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

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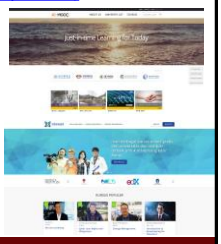
MOOC Trends and Recent Data

Weirdness #1…
June 15, 2017
Massive List of MOOC Providers Around The World, Class Central
JMOOC, 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

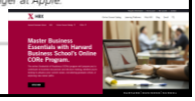
Weirdness #3…
Email inbox: June 11, 2018
Coursera
https://www.coursera.org/

Weirdness #4…
September 26, 2018
The Future of Professional Credentialing … in an Engagement Announcement
Joshua Kim, Inside Higher Ed
https://www.insidehighered.com/digital-learning/blogs/technology-and-learning/future-professional-credentialing-engagement

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.

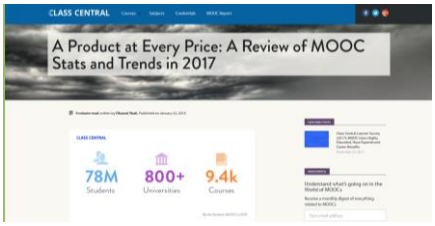
The future groom graduated from Worcester Polytechnic Institute with a bachelor's degree in mechanical engineering and is currently pursuing a master's degree in mechanical engineering. He has been accepted in the **Harvard Business HBX CORe program** and plans to start in November. He is currently working 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

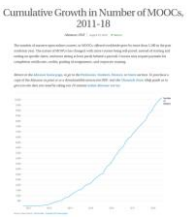
https://www.class-central.com/report/moocs-stats-and-trends-2017/



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

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

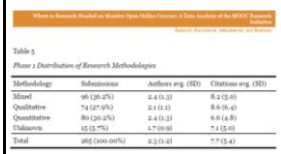


Table 5
Phase 1 Distribution of Research Methodologies

Methodology	Submissions	Authors avg. (SD)	Citations avg. (SD)
Mixed	96 (36.2%)	2.4 (1.3)	8.2 (5.0)
Qualitative	74 (27.9%)	2.1 (1.1)	8.6 (6.4)
Quantitative	80 (30.2%)	2.4 (1.3)	6.6 (4.8)
Unknown	15 (5.7%)	1.7 (0.9)	7.1 (5.0)
Total	265 (100.00%)	2.3 (1.2)	7.7 (5.4)

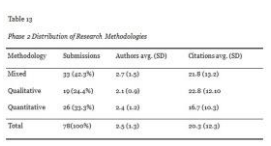


Table 13
Phase 2 Distribution of Research Methodologies

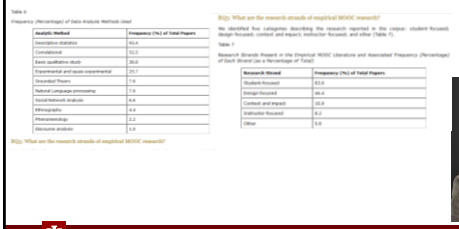
Methodology	Submissions	Authors avg. (SD)	Citations avg. (SD)
Mixed	33 (42.3%)	2.7 (1.5)	21.8 (13.2)
Qualitative	19 (24.4%)	2.1 (0.9)	22.8 (12.10
Quantitative	26 (33.3%)	2.4 (1.2)	16.7 (10.3)
Total	78(100%)	2.5 (1.3)	20.3 (12.3)

Dragan Gašević[1], Vitomir Kovanović[2,1], Srećko Joksimović[2,1] and George Siemens[3]
[1]Athabasca University, Canada, [2]Simon Fraser University, Canada, [3]University of Texas at Arlington, USA

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

George Veletsianos and Peter Sheperdson

http://www.irrodl.org/index.php/irrodl/article/view/2448/3655



Analytic Method	Frequency (%) of Total Papers
Descriptive statistics	83.6
Correlational	52.5
Basic qualitative study	36.8
Experimental and quasi-experimental	25.7
Grounded Theory	7.9
Natural Language processing	7.9
Social Network Analysis	6.6
Ethnography	4.4
Phenomenology	2.2
Discourse analysis	1.3

Research Strand	Frequency (%) of Total Papers
Student-focused	83.6
Design-focused	46.4
Context and impact	22.8
Instructor-focused	8.3
Other	3.9

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 III. PERSPECTIVE OF THE ARTICLE ($N = 53$)

Perspective	Frequency	Per cent
Student	48	90.6
Instructor	4	7.5
Both student and instructor	1	1.9

TABLE IV. NUMBER OF RESEARCH METHODS USED FOR DATA COLLECTION ($N = 53$)

Number of Research Methods Used	Frequency	Per cent
One	36	67.9
Two	15	28.3
Three or above	2	3.8

TABLE V. TYPE OF RESEARCH METHODS USED FOR DATA COLLECTION ($N = 89$)

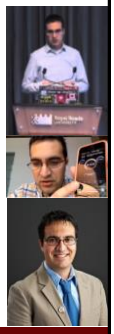
Type of Research Methods Adopted	Frequency	Per cent
Surveys	31	44.9
Interviews	14	20.3
Log files	12	17.4
Other qualitative methods	12	17.4

"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)

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)

Veletsianos, Collier, & Schneider (2015, May), Digging deeper into learners' experiences in MOOCs: Participation in social networks outside of MOOCs, notetaking and contexts surrounding content consumption. *BJET, 46*(3), 570-587.



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

George Veletsianos & Peter Shepherdson's Study (2016). Systematic Analysis and Synthesis of the Empirical MOOC Literature Published in 2013-2015. *IRRODL.* http://www.irrodl.org/index.php/irrodl/article/view/2448/3655

Research Focus and Purpose

MOOC Study #1: MOOC Research

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

Zhu, M., Sari, A., & Lee, M. M. (2018). A Systematic Review of Research Methods and Topics of the Empirical MOOC Literature (2014-2016). *The Internet and Higher Education*. 37,31-39.

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)

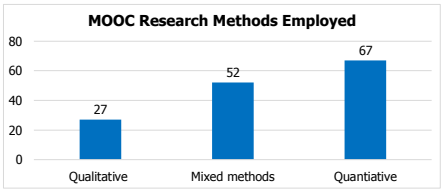
→

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

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

(Zhu, M., Sari, A., & Lee, M. M., 2018)

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

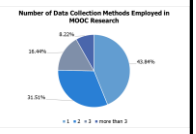


Number of Data Sources for MOOC Research (2014-2016)

(Zhu, M., Sari, A., & Lee, M. M., 2018)

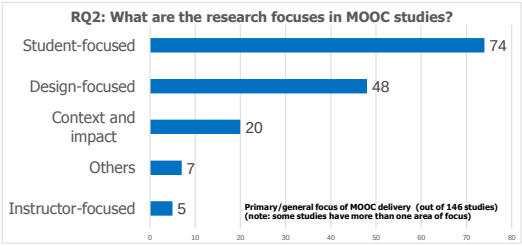
RQ1: What are the research methods researchers employed in empirical MOOC studies?

NUMBER OF DATA SOURCES	TOTAL	PERCENT
1	64	43.84%
2	46	31.51%
3	24	16.44%
>3	12	8.22%
TOTAL STUDIES	146	100%



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

(Zhu, M., Sari, A., & Lee, M. M., 2018)



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

(Zhu, M., Sari, A., & Lee, M. M., 2018)

	Quantitative	Qualitative	Mixed methods
Student-focused	39	9	26
Design-focused	19	12	17
Context and impact	9	6	5
Instructor-focused	0	3	2

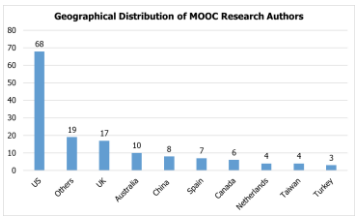
Systematic Review of Research Methods in MOOCs (2014-2016)

(Zhu, M., Sari, A., & Lee, M. M., 2018)

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

Findings (Zhu, M., Sari, A., & Lee, M. M., 2018)

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

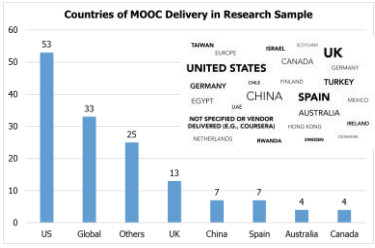


Systematic Review of Research Methods in MOOCs (2014-2016)

(Zhu, M., Sari, A., & Lee, M. M., 2018)

Location of MOOC Research Team Members (2014-2016)

Findings (Zhu, M., Sari, A., & Lee, M. M., 2018)



Systematic Review of Research Methods in MOOCs (2014-2016)
(Zhu, M., Sari, A., & Lee, M. M., 2018)

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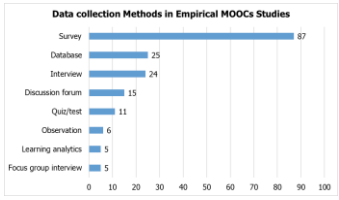
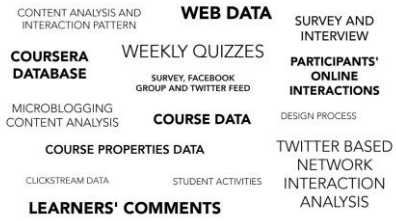


Specific Data Sources for MOOC Research (2014-2016)
(Zhu, M., Sari, A., & Lee, M. M., 2018)



Systematic Review of Research Methods in MOOCs (2014-2016)
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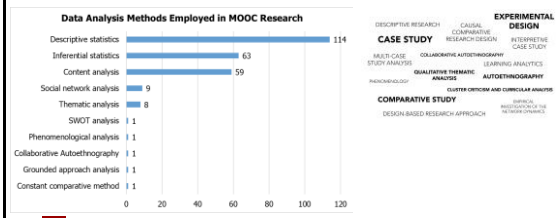
RQ1: What are the research methods researchers employed in empirical MOOC studies?



Systematic Review of Research Methods in MOOCs (2014-2016)
(Zhu, M., Sari, A., & Lee, M. M., 2018)

Specific Focus of MOOC Research (2014-2016)

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

Zhu, M., Sari, A., & Bonk, C. J. (2018). Presented at Ed Media Amsterdam.

Systematic Review of Research Methods and Topics in MOOCs:

Comparing 2014-2016 and 2016-2017 (Zhu, M., Sari, A., & Bonk, C. J., 2018)

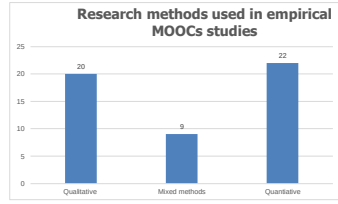


Figure 1a. **Research methods used in empirical MOOCs studies (2016 – 2017) (n=51)**

Systematic Review of Research Methods and Topics in MOOCs:

Comparing 2014-2016 and 2016-2017 (Zhu, M., Sari, A., & Bonk, C. J., 2018)

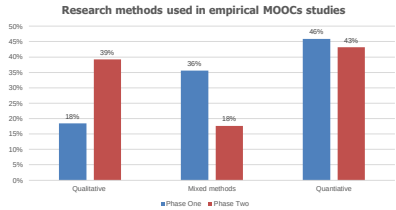


Figure 1b. **Research methods used in empirical MOOCs studies (Note: Phase One (2014 – 2016) (n=146); Phase Two (2016 – 2017) (n=51))**

Systematic Review of Research Methods and Topics in MOOCs:

Comparing 2014-2016 and 2016-2017 (Zhu, M., Sari, A., & Bonk, C. J., 2018)

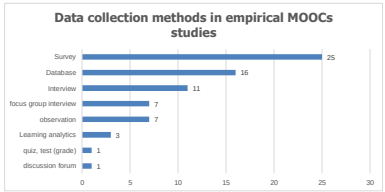


Figure 2a. **Data collection methods used in empirical MOOCs studies (2016 – 2017) (n=51) (Note: some studies contain more than one data collection method)**

Systematic Review of Research Methods and Topics in MOOCs:

Comparing 2014-2016 and 2016-2017 (Zhu, M., Sari, A., & Bonk, C. J., 2018)

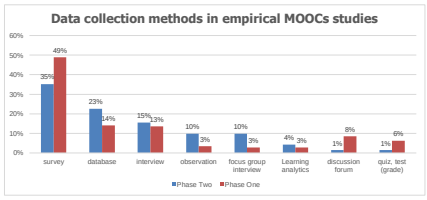


Figure 2b. **Data collection methods used in empirical MOOCs studies (Note: some studies contain more than one data collection method and this figure only includes the main data collection methods)**

Systematic Review of Research Methods and Topics in MOOCs:

Comparing 2014-2016 and 2016-2017 (Zhu, M., Sari, A., & Bonk, C. J., 2018)

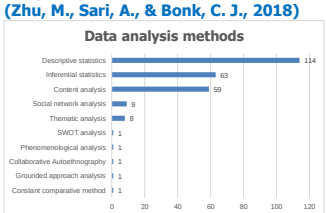


Figure 3a. **Specific data analysis methods for MOOC research (2014-2016 and 2016 – 2017)**

Systematic Review of Research Methods and Topics in MOOCs:
Comparing 2014-2016 and 2016-2017
(Zhu, M., Sari, A., & Bonk, C. J., 2018)

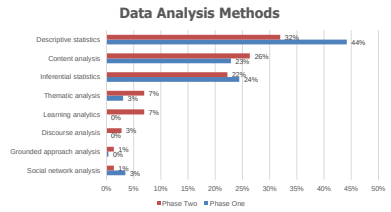


Figure 3b. **Specific data analysis methods for MOOC research (Note: some studies contain more than one data analysis method)**

Systematic Review of Research Methods and Topics in MOOCs:
Comparing 2014-2016 and 2016-2017
(Zhu, M., Sari, A., & Bonk, C. J., 2018)

Table 1

Specific topical focus of MOOC studies (2014-2017) (n=197)

Detailed Focus	Total
Retention and completion/dropout	17
Motivation	15
Assessment/measurement/evaluation	13
Engagement	12
Instructional/MOOC design	12
Learners' satisfaction	11
Communication/interaction	11
Learners' experience	10
Performance/outcome	9
Professional development	8
Learners' attitude	8
Higher education	8

Systematic Review of Research Methods and Topics in MOOCs:
Comparing 2014-2016 and 2016-2017
(Zhu, M., Sari, A., & Bonk, C. J., 2018)

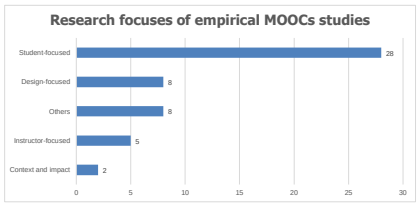


Figure 4a. **Primary/general focus of MOOC delivery (2016 – 2017) (n=51) (Note: some studies contain more than one area of focus)**

Systematic Review of Research Methods and Topics in MOOCs:
Comparing 2014-2016 and 2016-2017
(Zhu, M., Sari, A., & Bonk, C. J., 2018)

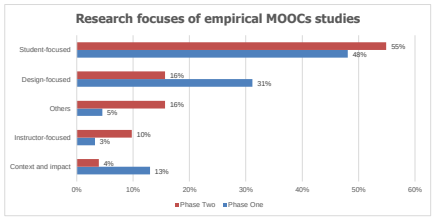


Figure 4b. **Primary/general focus of MOOC delivery (Note: some studies contain more than one area of focus)**

Systematic Review of Research Methods and Topics in MOOCs:
Comparing 2014-2016 and 2016-2017
(Zhu, M., Sari, A., & Bonk, C. J., 2018)

Table 2

Research methods used in each research topic (2014-2017) (n=197)

	Quantitative	Qualitative	Mixed methods
Student-focused	55	16	31
Design-focused	22	16	18
Context and impact	10	6	6
Instructor-focused	0	7	3

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

Systematic Review of Research Methods and Topics in MOOCs:
Comparing 2014-2016 and 2016-2017
(Zhu, M., Sari, A., & Bonk, C. J., 2018)

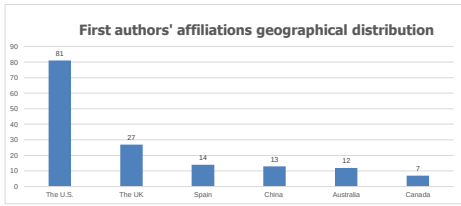


Figure 5. **The location of the first author of MOOCs studies (2014 – 2017) (n=197) (Note: this figure only includes the main countries)**

Systematic Review of Research Methods and Topics in MOOCs:
Comparing 2014-2016 and 2016-2017
(Zhu, M., Sari, A., & Bonk, C. J., 2018)

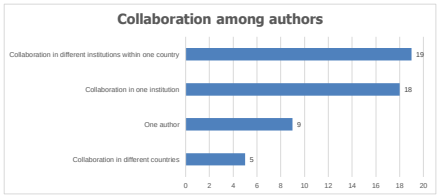


Figure 6. **Collaboration among the authors of MOOCs studies (2016 – 2017) (n=51)**

Systematic Review of Research Methods and Topics in MOOCs:
Comparing 2014-2016 and 2016-2017
(Zhu, M., Sari, A., & Bonk, C. J., 2018)

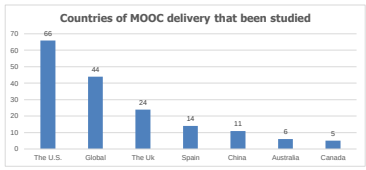


Figure 7. **Countries of MOOC delivery in which the research was conducted (2014 – 2017) (n=197) (Note: this figure only includes the main countries)**

Phase 3:The Study has expanded again!

Journals that published empirical MOOC studies (2013-2018)

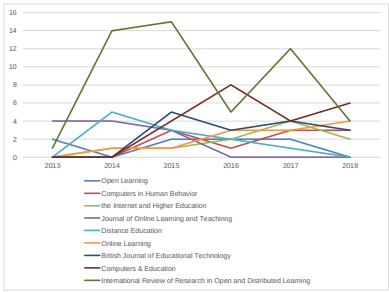


Figure 1. Number of empirical MOOC studies annually published in different journals from 2013-2018 (N=321 studies)

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

Table 1
(Note: the table only includes the top nine journals in terms of the number of empirical MOOC studies)

Journals	Number of empirical studies
International Review of Research in Open and Distributed Learning	51
Computers & Education	22
British Journal of Educational Technology	15
Online Learning	12
Distance Education	11
Journal of Online Learning and Teaching	11
The Internet and Higher Education	10
Computers in Human Behavior	10
Open Learning	8

Research methods used in empirical MOOCs studies

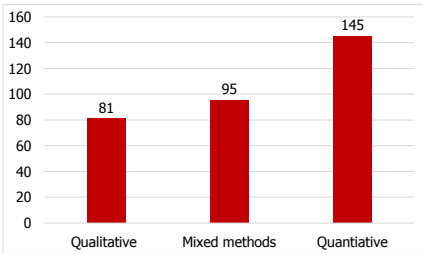


Figure 2. **Research methods used in empirical MOOCs studies from 2013-2018 (N=321 studies)**

Types of MOOC research methods used in different countries

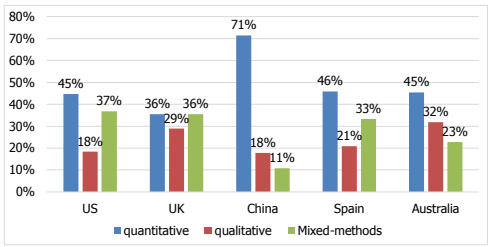


Figure 3. **Types of MOOC research methods used in the five countries with the most MOOC research from 2013-2018 (N=321 studies)**

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

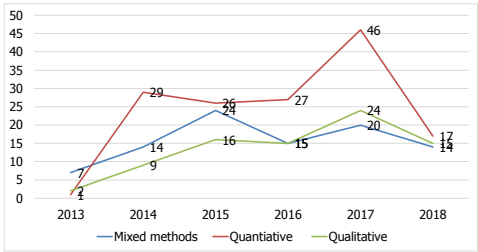


Figure 4. **Types of MOOC research methods used in each year from 2013-2018 (N=321 studies)**

Data collection methods used in empirical MOOCs studies

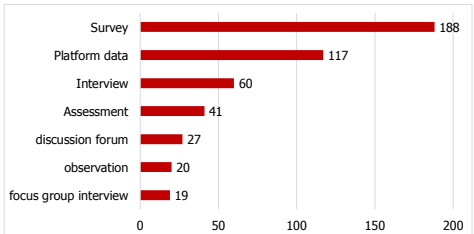


Figure 5. **Data collection methods used in empirical MOOCs studies from 2013-2018 (N = 321 studies)**
(Note: some studies contain more than one data collection method and this figure only includes the main data collection methods)

Tired of MOOCs…?

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

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