

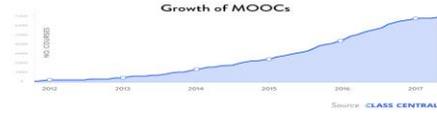
A Systematic Review of Research Methods and Topics of the Empirical MOOC Literature (2014-2016)

Annisa Sari and Meina Zhu
Indiana University

Mimi Miyoung Lee, Ph.D.
University of Houston

Growth of MOOCs

The Numbers: MOOCs in 2016 (Dec 25th, Class Central)



58M Students
700+ Universities
6850 Courses

MOOCs in 2016. Analysis by Class Central

Growth of MOOCs

Cumulative Growth in Number of MOOCs (2011-2017)

Month	Number of MOOCs
October 2011	3
June 2012	34
December 2012	108
June 2013	446
December 2013	859
June 2014	1,524
December 2014	2,090
June 2015	2,940
December 2015	4,007
June 2016	5,397
December 2016	6,563
June 2017	7,465

Registrations by MOOC Provider

Top 5 MOOC providers by number of registered users (2017)

Rank	Provider	Registered users
1.	Coursera (U.S.)	27 million
2.	edX (U.S.)	11 million
3.	XuetangX (China)	7 million
4.	FutureLearn (Britain)	6.3 million
5.	Udacity (U.S.)	6 million

June 15, 2017
Massive List of MOOC Providers Around The World, China
(Where to Find MOOCs: The Definitive Guide to MOOC Providers)
University of China MOOC — icourse163.org / China Class Central, Dhawal Shah
<https://www.class-central.com/report/mooc-providers-list/>



June 15, 2017
Massive List of MOOC Providers Around The World, K-MOOC (Korea)
(Where to Find MOOCs: The Definitive Guide to MOOC Providers)
<https://www.class-central.com/report/mooc-providers-list/>

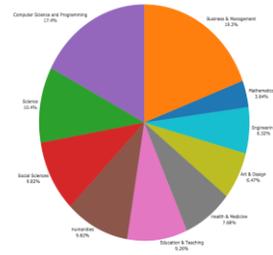


June 15, 2017
**Massive List of MOOC Providers Around
 The World, IndonesiaX**
 (Where to Find MOOCs: The Definitive Guide to MOOC Providers)



By the Numbers: MOOCs in 2016
Class Central, Dhawal Shah

<https://www.classcentral.com/report/moocs-in-2016>



November 2014

Where is Research on Massive Open Online Courses Headed? A Data
 Analysis of the MOOC Research Initiative
 Gašević, Kovanović, Joksimović, and Siemens, *IRRODL*, 15(5), 143-176
<http://www.irrodl.org/index.php/irrodl/article/view/1954>

“Research needs to come up with theoretical underpinnings that will explain factors related to social aspects in MOOCs that have a completely new context and offer practical guidance of course design and instruction.” (p. 167)

**Dragan Gasevic and colleagues
 (including George Siemens), 2014, IRRODL, 15(5)**

<http://www.irrodl.org/index.php/irrodl/article/view/1954>

Table 14

Phase 2 Top 5 Research Fields

Field	Authors
Education	106
Computer Science	21
Engineering	13
Industry	8
Social Sciences	6

Table 15

Phase 2 Geographic Distribution of the Authors

Continent	Authors	Authoried proposals	Accepted proposals
Asia	17	4.64	0.14
Australia/NZ	11	4.25	1
Europe	40	15.66	4
North America	137	52.44	22.85
South America	3	1	0



Dragan Gasevic¹, Thomas Kovanovic², Branka Joksimovic³ and George Siemens⁴
¹University of Toronto, Canada, ²Simon Fraser University, Canada, ³University of Tuzla, Bosnia and Herzegovina, ⁴University of Toronto, Canada

May 25, 2015

Digging deeper into learners' experiences in MOOCs:
 Participation in social networks outside of MOOCs,
 notetaking and contexts surrounding content consumption
 Veletsianos, Collier, & Schneider, *BJET*, 46(3), 570-587.
<http://onlinelibrary.wiley.com/doi/10.1111/bjet.12297/abstract>

“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.)

May 25, 2015

Digging deeper into learners' experiences in MOOCs:
 Participation in social networks outside of MOOCs,
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 Veletsianos, Collier, & Schneider, *BJET*, 46(3), 570-587.
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“Qualitative data and approaches can equip researchers to investigate the reasons why learners engage in video-watching behaviors in the ways that they do.” (p. 583.)

George Veletsianos & Peter Shepherdson's Study (2016)

A Systematic Analysis And Synthesis of the Empirical MOOC Literature Published in 2013-2015

"Dependence on Particular Research Methods May Restrict our Understanding of MOOCs"



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
[http://www.ccsj.org/onlinepubs/irrodol/17\(2\)/198-221.html](http://www.ccsj.org/onlinepubs/irrodol/17(2)/198-221.html)

"Analysis suggests that researchers have favored a quantitative, if not positivist approach to the conduct of MOOC research. Survey data and secondary data collected via automated methods dominated the analyses. While some interpretive research was conducted in MOOCs in this time period, it was often basic. Very few studies were informed by methods traditionally associated with qualitative research approaches (e.g., interviews, observations, and focus groups)." (p. 214)

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, *International Journal of Information and Education Technology*, 7(8), 601-607.

"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)

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, *International Journal of Information and Education Technology*, 7(8), 601-607.

"Second, triangulation of a wider range of research methods and data source 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 diary studies and focus groups." (p. 605)

Research Background

- MOOC offerings continue to surge (Almanac, 2017-2018; Shah, 2016),
- A scarcity of systematic analysis of empirical studies of recent MOOC research that targets all of the following aspects: research methods adopted by MOOC researchers, the research topics, the geographic locations of MOOC researchers, and the regions of the MOOC delivery.

Research Purpose & Questions

Explores the research paradigms and topics of MOOCs to gain a deeper understanding of the MOOC phenomenon

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?

Research Method-Data Collection

Data selection criteria

- Empirical study
- From education perspective
- Published between October 2014 - November 2016
- Mainly from Scopus
- Keywords "MOOC" and "Massive Online Open Course(s)"
- Journal articles
- Written in English

Research Method-Data Collection

1. Journals listed in Scopus
2. Journals not included in Scopus:
 - EDUCAUSE Review & Quarterly
 - Online Learning
 - the International Journal on E-Learning
 - Journal of Interactive Media in Education
 - Journal of Online Learning Research
 - the Journal of Open Flexible and Distance Learning

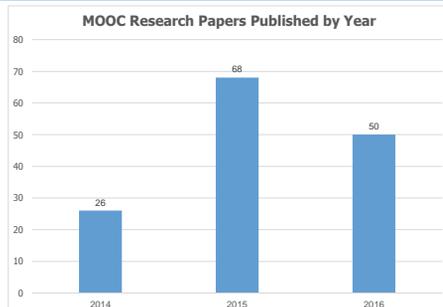
Research Method-Data Collection

- Exchanged the data collected and cross-checked the re-coded information (inter-rater agreement across all items was 91.1%)
- 146 papers were included

Research Method-Data Collection

- Authors and their affiliations
- Location of the authors
- Location of the MOOC delivery
- Year of publication
- Title
- Journal name
- General analytic method (e.g., qualitative, quantitative, or mixed methods)
- Data collection methods
- Data analysis methods
- General study focus
- Special study focus
- Article URL address

Context



Context

No	Journal	Total
1	International Review of Research in Open and Distance Learning (IRRODL)	31
2	Computers & Education	12
3	British Journal of Educational Technology	9
4	Online Learning	7
5	Distance Education	5
6	Educational Media International	5
7	Internet and Higher Education	5
8	Journal of Computer Assisted Learning	5
9	Computers in Human Behavior	4
10	Open Learning	4
11	Journal of Online Learning and Teaching	3
12	Journal of Asynchronous Learning Network	3

Research Method-Data Analysis

RQ 1	Analytical Frameworks
Research Methods	Quantitative research, qualitative research, and mixed-methods (Creswell, 2003)
Data Collection Methods	Interviews, surveys, focus groups, tests, and observations, and discussion forum, platform database, and learning analytics Tashakkori and Teddlie (2003)

Research Method-Data Analysis

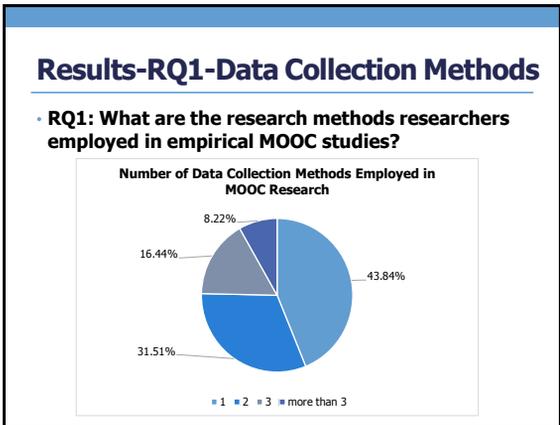
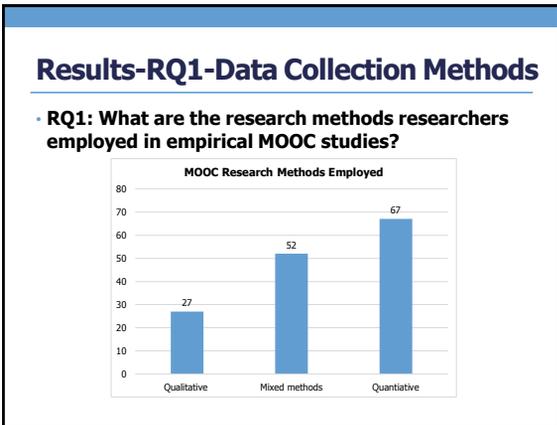
RQ 2	Analytical Frameworks
Research Topics	The five categories were: (1) student-focused, (2) teacher-focused, (3) design-focused, (4) context and impact, and (5) other Veletsianos and Shepherdson (2015)

Research Method-Data Analysis

RQ 3	Analysis method
Geographical Distribution	Examined the affiliations of all the authors of these 146 studies. When completed, we calculated the country location for all the MOOC authors in this study as well as the locations for just the first author of the 146 MOOC studies.

Research Method-Data Analysis

RQ 4	Analysis method
Countries of MOOC origin or delivery	The researchers calculated the countries of the MOOC being studied. For the published studies which did not specify the name/location of MOOC delivery or used the general MOOCs for the research, the researchers coded them as "Global."

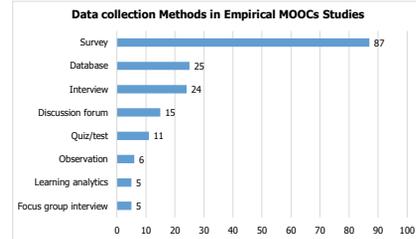


Data Sources of MOOC Research (2014–2016)



Results-RQ1-Data Collection Methods

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

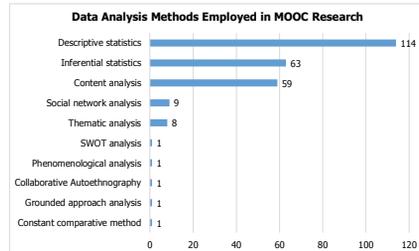


Specific Analytic Method for MOOC Research (2014–2016)



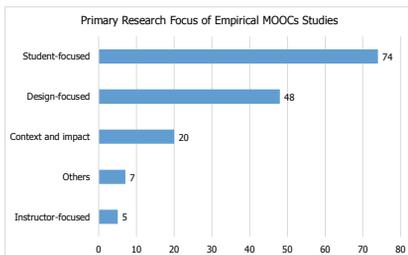
Results-RQ1-Data Analysis Methods

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



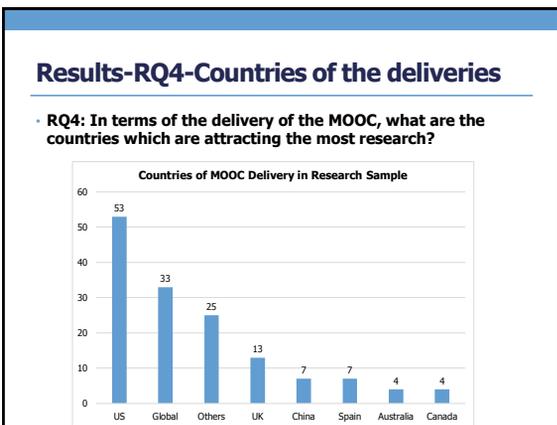
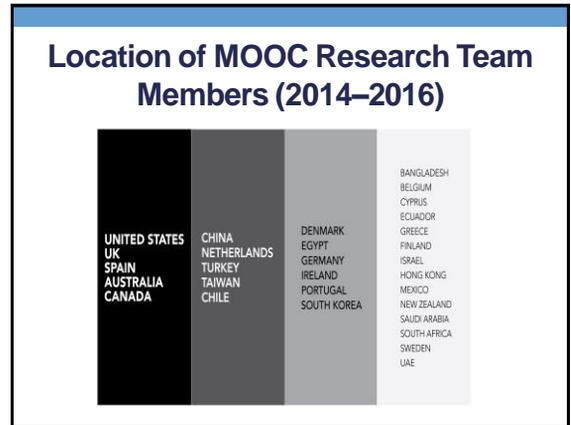
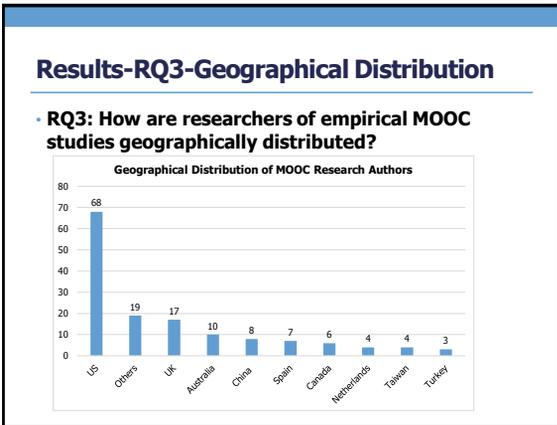
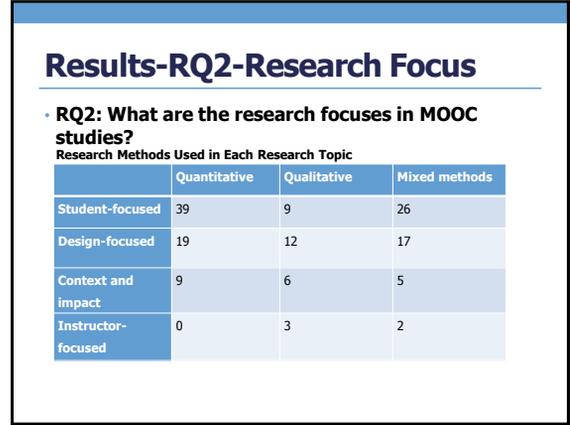
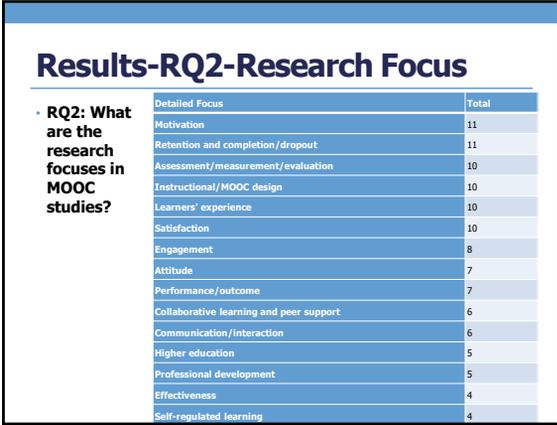
Results-RQ2-Research Focus

RQ2: What are the research focuses in MOOC studies?



Specific Topics of MOOC Research (2014–2016)





Implications

- It may be advantageous for MOOC researchers to target MOOC instructors as well as instructional designers and the entire course development, production, and evaluation team.
- The research on MOOCs remains a vital and growing area of interest for educational researchers across disciplines and regions of the world.

Implications

- Researchers will be better equipped to build upon and extend the MOOC studies to date by addressing novel topic areas and learner populations while experimenting with research methods yet to be attempted.
- Potential funding agencies and institutes will have a better grasp of research areas and topics related to MOOC that might be highly beneficial.

Future directions

- A continuous expansion of methodological approaches in MOOCs research is needed.
- Cross-cultural comparison research might indicate how MOOC research paradigms differ in various regions of the world.
- More localized understanding of educational philosophies and values are needed.

Questions and Comments

Annisa Sari, annsari@umail.iu.edu

Meina Zhu, meinzhu@umail.iu.edu

Indiana University

Mimi Miyoung Lee, Ph.D., mlee7@uh.edu

University of Houston

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