged, drop-outs, etc.).
- Cross-cultural comparison research might indicate how MOOC research paradigms differ in various regions of the world.