Slide 1

On the Road Toward Fostering Greater Self-Directed Learning in MOOCs: Research Toward Better Design Practices

Curtis J. Bonk| cjbonk@Indiana.edu
Indiana University Bloomington

Meina Zhu| meinazhu@wayne.edu
Wayne State University
September 18, 2020

1

Slide 2

Talk Outline

1. MOOC News and Trends.
2. Study #1: MOOC ID Considerations and Challenges.
3. Study #2: MOOC ID for Self-Directed Learning.
4. 20 SDL guidelines for MOOCs.

March 15th - May 15th, 2020

CLASS CENTRAL

2

2

Slide 3

Polls

Poll #1: Who in here has taken a MOOC?

Poll #2: Are you happy when you take a MOOC?

3

3

Slide 4

April 29, 2020
Zoom Boom

Synchronous instruction is trending, but experts say a more intentional mix of live and asynchronous classwork is necessary for future remote terms.
Colleen Flaherty, Inside Higher Ed
https://www.insidehighered.com/news/2020/04/29/synchronous-instruction-hot-right-now-it-sustainable
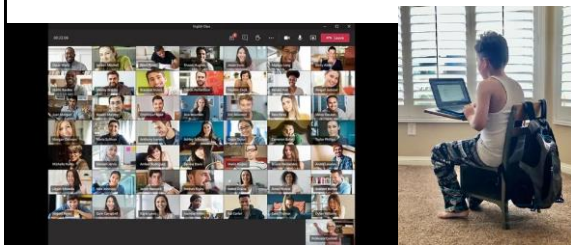
4

Slide 5

August 26, 2020
Zoom, Microsoft and Apple take on remote learning challenges as kids head back to school
Dalvin Brown, USA Today
https://www.usatoday.com/story/tech/2020/08/26/zoom-google-apple-tech-firms-meet-remote-learning-needs-school-starts/5598975002/
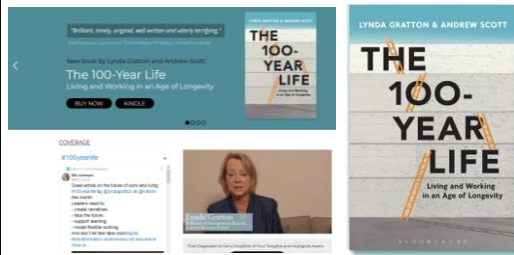
5

Slide 6

MOOC Trends and Recent Data

6

July 24, 2018
The 100-Year Life: Living and Working in an Age of Longevity
Lynda Gratton and Andrew Scott
http://www.100yearlife.com/
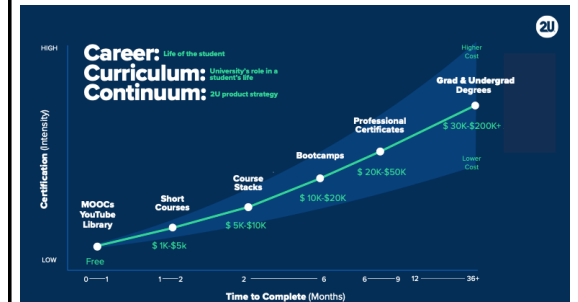https://www.amazon.com/100-Year-Life-Living-Working-Longevity/dp/1543624634

7

March 13, 2019
The Career Curriculum Continuum
Andrew Hermalyn, Inside Higher Ed
https://www.insidehighered.com/digital-learning/views/2019/03/13/how-universities-can-stay-center-learners-lives-opinion

8

August 27, 2020
Alternative Credentials on the Rise
Paul Fain, Inside Higher Ed
https://www.insidehighered.com/news/2020/08/27/interest-spikes-short-term-online-credentials-will-it-be-sustained

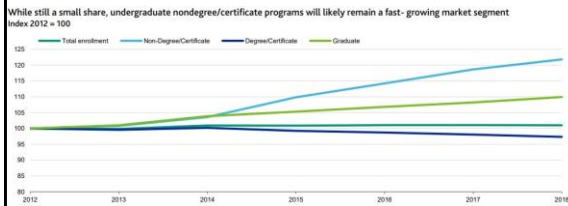Sources: Moody's, U.S. Department of Education

9

August 27, 2020
Alternative Credentials on the Rise
Paul Fain, Inside Higher Ed
https://www.insidehighered.com/news/2020/08/27/interest-spikes-short-term-online-credentials-will-it-be-sustained
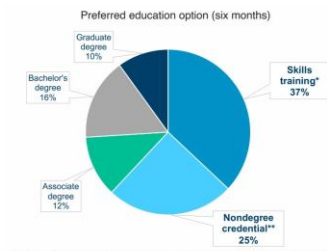
10

Professional Certificates
October 3, 2019
Google IT Professional Certificates
Coursera Blog
https://grow.google/programs/it-support/?cid=wc&source=ams&sourceId=61203
Video: Melinda Williams: Aspiring IT Support Specialist (2:57)
https://www.youtube.com/watch?time_continue=107&v=fvhPKZWbfms&feature=emb_logo
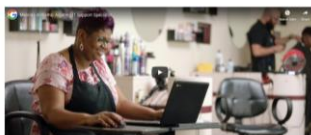
11

Hundred+ MOOC Clubs
September 11, 2019
250 MOOCs and Counting: One Man's Educational Journey, Chronicle of Higher Education
http://chronicle.com/article/250-MOOCsCounting-One/229397/?cid=at
If the MOOC movement has faded, nobody told Jima Ngei. Mr. Ngei, who lives in Port Harcourt, Nigeria, has completed and passed 250.
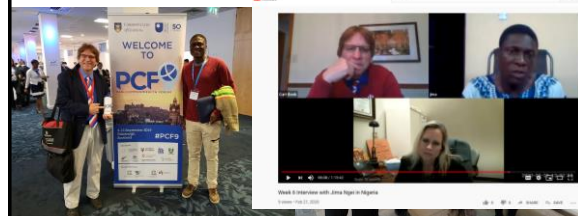
12

June 8, 2019
The second half of humanity is joining the internet:
They will change it, and it will change them
The Economist
https://www.economist.com/leaders/2019/06/08/the-second-half-of-humanity-is-joining-the-internet

The second half of humanity is joining the internet
They will change it, and it will change them

13

December 16, 2019
2020 Impact Report, edX
https://www.edx.org/sites/default/files/2020-impact-report.pdf

14

MOOCs Stats

December 17, 2019
Online Degrees Slowdown: A Review of MOOC Stats and Trends in 2019, Dhawal Shah, Class Central
https://www.classcentral.com/report/moocs-stats-and-trends-2019/
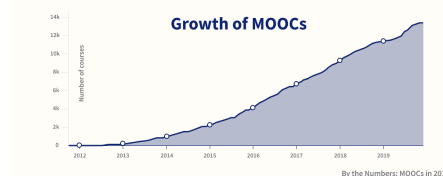
15

15

MOOCs Stats

December 17, 2019
A Review of MOOC Stats and Trends in 2019 Dhawal Shah, Class Central
https://www.classcentral.com/report/moocs-stats-and-trends-2019/

CLASS CENTRAL

Growth of MOOCs

By the Numbers: MOOCs in 2019
Statistics do not include China

16

16

MOOCs Stats

December 17, 2019
A Review of MOOC Stats and Trends in 2019
Dhawal Shah, Class Central
https://www.classcentral.com/report/moocs-stats-and-trends-2019/

CLASS CENTRAL

👤 **110M** Students   🏛 **900+** Universities

🖥 **13.5k** Courses   ▤ **820** Microcredentials   ▤ **50** MOOC-based degrees

By the Numbers: MOOCs in 2019
Statistics do not include China

17

17

MOOCs Stats

December 17, 2019
A Review of MOOC Stats and Trends in 2019
Dhawal Shah, Class Central
https://www.classcentral.com/report/moocs-stats-and-trends-2019/

Here's how the top-5 MOOC providers currently look in terms of users and offerings:

	Learners	Courses	Microcredentials	Degrees
Coursera	45 million	3,800	420	16
edX	24 million	2,640	292	10
Udacity	11.5 million	200	40	1
FutureLearn [2,4]	10 million	880	49	23
Swayam [2,3]	10 million	1,000	0	0

That is why I called the rise of online degrees the second wave of MOOC hype and 2019, the year of MOOC-based degrees.

	2017	2018	2019
Coursera	4	11	16
edX	1	9	10
FutureLearn	4	18	23
Udacity	1	1	1
Total	10	39 (+29)	50 (+11)

But in 2019, the hype seems to have subsided: only 11 online degrees were announced this year. The total number of MOOC-based degrees has now grown to 50.

18

18

3

April 30, 2020
New Udemy Report Shows Surge in Global Online Education in Response to COVID-19
Businesswire
https://www.businesswire.com/news/home/20200430005243/en/

Categories with the highest surge in new courses include Office Productivity (159% increase), Health and Fitness (84%), IT & Software (77%), and Personal Development (61%).

19

April 30, 2020
New Udemy Report Shows Surge in Global Online Education in Response to COVID-19
There has been an immense surge in enrollments in courses related to Telecommuting (21,598% increase) and Virtual Teams (1,523%), as well as Decision Making (277%), Self Discipline (237%), and Stress Management (235%).

Highest Enrollment Surges by Country Since Shelter in Place

20

May 26, 2020
Remember the MOOCs?
After Near-Death, They're Booming
Steven Lohr, The New York Times
https://www.nytimes.com/2020/05/26/technology/moocs-online-learning.html

Remember the MOOCs? After Near-Death,
They're Booming

Coursera added 10 million new users from mid-March to mid-May. Credit...Jessica Chou for The New York Times

21

MOOCs Stats

Increased demand to learn on Coursera

Coursera new user enrollments
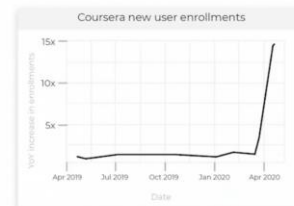
Since mid-March...

35 million total enrollments

16 million new registered learners

Source: Coursera data, March through July 2020

coursera

22

August 9, 2020
250 Universities Just Launched 900 Free Online Courses. Here's the Full List.
Dhawal Shah, Class Central
https://www.classcentral.com/report/most-cited-mooc-research/
In the past nine years or so, over 900 universities have created around 15,000 MOOCs. I've been keeping track of these online courses the entire time here at Class Central, a search engine and reviews site for online education which has been used by 40 million learners around the world.

250 Universities Just Launched 900 Free Online Courses. Here's the Full List.

20 Most Popular Online Courses Starting in August
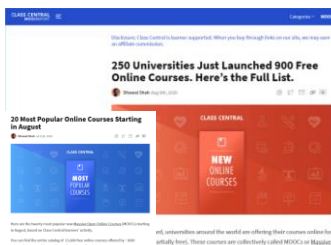
23

MOOCs Stats

August 16, 2020
New Registered Learners
Dhawal Shah, Class Central
https://www.classcentral.com/report/mooc-stats-pandemic/

New Registered Users	2019	2020	Total
coursera	8M	20M	65M
edX	5M	8M	32M
Future Learn	1.3M	4M	13.5M
CLASS CENTRAL	350k	700k	2.2M

24

4

MOOCs Stats

August 16, 2020
By the Numbers: MOOCs During the Pandemic
Dhawal Shah, Class Central
https://www.classcentral.com/report/mooc-stats-pandemic/

25

MOOCs Stats

August 16, 2020
By the Numbers: MOOCs During the Pandemic
Dhawal Shah, Class Central
https://www.classcentral.com/report/mooc-stats-pandemic/

26

MOOCs book #3 (2020)

MOOCS AND OPEN EDUCATION IN THE GLOBAL SOUTH
Challenges, Successes, and Opportunities

EDITED BY
KE ZHANG, CURTIS J. BONK, THOMAS C. REEVES, AND THOMAS H. REYNOLDS

27

November 9, 2019
Chapter 9: Nepali High School Students in MOOCs
Baman Kumar Ghimire
Teacher, Motherland Secondary School, Pokhara

28

November 26, 2019
Chapter 14. Capacity Building of Teachers: A Case Study of the Technology-Enabled Learning (TEL) Massive Open Online Courses
Sanjaya Mishra, Martha Cleveland-Innes, and Nathaniel Ostashewski

Week 1: Models of Technology-Enabled Learning
1.1: Community of Inquiry
1.2: Two Models: TPACK and TIM
1.3: On Teaching Presence

Week 2: Technology in Education
2.1: Integrating Technology in Education
2.2: Benefits of Technology in Education

Week 3: Open Educational Resources
3.1: Understanding OER
3.2: Types of Open Licenses
3.3: Finding Open Educational Resources

Week 4: Application of Technology
4.1: Practical Application of Technology
4.2: Getting Help with Technology

Week 5: Creating Technology-Enabled Learning
5.1: Creating Technology-Enabled Learning

FIGURE 14.2 Weekly course content of TEL MOOC.

29

November 26, 2019
Chapter 16: Courses for a Cause:
MOOC Contributions to a "Better Place for All"
(Marianne Krasny et al., 2020)

30

5

November 26, 2019
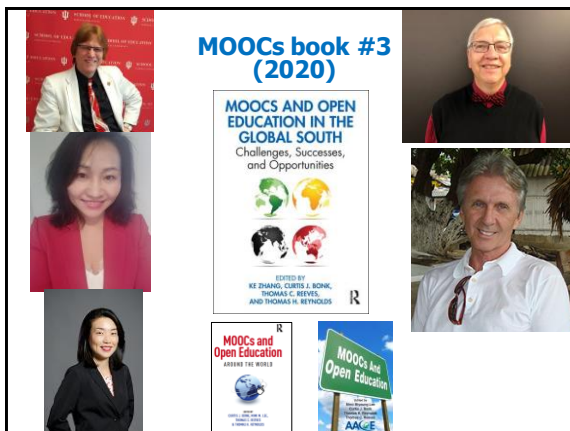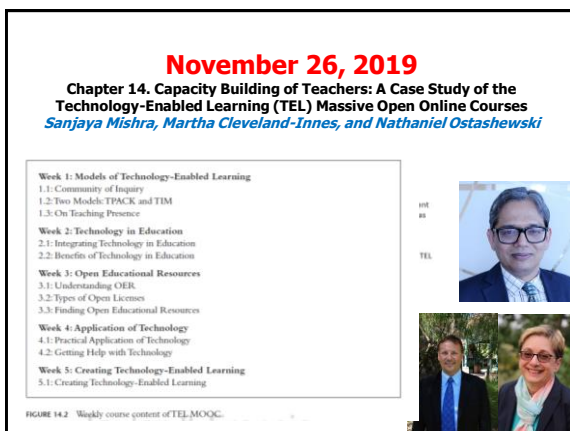**Chapter 25. Responsive Innovations in MOOCs for Development: A Case Study of AgMOOCs in India 300**
Balaji Venkataraman and Tadinada V. Prabhakar
(agMOOCs in India)
http://www.agmoocs.in/

31

Study #1 MOOCs Design Considerations and Challenges

Zhu, M., Bonk, C. J., & Sari, A. (2018). Instructor experiences designing MOOCs in higher education: Pedagogical, resource, and logistical considerations and challenges. *Online Learning*, *22*(4), 203-241.

32

Research Background

- **MOOCs can be beneficial to both learners and instructors** (Hew & Cheung, 2014).
- **Instructional design is critical for online learning** (Johnson & Aragon, 2003; Phipps & Merisotis, 1999).
- **Instructors are one of the five main components of MOOCs** (Kop, 2011).
- **Few studies have examined instructional design from MOOC instructors' perspectives** (Margaryan et al., 2015; Watson et al., 2016).

33

33

Research Purpose

The purpose of this study is to provide suggestions for future MOOC instructors and instructional designers in higher education through exploring MOOC design considerations and challenges from the instructor's perspective.

34

34

Research Questions

1. **What are the design considerations of instructors when designing MOOCs?**
2. **What challenges do instructors perceive when designing MOOCs?**
3. **How do instructors address the challenges that they perceive related to MOOCs?**

35

35

Research Design

- **Sequential mixed methods design (Creswell & Clark, 2017)**

Quan Data Collection → Quan Data Analysis → Qual Data Collection → Qual Data Analysis → Interpretation of Entire Analysis
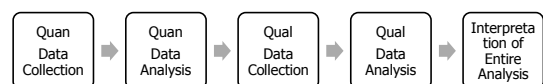
36

36

Data Collection

- **Data Collection:**
  - ○ **Survey, interview, and course review**
- **Participants:**
  - ○ **143 survey participants (10% response rate)**
  - ○ **12 interviewees**

37

37

12 Interviewees

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	Medicine and Health	FutureLearn
6.	UK	Language and Literacy	FutureLearn
7.	Hong Kong (China)	Math	Coursera
8.	Mainland China	Math	Coursera
9.	Canada	Psychology	Coursera
10.	Australia	Medicine and Health	Open2Study
11.	Sweden	Computer Science	edX
12.	India	Management	edX

38

38

Data Analysis

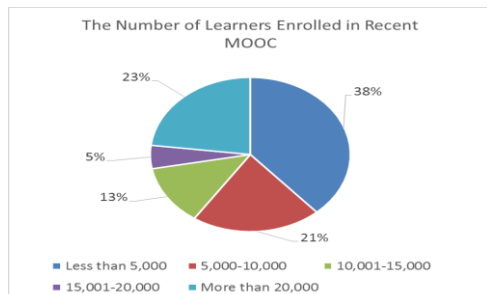| RQs	Data Sources	Data analysis
RQ1	Survey-multiple-choice questions	Descriptive statistics
	Survey-open-ended questions	Content analysis (Elo & Kyngäs, 2008)
	Interview	Content analysis
	MOOC review	Content analysis
RQ2	Survey-multiple-choice questions	Descriptive statistics
	Survey-open-ended questions	Content analysis
	Interview	Content analysis
RQ3	Survey-multiple-choice questions	Descriptive statistics
	Interview	Content analysis

39

39

Research Context

The Number of MOOCs the Instructor has Designed

1	2	3	4 or more
83	25	20	15

40

40

Research Context

The Number of Learners Enrolled in Recent MOOC

- ■ Less than 5,000 — 38%
- ■ 5,000-10,000 — 21%
- ■ 10,001-15,000 — 13%
- ■ 15,001-20,000 — 5%
- ■ More than 20,000 — 23%
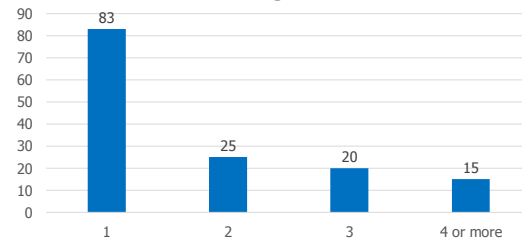
41

41

Findings RQ1

RQ #1. What are the design considerations of instructors when designing MOOCs?

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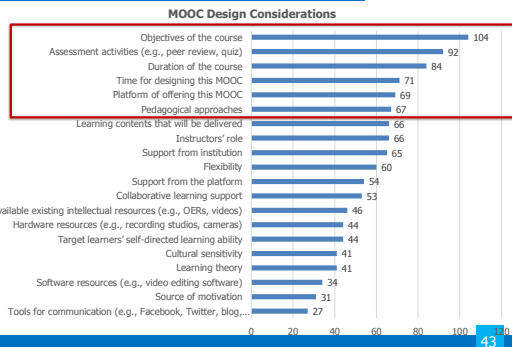- Engaging learners

An example of learning objectives:

42

42

7

RQ1 Survey Results

MOOC Design Considerations

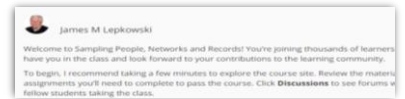| Consideration	Value
Objectives of the course	104
Assessment activities (e.g., peer review, quiz)	92
Duration of the course	84
Time for designing this MOOC	71
Platform of offering this MOOC	69
Pedagogical approaches	67
Learning contents that will be delivered	66
Instructors' role	66
Support from institution	65
Flexibility	60
Support from the platform	54
Collaborative learning support	53
Available existing intellectual resources (e.g., OERs, videos)	46
Hardware resources (e.g., recording studios, cameras)	44
Target learners' self-directed learning ability	44
Cultural sensitivity	41
Learning theory	41
Software resources (e.g., video editing software)	34
Source of motivation	31
Tools for communication (e.g., Facebook, Twitter, blog,...	27

43

43

RQ1 Interview Results

Engage learners

One instructor from US mentioned:

"I engaged people in the forum. So **each week I would write a message that would be the new welcome page for the week** that would say, 'hey come to the forum and ask questions about this or come to the forum introduce yourself'... Of course, I tried to get students to feel like **I was engaged with them during the videos by asking them questions** and telling them to do things during the video."
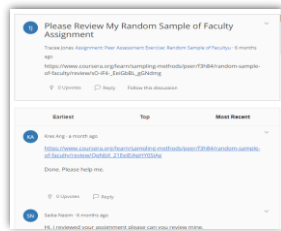
Jamles M Lepkowski

Welcome to Sampling People, Networks and Records! You're joining thousands of learners have you in the class and look forward to your contributions to the learning community.

To begin, I recommend taking a few minutes to explore the course site. Review the material assignments you'll need to complete to pass the course. Click **Discussions** to see forums w fellow students taking the class.

44

44

Findings RQ2

RQ #2. What challenges do instructors perceive when designing MOOCs?

- Assessment methods
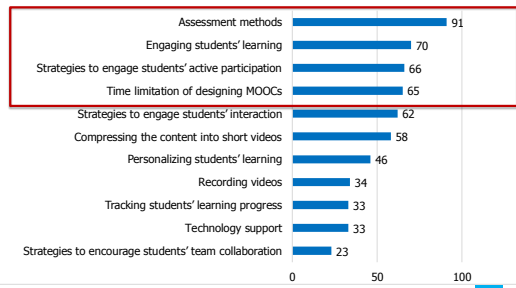- Engaging students' learning
- Time limitation

Please Review My Random Sample of Faculty Assignment

Tracee Jones Assignment: Peer Assessment Exercise: Random Sample of Facultyu · 8 months ago

https://www.coursera.org/learn/sampling-methods/peer/f3h84/random-sample-of-faculty/review/sO-IF6_1eiGIdBL_gSAtmg

👍 0 Upvotes   💬 Reply   Follow the discussion

Earliest | Top | Most Recent

Kree Ang· a month ago

https://www.coursera.org/learn/sampling-methods/peer/f3h84/random-sample-of-faculty/review/DqN6it_2!Ez6VAvtYII5s4w

Done. Please help me.

👍 0 Upvotes   💬 Reply

Sadia Nazim · 8 months ago

Hi, I reviewed your assessment please can you review mine.

(Note: Above is an example of peer-assessment.)

45

45

RQ2 Survey Results

Design challenges faced by the MOOC instructors

Challenge	Value
Assessment methods	91
Engaging students' learning	70
Strategies to engage students' active participation	66
Time limitation of designing MOOCs	65
Strategies to engage students' interaction	62
Compressing the content into short videos	58
Personalizing students' learning	46
Recording videos	34
Tracking students' learning progress	33
Technology support	33
Strategies to encourage students' team collaboration	23

46

46

RQ2 Interview Results

Time limitation

One instructor from education subject mentioned:

"I think one of the challenges is time. It does take a lot of time to get the videos done. **I did not get a course release when I was doing, and it was a side project at the same time as my regular load.**"
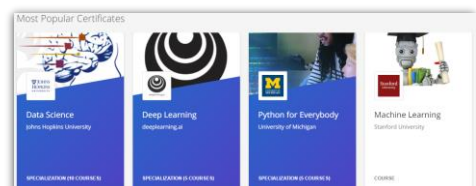
47

47

Findings RQ3

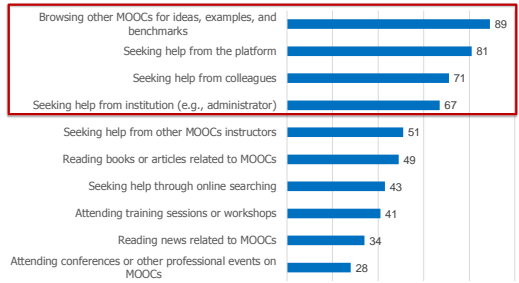**RQ #3. How do instructors address the challenges that they perceive related to MOOCs?**

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

Most Popular Certificates

Data Science — Johns Hopkins University — SPECIALIZATION (10 COURSES)

Deep Learning — deeplearning.ai — SPECIALIZATION (5 COURSES)

Python for Everybody — University of Michigan — SPECIALIZATION (5 COURSES)

Machine Learning — Stanford University — COURSE

48

48

RQ3 Survey Results

Ways to Address Challenges

Browsing other MOOCs for ideas, examples, and benchmarks	89
Seeking help from the platform	81
Seeking help from colleagues	71
Seeking help from institution (e.g., administrator)	67
Seeking help from other MOOCs instructors	51
Reading books or articles related to MOOCs	49
Seeking help through online searching	43
Attending training sessions or workshops	41
Reading news related to MOOCs	34
Attending conferences or other professional events on MOOCs	28

49

RQ3 Interview Results

Explore other MOOC examples

One MOOC instructor from the US mentioned:

"**When I started making the MOOC, I could see MOOCs that other people had made.** So I could see what other people did in terms of having videos with questions embedded in the videos, which I really liked."

50

Discussion

- The **time limitation** of creating MOOCs was the primary logistical consideration (Hew & Chung, 2014; Watson et al., 2016) and challenges.
- The **pedagogical factors** were the primary design considerations (Watson et al., 2016) and challenges in MOOC design.
- The **assessment and engagement strategies** are the main considerations as well as challenges.

51

Study #2
MOOCs Instructional Design to Facilitate Participants' Self-directed Learning

Zhu, M., & Bonk, C. J. (2019). Designing MOOCs to facilitate participant self-monitoring for self-directed learning. *Online Learning, 23*(4), 106-134

Zhu, M., & Bonk, C. J. (2019). Designing MOOCs to facilitate participant self-directed learning: An analysis of instructor perspectives and practices. *International Journal of Self-Directed Learning, 16*(2), 39-60.

52

Key Terms

Self-directed learning (SDL) (Garrison, 1997)

(1) self-management

(2) self-monitoring

(3) motivation

GARRISON'S DIMENSIONS OF SDL
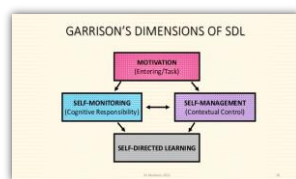
53

Research Background

- **Learners need self-directed learning skills and strategies to be successful in MOOCs** (Halawa, Greene, & Mitchell, 2014; Littlejohn & Milligan, 2016), as there is a lack of personalized interaction with teachers.

- **Self-directness of a learner might vary in different learning environments which means that the learners could be more self-directed in one learning environment than another** (Hiemstra, 1994).

54

Research Background

- **Instructional design can greatly influence students' interaction and engagement** (Garrison & Cleveland-Innes, 2005) **and success in online learning** (Song, Singleton, Hill, & Koh, 2004; Swan, 2001).
- However, few studies have examined instructional design and the delivery of instruction using MOOCs from instructor perspectives (Margaryan et al., 2015; Watson et al., 2016); **especially lacking is research on instructors' perception of SDL and how they design MOOCs to facilitate students' SDL.**

55

55

Research Purpose

- **The purpose is to inform instructors or instructional designers and MOOC providers of the current practices of designing MOOCs to facilitate learners' SDL.**
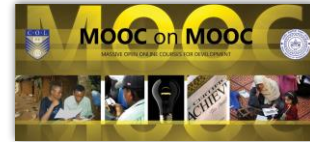
56

56

Research Questions

1. **How do MOOC instructors perceive participant SDL skills?**
2. **How do MOOC instructors perceive their facilitation of participant SDL skills?**
3. **How do instructors design and deliver MOOCs to facilitate participant SDL skills?**
   a. How is technology being used by MOOC instructors to support the development of participant SDL skills?
   b. What technology features or functions do MOOC instructors want to have to improve their facilitation of MOOC participant SDL skills?

57

57

Research Design

Explanatory sequential mixed methods design

(Creswell & Clark, 2017)

Pilot interview with 4 instructors → Pilot survey with 48 instructors → Survey 198 instructors → Review 22 MOOCs of interviewees → Interview 22 instructors → Review 22 MOOCs of interviewees

58

58

Data Collections

Survey:
- Volunteer sampling (Creswell & Clark, 2017)
- 198 instructors responded to the survey (10% response rate)

Interview:
- Homogeneous purposeful sampling (Creswell & Clark, 2017; Patton, 2002)
- Maximal variation sampling (Creswell & Clark, 2017)
- 22 interviewees

MOOC review:
- Reviewed 22 interviewees' MOOCs

59

59

Pseudonym	Country	Subject area	Platform	Gender	No. of O/B	No. of M	Mode of the M
Lucas	US	Social science	edX	M	0	1	I without T
Branden	US	Education	Udacity	M	0	5 or more	Self-paced
Logan	US	Literacy and Language	Coursera	M	5 or more	5 or more	I with T
Emma	US	Literacy and Language	Coursera	F	2	1	Self-paced
Jason	US	Science	edX	M	1	1	I without T
Jackson	US	Medicine and health	Coursera	M	5 or more	1	Self-paced
Samuel	US	Education	FutureLearn	M	4	3	Self-paced
Hannah	US	Education	Blackboard	F	5 or more	1	I with T
Ashley	US	Education	EdX	F	0	5 or more	I with T
Andrew	UK	Art	FutureLearn	M	0	3	I with T
Emily	UK	Medicine and health	FutureLearn	F	2	2	I with T
Aiden	UK	Social science	FutureLearn	M	0	1	Self-paced
Henry	UK	Social science	FutureLearn	M	0	1	Self-paced
Joseph	UK	Medicine and health	FutureLearn	M	1	1	Self-paced
Joshua	UK	Literacy and language	FutureLearn	M	2	2	I with T
Mason	Australia	Education	Coursera	M	5 or more	1	I with T
Ethan	Australia	Business	Coursera	M	3	1	I without T
Ben	Australia	Social science	edX	M	1	1	I with T
Paul	France	Computer Science	Coursera	M	1	1	I with T
Femando	Belgium	Research methods	Blackboard	M	5 or more	3	I with T
Jacob	Netherland	Science	Coursera	M	0	1	I with T
Dylan	Israel	Science	Coursera	M	5 or more	3	I without T

60

Data Analysis

RQs	Data Sources	Data analysis	Tools
RQ1	Survey	Descriptive statistics	SPSS
	Interview	Content analysis (Elo & Kyngäs, 2008)	NVivo
RQ2	Survey	Descriptive statistics	SPSS
	Interview	Content analysis	NVivo
RQ3	Interview	Content analysis	NVivo
	Course review	Content analysis	NVivo

61

61

Research Context

MOOC Subject Areas

- Social Science — 45
- Medicine and Health — 27
- Language and Literacy — 24
- Business and Management — 22
- Art and Humanity — 14
- Physical Science — 13
- Data Science — 12
- Computer Science — 12
- Biology — 10
- Math — 9
- Engineering — 5
- N/A — 5
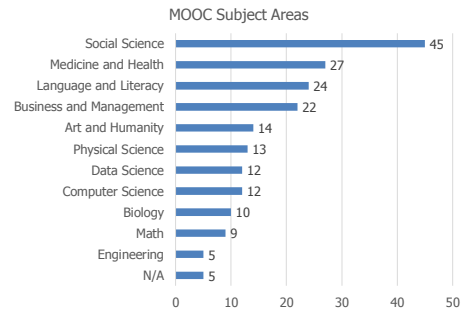
62

62

RQ1 Perceptions of SDL

- A majority of the MOOC instructors thought that these skills or attributes are not static, and that SDL as a set of skills can be educated or students' personal attributes that can be changed.

MOOC Instructors' Perceptions of SDL

- SDL is a set of skills that can be educated — 112
- SDL is related to students' personal attributes that can be changed — 64
- Other (please describe) — 20
- SDL is related to students' learning personal attributes that can never be… — 2
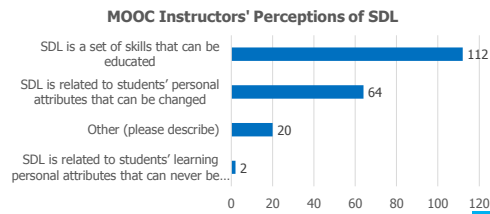
63

63

RQ1 Interview Results

- Emma's understanding of SDL is more related to self-management and motivation. She said:

  "When I think about self-directed learning, I think about students **managing their time and managing the coursework on their own, and how it fits into their schedules and their lives, how they interact with materials**, what's going to keep them engaged."

64

64

RQ2 Perceptions of Facilitation of SDL

- **Most of MOOC instructors thought that they can intentionally or unintentionally facilitate students' SDL.**

Participants' Perceptions of Their Role in Facilitating Students' SDL

- Instructors can intentionally create a learning environment to help… — 171
- Other (please describe) — 14
- Instructors can unintentionally create a learning environment that… — 13
- Instructors can do nothing for students' SDL skills. — 0
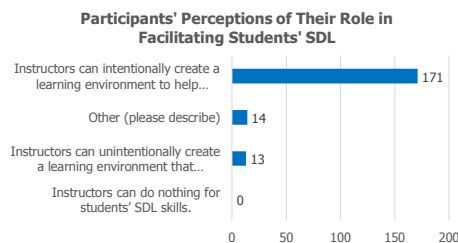
65

65

RQ2 Interview Results

- **Ashely emphasized the importance of both instructors' facilitation and students' SDL skills. She said:**

  "The participant has a lot of flexibility on how they approach the content. I mean, obviously, we have things like assignments. We have things like online forums. And there're ways that we scaffold the learning experience. But there still is a lot of choice for the learner."

66

66

RQ3 Strategies to Facilitate SDL

- **Students' intrinsic motivation plays an important role. However, extrinsic motivation provided by the MOOCs might help transfer extrinsic motivation to intrinsic motivation.**

Motivations	Strategies
Entering motivation	MOOC instructors helped students **identify the needs and goals of learning** and sense of achievement.
Task motivation	MOOC instructors motivated students through instruction, learning materials, feedback, and learning community.

67

67

RQ3 Learning Community

Putting yourself on the map (External resource)

68

68

RQ3 Strategies to Facilitate SDL

- **Both internal feedback and external feedback were provided to help students' self-monitoring.**

Self-monitor		Strategies
Internal feedback	Cognition	MOOC instructors provided quizzes for self-assessment, tutorial on technology use, learning advice, navigation of the course, progress indicators, resources, and instructional modeling, etc.
	Meta-cog	MOOC instructors encouraged students to reflect and think critically by providing reflection questions and building learning community.
External feedback		MOOC instructors, teaching assistants, and peers were involved in providing external feedback.

69

69

RQ3 Self-assessment (i.e., embedded quizzes)

70

70

RQ3 Progress Indicators
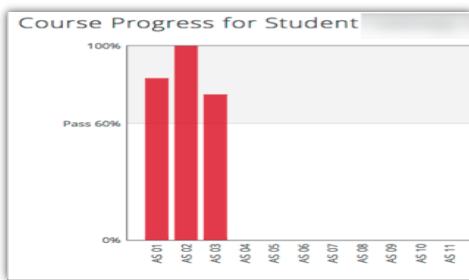
71

71

RQ3 External Feedback: Peer-assessment (e.g., 3 peers assigned to review each assignment)

72

72

RQ3 Strategies to Facilitate SDL

- **They helped students' self-management concerning setting learning goals, time management, resources and support management although among the three elements of SDL, MOOC instructors had less control over students' management.**

Self-management	Strategies
Enactment of learning goals	Providing discussion questions, reflections, survey, and appreciation students' learning goals.
Time management	Providing time frame, progress indicator, short learning units, and flexible timeline.
Management of resources and support	Providing flexible learning resources, peer-assessment, accessibilities, clear expectations, and short learning units.

73

73

RQ3 Time Management (e.g., time advisories and estimates)
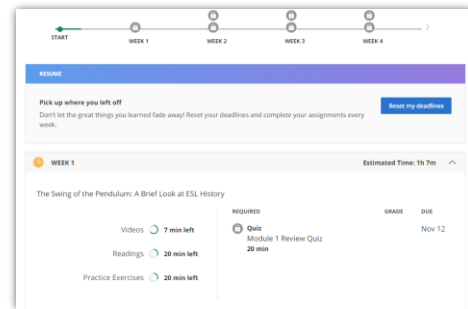
74

74

RQ3-a. Tech Used for SDL

- **Synchronous communication technologies**
  - o Google Hangouts   YouTube Live

- **Asynchronous communication technologies**
  - o Discussion forum   Blog   Slackbot   Flickr
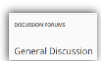
- **Multimedia** (e.g., video and graphics)
- **Feedback technologies**

75

75

Discussion

- **SDL can be Changed**
- **MOOC Instructors can Facilitate SDL**
- **Strategies to Facilitate SDL**: A variety of strategies can be used to facilitate student SDL skills in terms of motivation, self-monitor, and self-management.
- **Tech for SDL:** Tech plays a vital role in facilitating SDL skills.
- **Tech expectations:** Adaptive learning systems, artificial intelligent systems, and learning analytics were expected to have to support SDL.

76

76

Implications

- **For MOOC instructors and Instructional Designers**
  - o Build learning community
  - o Inspire intrinsic motivation
  - o Personalize learning
- **For MOOC providers**
  - o Create a personalized learning environment
  - o Provide learning analytics to support learning and teaching

77

77

Top 10 Strategies to Facilitate SDL in MOOCs

1. Helping students set their own learning goals.
2. Building learning community.
3. Offering immediate feedback.
4. Embedding quizzes for self-assessment.
5. Providing progress indicators.
6. Providing reflection questions.
7. Designing short learning units.
8. Providing flexible timelines.
9. Highlighting estimated time frames.
10. Making available optional learning materials.
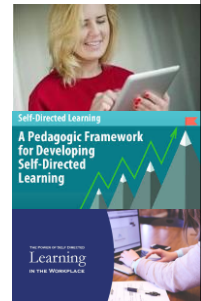
78

78

13

Top 10 Strategies to Facilitate SDL in MOOCs

1. Helping students set their own learning goals.

Example:

"I have asked, at the first page of course, why they're taking the course. So that is the goal. A lot of people say, 'I'm a teacher. And I want to do the stuff with my kids. Or I want to update my knowledge. Or I'm retired and I want to learn this.'"

79

79

Top 10 Strategies to Facilitate SDL in MOOCs

2. Building learning community.

Joshua from the UK mentioned: We use a lot of resources that already exist. And then we use the MOOC discussion board as a place to where they, kind of, point out and say, "I've seen this. And this is useful. Well, I use this, and this is good. I created this."

80

80

Top 10 Strategies to Facilitate SDL in MOOCs

3. Offering immediate feedback.

4. Embedding quizzes for self-assessment.
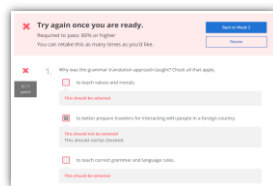
81

81

Top 10 Strategies to Facilitate SDL in MOOCs

5. Providing progress indicators
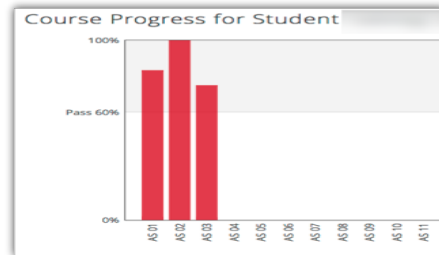
82

82

Top 10 Strategies to Facilitate SDL in MOOCs

6. Providing reflection questions.

We introduced kind of moments that video was stopped and there was a question. The student had to think of it a bit. Sometimes it was kind of a rhetorical question. There wasn't even no answer required. But it was just a pause for a while to let the student reflect. (Jacob)

83

83

Top 10 Strategies to Facilitate SDL in MOOCs

7. Designing short learning units.

Video: Introduction to Regression 6 min

Video: Introduction: Basic Least Squares 6 min

84

84

14

Top 10 Strategies to Facilitate SDL in MOOCs

8. Providing flexible timelines.

You've already completed 71% of your course! Reset your deadlines so you can finish the rest! | Reset my deadlines

85

85

Top 10 Strategies to Facilitate SDL in MOOCs

9. Highlighting estimated time frames.

- ✓ **Video:** 1.2 - Popular Music and Classical Music Compared 6 min
- ○ **Quiz:** Popular Music and Classical Music Compared 2 questions Overdue Jun 27, 2:59 AM EDT
- ✓ **Video:** 1.3 - Music and Emotions 4 min
- ✓ **Video:** 1.4 - How Do We Hear Music? Sound Waves and the Ear 6 min
- ○ **Quiz:** How Do We Hear Music? Sound Waves and the Ear 5 questions Overdue Jun 27, 2:59 AM EDT

86

86

Top 10 Strategies to Facilitate SDL in MOOCs

10. Making available optional learning materials.

- ○ **Reading:** BASIC: A Blanket Around the Earth 10 min
- ○ **Reading:** ADVANCED: A Blanket Around the Earth 10 min

87

87

10 More Strategies to Facilitate SDL in MOOCs

MOOC: Infection Prevention and Control (IPC) for Novel Corona virus (COVID-19) from OpenWHO (English Version)

11. Structured learning environment:
- Clearly stated the learning objectives.
- Course details stated the expected time to complete the course.
- The syllabus, number of course modules, and title of each module.

88

88

10 More Strategies to Facilitate SDL in MOOCs

11. Structure continued…
Graphic or visual organizations for essential material. The text on screen matched the narration enforcing the redundancy principle.
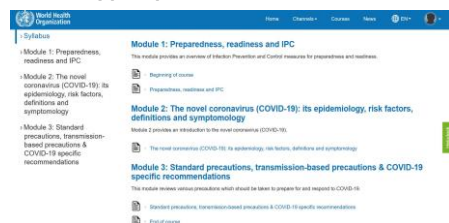
89

89

10 More Strategies to Facilitate SDL in MOOCs

12. On completion of modules participants get a certificate.

90

90

15

One Example: Laurie Santos
The Science of Well-Being, Yale Univ.

91

---

10 More Strategies to Facilitate SDL in MOOCs

13. Week overview. The course is divided into week-long segments, and each week is chunked into manageable parts. Very importantly for the participant to be able to anticipate what can get done in one sitting, the length of each video is included.

92

---

10 More Strategies to Facilitate SDL in MOOCs

14. Lecture recorded and captions added.

Caption added to video

Video of student audience

Figure 3: Lecture Example

93

---

10 More Strategies to Facilitate SDL in MOOCs

14. Continued…Lecture video transcripts.

The full transcript of each video recording is shown below the video player, with the current point in video highlighted as it plays:

Figure 7: Video Transcript Example

94

---

10 More Strategies to Facilitate SDL in MOOCs

15. Quick check tasks.

The video lectures contain one or two "quick check" pop-up questions to assess understanding (and attention).

Figure 4: Quick Check Example

95

---

10 More Strategies to Facilitate SDL in MOOCs

16. Providing students with self-selection options.
There is the choice to watch all of the videos, read all of the materials, and submit all of the assignments, or there are choices all along the way to "cut corners" and take in only what the participant wants to.

96

16

10 More Strategies to Facilitate SDL in MOOCs

17. Visuals showing tasks completed.

97

10 More Strategies to Facilitate SDL in MOOCs

18. Visuals showing work progress.

98

10 More Strategies to Facilitate SDL in MOOCs

19. Rewirements (assignments) for putting the material to practice (e.g, Random Acts of Kindness, Make A Social Connection, Let's Get Physical, Meditate!, Sleep!, Gratitude Letter/Visit, Savoring, etc.)

Daily Gratitude Journal

Gratitude is a positive emotional state in which one recognizes and appreciates what one has received in life. Research shows that taking time to experience gratitude can make you happier and even healthier. **For the next seven days, you will take 5-10 minutes each night to write down five things for which you are grateful.** They can be little things or big things. But you really have to focus on them and actually write them down (Again, try to develop a tracking method works for you and utilize a note on your phone, a daily calendar, a special notebook, etc). You can just write a word or short phrase, but as you write these things down, take a moment to be mindful of the things you're writing about (e.g., imagine the person or thing you're writing about, etc.). This exercise should take at least five minutes. Do this each night for the whole week.

99

10 More Strategies to Facilitate SDL in MOOCs

20. Offer community support and help.

100

10 More Strategies to Facilitate SDL in MOOCs

Bonus Item: Peer-graded assignments.

101

Do we have time for another study? No!

102

MOOC Study #3

International Review of Research in Open and Distributed Learning
Volume 19, Number 4

September – 2018

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

Curtis J. Bonk[1], Meina Zhu[1], Minkyoung Kim[2], Shuya Xu[1], Najia Sabir[1], and Annisa R. Sari[1,3]
[1]Indiana University, USA. [2]University of West Florida, USA. [3]Yogyakarta State University, Indonesia

Abstract

This study explores the activities, tools, and resources that instructors of massive open online courses (MOOCs) use to improve the personalization of their MOOCs. Following email interviews with 25 MOOC

103

Additional Research

1. An, Y.-J., Zhu, M., Bonk, C. J., & Lin, L. (2020, June 6-published online first). Exploring instructors' perspectives, practices, and perceived support needs and barriers related to the gamification of MOOCs. *Journal of Computing in Higher Education*. Available (view only: https://rdcu.be/b4G6r); https://doi.org/10.1007/s12528-020-09256-w

2. Zhu, M., Bonk, C. J., & Doo, M.-Y. (2020). Self-directed learning in MOOCs: Exploring the relationships among motivation, self-monitoring, and self-management. *Educational Technology Research and Development* (ETR&D), 68(5), 1-21. DOI 10.1007/s11423-020-09747-8

3. Zhu, M., & Bonk, C. J. (2020). Technology tools and instructional strategies for designing and delivering MOOCs to facilitate self-monitoring of learners. *Journal of Learning for Development*, 7(1), 31-45. Available: https://jl4d.org/index.php/ejl4d/article/view/380/447

4. Sari, A. R., Bonk, C. J., & Zhu, M. (2020). MOOC instructor designs and challenges: What can be learned from existing MOOCs in Indonesia and Malaysia? *Asia Pacific Education Review*, 21(1), 143-166. DOI 10.1007/s12564-019-09618-9

5. Doo, M. Y., Tang, Y., Bonk, C. J., & Zhu, M. (2020). MOOC instructor motivation and career and professional development. *Distance Education*, 41(1), 26-47. https://doi.org/10.1080/01587919.2020.1724770

6. Zhu, M., Bonk, C. J., & Sari, A. (2019). MOOC instructor motivations, innovations, and designs: Surveys, interviews, and course reviews. *Canadian Journal of Learning and Technology*, 45(1), 1-22. Available: https://www.cjlt.ca/index.php/cjlt/article/view/27795

104

Any Questions?

Curtis Bonk: cjbonk@Indiana.edu

Meina Zhu: meinazhu@wayne.edu

Slides and Proceedings Paper at TrainingShare.com:
http://www.trainingshare.com (go to "Archived Talks")

105

18