MOOC Instructor Research: Motivations, Considerations, and Personalizations in the Design of Instruction for the Masses

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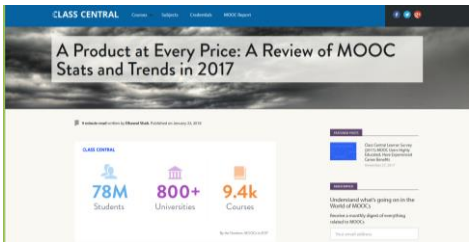
December 25, 2016 vs. January 22, 2018

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

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



January 22, 2018

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

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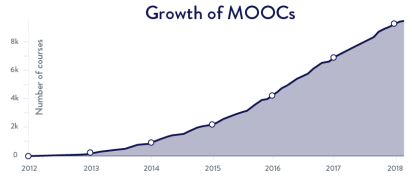
CLASS CENTRAL



By the Numbers: MOOCs in 2017

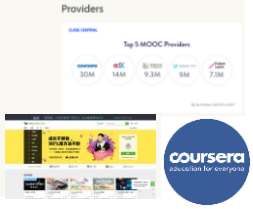
January 22, 2018

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

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

Here is a list of the top five MOOC providers by registered users:

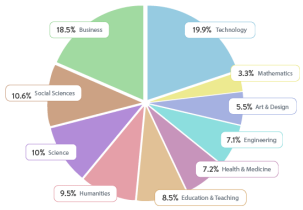
1. Coursera — 30 million users.
2. edX — 14 million users.
3. XuetangX — 9.3 million users.
4. FutureLearn — 7.1 million users.
5. Udacity — 5 million users.



Subject areas (January 22, 2018)

CLASS CENTRAL

Course Distribution by Subject



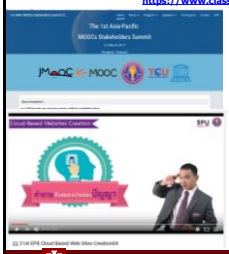
By the Numbers: MOOCs in 2017

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/



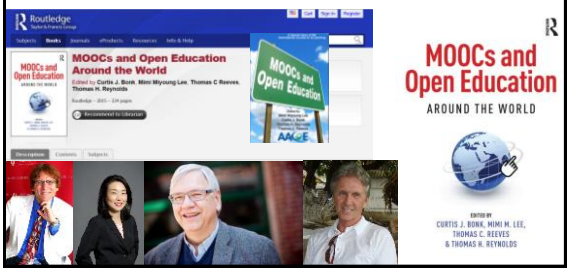
August 7, 2017

FutureLearn and Coventry University to Roll Out 50 Online Degrees (Last year Deakin University announced a similar partnership with FutureLearn)
Class Central, Dhawal Shah
https://www.class-central.com/report/futurelearn-coventry-university-roll-50-online-degrees/

Degree	Provider	University	Cost
MS Computer Science	Udacity	Georgia Tech	$6,600
MS Analytics	edX	Georgia Tech	$10k
MBA	Coursera	University of Illinois	$22k
MS CS Data Science	Coursera	University of Illinois	$19.2k
MS Accounting	Coursera	University of Illinois	$27.2k
Masters in Innovation and Entrepreneurship	Coursera	HEC Paris	€20k
Cyber Security (Masters)	FutureLearn	Deakin University	£24k
Development and Humanitarian Action (Masters)	FutureLearn	Deakin University	£24k
Professional Practice: Information Technology (Masters)	FutureLearn	Deakin University	£24k

MOOCs and Open Education Around the World (2015)

http://moocsbook.com/



2015

Instructional quality of Massive Open Online Courses (MOOCs).
Margaryan, Bianco, & Littlejohn, Computers & Education, *80*, 77-83.
http://www.sciencedirect.com/science/article/pii/S0360131514001798

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

MOOC Research (5 studies)

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.

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)

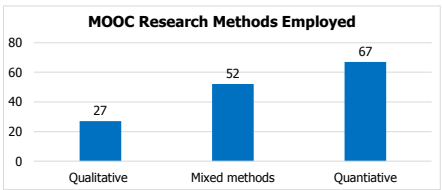
No.	Journal	Total
1	International Review of Research in Open and Distance Learning (IRRODL)	31
2	Computers & Education	12
3	British Journal of Educational Technology	9
4	Online Learning	7
5	Distance Education	5
6	Educational Media International	5
7	Internet and Higher Education	5
8	Journal of Computer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

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)

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?



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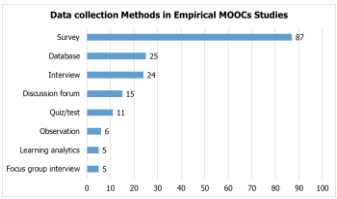

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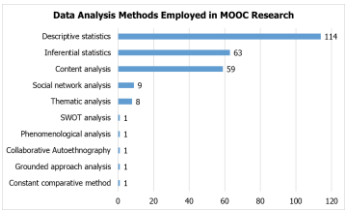


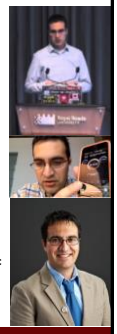
Systematic Review of Research Methods in MOOCs (2014-2016)
(Zhu, M., Sari, A., & Lee, M. M., 2018)

Specific Focus of MOOC Research (2014-2016)

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

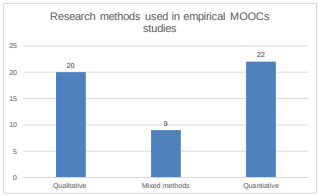
MOOC Study #2: MOOC Research

A Systematic Review of MOOC Research Methods and Topics: Comparing 2014-2016 and 2016-2017

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

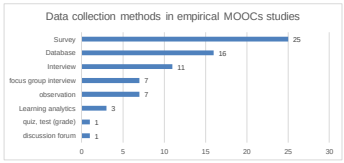
Systematic Review of Research Methods and Topics in MOOCs: Comparing 2014-2016 and 2016-2017 (Zhu, M., Sari, A., & Bonk, C. J., 2018)

Figure 2. **Research methods used in empirical MOOCs studies (2016 – 2017) (n=51)**



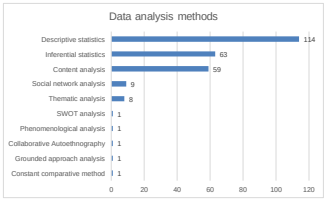
Systematic Review of Research Methods and Topics in MOOCs: Comparing 2014-2016 and 2016-2017 (Zhu, M., Sari, A., & Bonk, C. J., 2018)

Figure 4. Data collection methods used in empirical MOOCs studies (2016 – 2017) (n=51) (Note: some studies contain more than one data collection method)



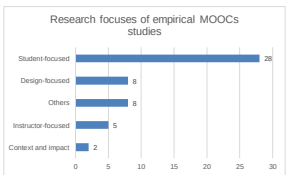
Systematic Review of Research Methods and Topics in MOOCs: Comparing 2014-2016 and 2016-2017 (Zhu, M., Sari, A., & Bonk, C. J., 2018)

Figure 6. Specific data analysis methods for MOOC research (2014-2016 and 2016 – 2017)



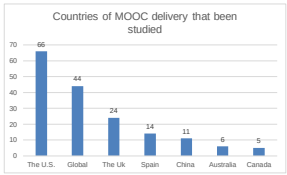
Systematic Review of Research Methods and Topics in MOOCs: Comparing 2014-2016 and 2016-2017 (Zhu, M., Sari, A., & Bonk, C. J., 2018)

Figure 8. 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 12. Countries of MOOC delivery in which the research was conducted (2014 – 2017) (n=197) (Note: this figure only includes the main countries)



Next Steps Rationale… 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)

Research Design

MOOC Study #3: MOOC Instructor Personalization and Addressing Learner Diversity

Bonk, C. J., Zhu, M., Kim, M., Xu, S., Sabir, N., & Sari, A. (in press). Pushing toward a more personalized MOOC: Exploring instructor selected activities, resources, and technologies for MOOC design and implementation. *The International Review of Research on Open and Distributed Learning* (IRRODL).

Figure 1. MOOC instructor departmental or primary discipline affiliations (n=150)

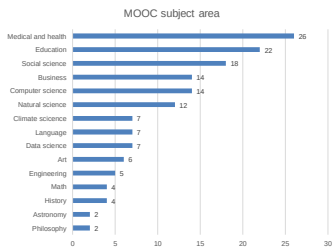


Figure 2. Size of most recent MOOC enrollments for survey respondents (n= 150)

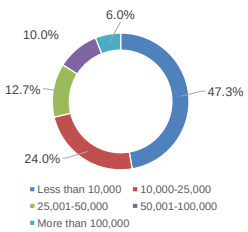


Figure 1. **MOOC instructor prior experience teaching fully online and blended courses prior to teaching their most recent MOOC (Note: on a scale of 1 (low) to 10 (high) (n= 148))**

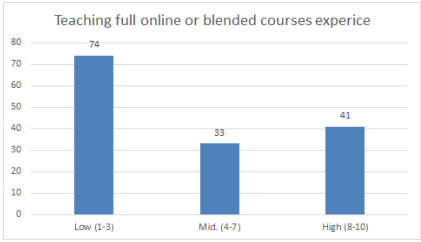


Figure 2. **MOOC instructor involvement in designing course content for the MOOC**
(Note: on a scale of 1 (low) to 10 (high) (n=152)

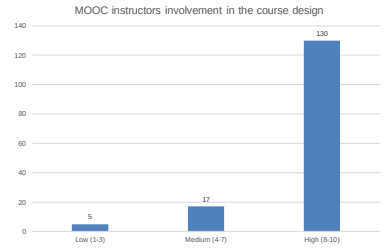


Figure 3. **Effort placed on meeting unique learner needs when designing most recent MOOC**
(Note: on a scale of 1 (low) to 10 (high) (n=144)

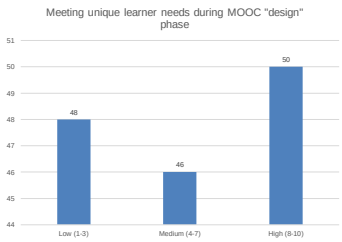


Figure 4. **Effort placed on meeting unique learner needs when delivering most recent MOOC**
(Note: on a scale of 1 (low) to 10 (high) (n=144)

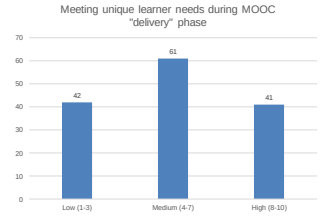


Figure 5. **Number of MOOCs that offer different types of learner feedback (n=135)**

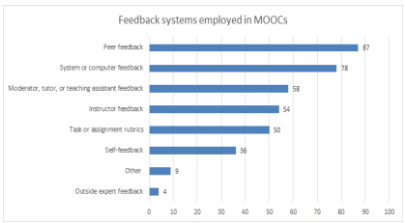


Figure 6. **Number of MOOCs that offer different types of learning system automation and adaptation (n=127)**

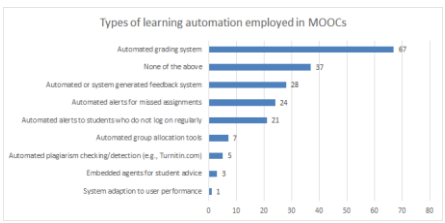


Figure 7. MOOC instructor interest in learning new ways to personalize their next MOOC offering (Note: on a scale of 1 (low) to 10 (high) (n=134)

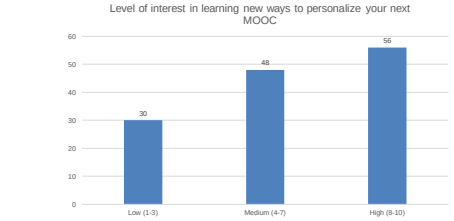


Figure 8. The perceived effort of MOOC instructors in addressing the needs of individuals from different cultural backgrounds and languages in their most recent MOOC (Note: on a scale of 1 (low) to 10 (high) (n= 141)

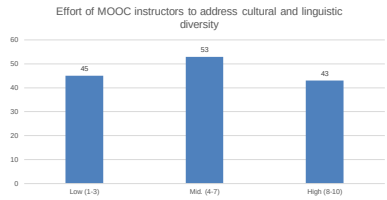


Figure 9: MOOC instructors (n=133) instructional practices to address cultural diversity

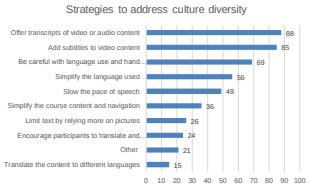


Table 1. Instructional Practices of MOOC Instructors to Address the Variety of Student Competencies and Needs (n=142)

Table 1

Instructional practices of MOOC instructors to address the variety of student competencies and needs (N=142)

Items	Response percent	Response count
Establish learner-based discussion forums	81.0%	115
Embed supplementary course materials	78.2%	111
Post timely course announcements and emails	63.4%	90
Record video tutorials or walkthroughs	40.8%	58
Emphasize project-based learning over exams	34.5%	49
Using preexisting online videos (e.g., Lynda.com, TED talks, YouTube, etc.)	32.4%	46
Other	26.1%	37
Hold synchronous lectures, meetings, and events (e.g., Skype, Google Hangouts, Zoom, etc.)	23.9%	34
Establish study groups	19.0%	27
Establish learner reflection journals or blogs	16.2%	23
Schedule virtual office hours and meetings	14.1%	20
Offer face-to-face meet-up opportunities	7.0%	10

Table 2. Instructional Practices of MOOC Instructors to Address the Variety of Student Competencies and Needs (n=142)

Table 2: Items instructors provided in their most recent MOOC (n = 126)

Items the current MOOC covered	Percent	Count
Optional readings, videos, or other materials	74.6%	94
Learner selected incentives (e.g., certificates, badges, course credit, etc., options)	64.29%	81
Options with course tasks and assignments	38.10%	48
Learner discussion and negotiation of content	36.51%	46
Two or more media elements to learn the same content	31.75%	40
Learner determined or contributed content	30.16%	38
Learner selected learning pathways (i.e., different routes to learn the same content)	19.05%	24
Learner portfolios of course accomplishments	16.67%	21
Choice in team or collaborative partners (i.e., self-formed teams)	12.70%	16

Category	Subcategory	Count
Multimedia presentation	All videos and screencasts had caption and transcriptions.	12
	Provide pdf and word versions of materials.	1
	Provide text reader/read aloud.	2
	Videos are kept to be simple and short.	2
	Have animation.	1
	Provide free textbook.	1
Optional resources	Offer supplemental or optional materials.	8
	Creating material that is acceptable for various cultures.	2
Content	Keep cultural differences in mind when designing and producing the material.	1
	Materials are designed to accommodate different learning styles.	1
	Share personal story and life to some degree by recording lessons in and around home.	1
	Following country's compliance/regulation.	1
Language	Use simple, slow, and clear language.	3
Course instruction	The material is kept in a non-expert level.	5
	Give detailed outlines of the lesson.	1
	The course work is open, everyone can choose to work individually.	1
	Provide the background and the expectation of the course.	3
Feedback	Do not comment on language or grammar when commenting on forum posts.	1
Collaboration	Work with various university divisions (e.g., international office, student support, university expert, and language department).	2
	Pilot with international students.	1
Technology accessibility	Material can be viewed on computer, tablet or smart phone.	6
	Videos and transcripts can be downloaded to be viewed later.	3
	Simple navigation.	2
	Trying to make class activities to be browser based, not too much installation.	1
	Provide materials that use low bandwidth.	1
	Creating user-directed FAQs.	1
	Materials can be access easily.	1
	Not used flash based platform.	1
	Making the multimedia interactive apps more user friendly.	1
	The course is also available on app.	1

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

Bonk, C., J., Zhu, M., & Sari, A. (2018, April 14). ***MOOC Instructor Motivations, Innovations, and Designs: Surveys, Interviews, and Course Reviews***. Paper presented at the 2018 American Educational Research Association (AERA) annual meeting, New York City, NY.

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

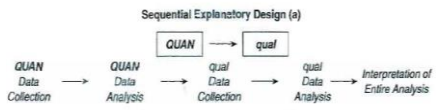
Sequential mixed methods design (Creswell & Clark, 2007)

Data Collection:

(1) surveys, (2) interviews, and (3) course reviews.

Participants:

- 143 survey participants (10% response rate)
- 12 interviewees

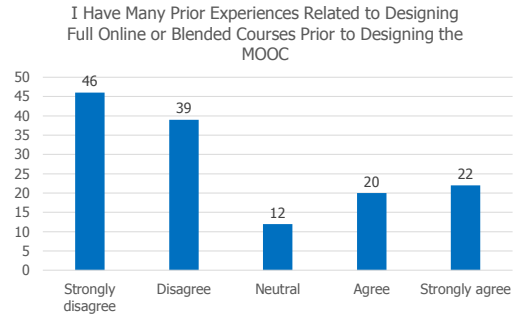


Research Methods-Data collection

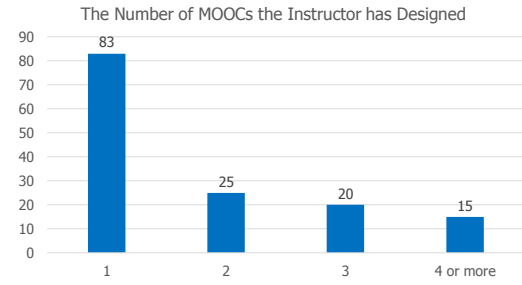
MOOC instructors interviewed

No.	Countries	Subject areas	Platforms
1.	The U.S.	Language and Literacy	Coursera
2.	The U.S.	Education	Coursera
3.	The U.S.	Education	Canvas
4.	The U.S.	Chemistry	Coursera
5.	UK	Public health	FutureLearn
6.	UK	Language and Literacy	FutureLearn
7.	Hong Kong	Math	Coursera
8.	Mainland China	Math	Coursera
9.	Canada	Psychology	Coursera
10.	Australia	Public Health	Open2Study
11.	Sweden	Computer Science	edX
12.	India	Management	edX

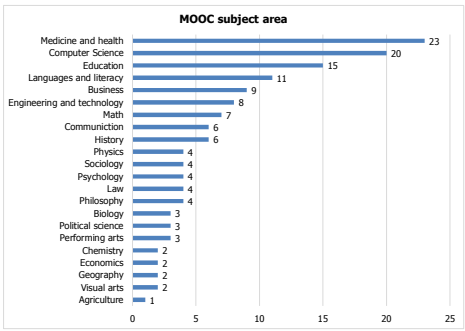
Prior Online or Blended Experience



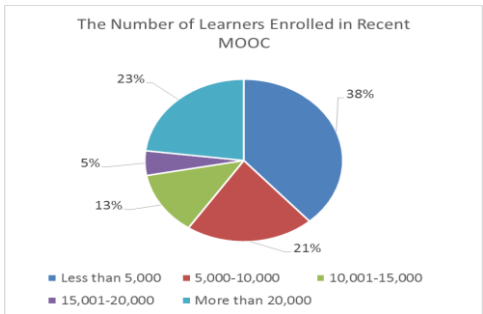
Prior MOOC Experience



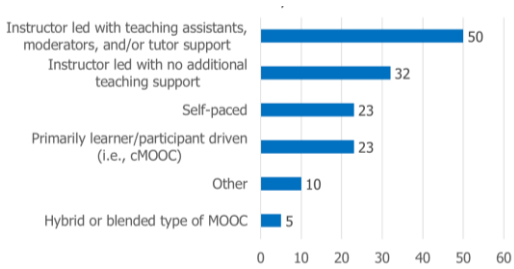
Subject Area of MOOC Taught



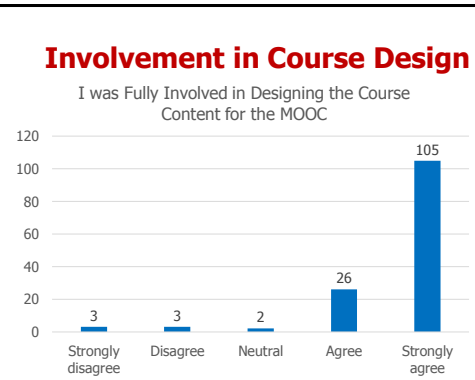
MOOC Enrollments



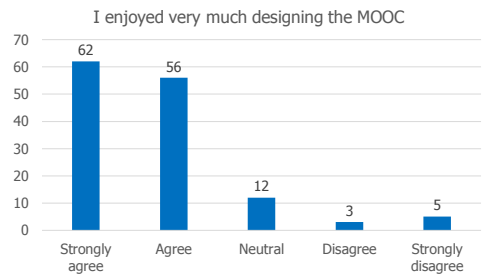
MOOC Delivery Format



Involvement in Course Design

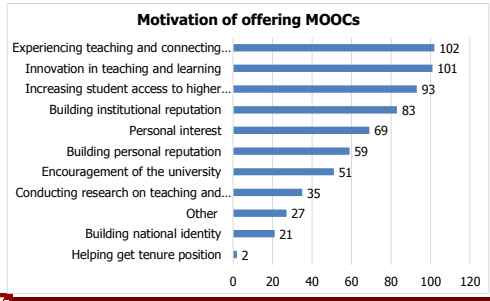


Enjoyment in Designing MOOCs



1. Motivational Findings

RQ1: What motivated instructors to offer MOOCs?



1. Motivational Findings

RQ1: What motivated instructors to offer MOOCs?

Many of them wanted to experience instructional innovation with MOOCs.

U.S.: decided to design MOOCs "just to experiment."

U.S.: "expose your university to broader world."

Sweden: "summarizes our way to teaching Computer Architecture and then I was very motivated to give a MOOC."

U.S. "The initial motivation was to make some video resources for my own students."

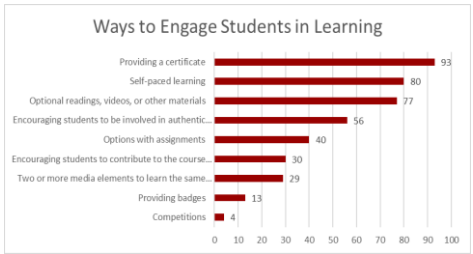
2. Innovation Findings

RQ2: What instructional innovations do MOOC instructors perceive?

- **Cutting videos into small chunks.**
- **Integrating interactive media.**
- **Peer review.**
- **Problem-based learning.**
- **Service learning.**

Engagement

***Figure 5*. Ways to engage students in learning**



Address Diverse Learner Needs

***Figure 7*. Ways used by MOOC instructors to address learner diverse needs**

3. MOOC Strengths Findings

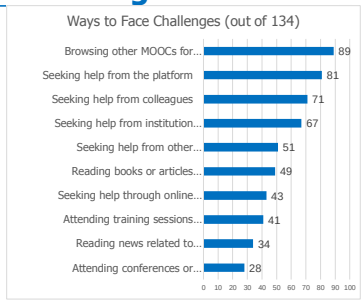
RQ3: What do instructors perceive as the strengths of their MOOCs?

- The topic of the MOOC itself.
- The pedagogical methods employed.
- The impact on participants.

Findings

RQ. How do instructors address the challenges that they perceive related to MOOCs?

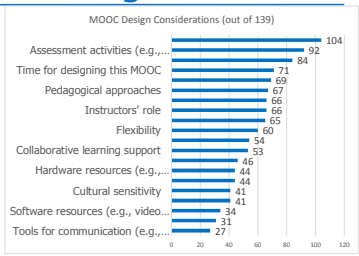
- **Explore other MOOC examples**
- **Seek help from the platform/Colleagues /institutions**



Findings

RQ. What are the design considerations of instructors when designing MOOCs?

- **Learning objectives**
- **Assessment**
- **Time for designing MOOC**
- **Engaging learners**



4. MOOC Design Findings

RQ4: How would they redesign the MOOC?

Overall, they were satisfied with the current course, especially with the structure.

One literacy instructor from the UK emphatically stated:

"Actually no. I'm quite happy with it and we've had good feedback from learners."

4. MOOC Design Findings

RQ4: How would they redesign the MOOC?

- Adjusting the difficulty of quizzes.
- Adding lab experiences.
- Adding international perspectives.
- Cancelling peer-grading.
- Increasing instructor-student and peer-to-peer interaction.
- Inviting guest speakers.
- Making the length of the MOOC shorter.
- Using learning analytics before redesigning MOOC.

4. MOOC Design Findings

RQ4: How would they redesign the MOOC?

Data from the platform

He further added:

"I probably am a much better teacher than I was before…To think about that [i.e., less interaction with students when using prerecorded video] made me a different teacher. I'm sure I'm a different teacher after that. If you want to become a better teacher, you develop a MOOC."

Study #4: Findings Recap

1. **Growth and relatedness needs were the primary instructor motivations for offering MOOCs.**

   Growth needs included curiosity about MOOCs and the exploration of new ways of teaching; such findings align well with the research from Hew and Cheung (2014).

2. **Various pedagogical innovations were mentioned by the interviewees (e.g., guests, PBL, service learning, peer review, interactive media, etc.).**

3. **MOOC instructors interviewed were satisfied with the designs of their MOOCs, but did want to make major changes to their course. (Lacking time? And overly rely on positive student feedback.)**

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.**

October 2015

Predictors of Retention and Achievement in a Massive Open Online Course

Greene, Oswald, & Pomerantz, American Educational Research Journal, *52*(5), 925-955.

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)

MOOC Study #5: Malaysian and Indonesian MOOC Instructors

Sari, A., Bonk, C., J., & Zhu, M. (2018). MOOCs Design and Challenges: What can be Learned from Existing MOOCs in Indonesia and Malaysia?

Research Questions

1. What are the instructors' reasons to offer MOOCs?

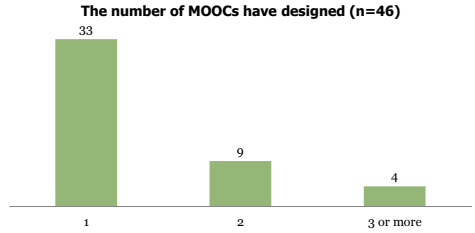
2. How do instructors design their MOOCs?

3. What challenges do instructors experience in designing their MOOC?

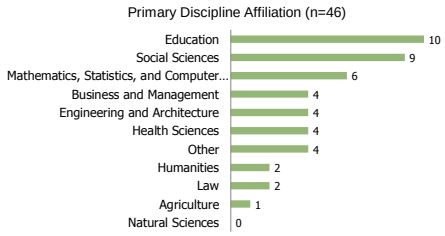
Research Methods-Data collection

- **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)**

Demographics

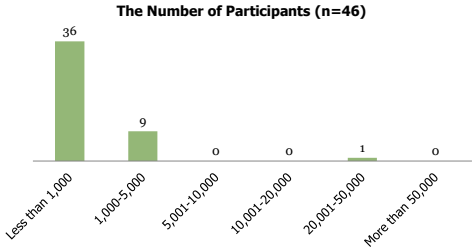


Demographics

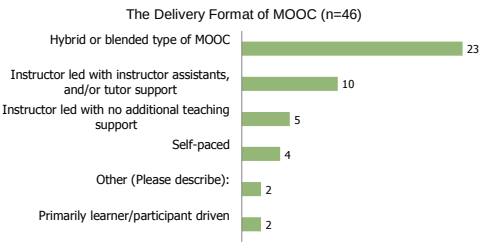


Demographics

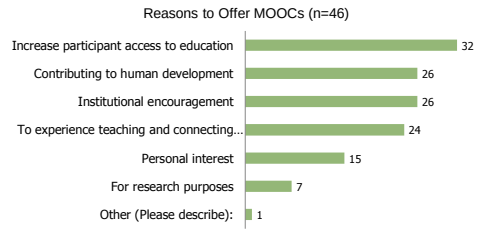
(24 used Open Learn (Malaysia); 9 used IndonesiaX, 5 used iMOOC, 5 used MOOCs Universitas Terbuka, etc.)



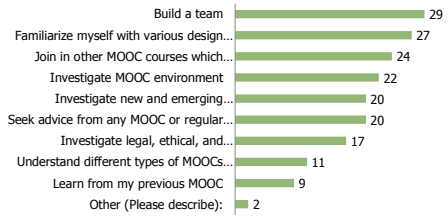
Delivery Format



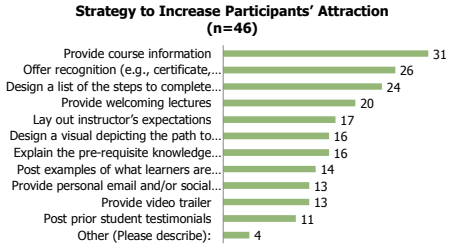
Reasons Offer MOOCs



Preparation for MOOC

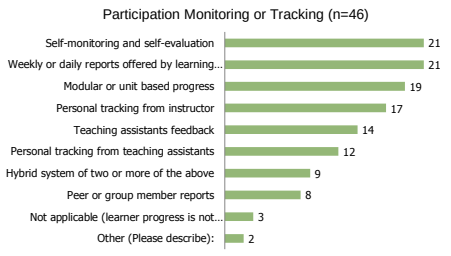


Increase Attraction

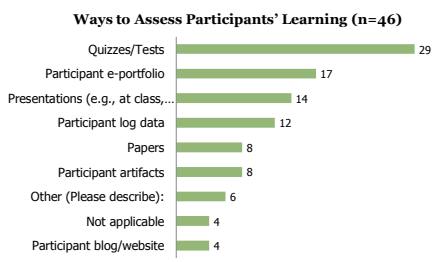


Increase Participation

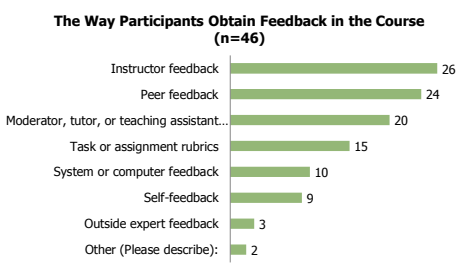
Participation Monitoring



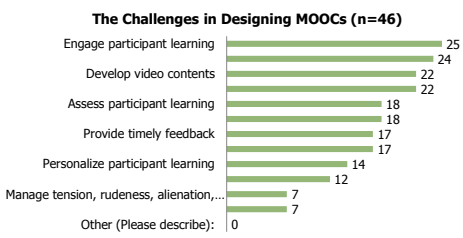
Assess Learning



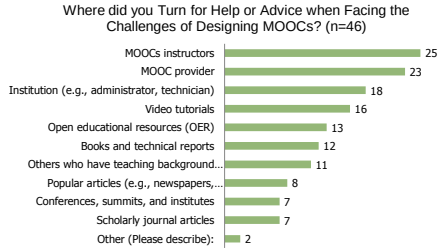
Obtain Feedback



MOOC Instructor Challenges



Help of Advice from…?



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)

Hew, K. F. (2018). Unpacking the Strategies of Ten Highly Rated MOOCs: Implications for Engaging Students in Large Online Courses. *Teachers College Record, 120*(1).

https://www.coursetalk.com/

Hew's (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.**

Study #6: May 16, 2018

Instructional Explanations in MOOC Videos (studio and classroom)

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Slides and Proceedings Paper at TrainingShare.com:

http://www.trainingshare.com (go to "Archived Talks")

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