Slide 1

Self-Direct to Learn, Self-Direct to Live: Exploring Learner Choices, Experiences, and Possibilities in a Self-Directed Learning World

Curtis J. Bonk| cjbonk@Indiana.edu
Indiana University Bloomington
With...
Meina Zhu| meinazhu@wayne.edu
Wayne State University

1

Slide 2

MOOC Trends and Recent Data

2

Slide 3

April 30, 2020
New Udemy Report Shows Surge in Global Online Ed in Response to COVID-19
People around the world are learning how to work from home and stay productive as the Future of Work arrives
Businesswire: https://www.businesswire.com/news/home/20200430005243/en/

Highest Enrollment Surges by Country Since Shelter in Place

3

Slide 4

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%).
https://www.businesswire.com/news/home/20200430005243/en/

Udemy Topic Enrollment Trends

4

Slide 5

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

5

Slide 6

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

6

Slide 7

MOOCs Stats

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

2020 Web Traffic

7

Slide 8
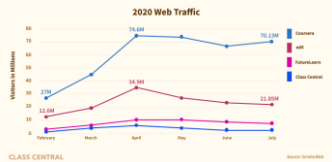
MOOCs Stats

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

8

Slide 9

MOOCs Stats

December 14, 2020
**The Second Year of the MOOC: A Review of MOOC Stats and Trends in 2020, Dhawal Shah, Class Central**
https://www.classcentral.com/report/the-second-year-of-the-mooc/

180M Students   **950** Universities

16.3k Courses   **1180** Microcredentials   **67** MOOC-based degrees

class central

By the Numbers: MOOCs in 2020
Statistics do not include China

9

Slide 10

MOOCs Stats

Most Followed Subjects	class central

Pre-Pandemic	Post-Pandemic
1 Computer Science	1 Personal Development +3
2 Programming	2 Business +1
3 Business	3 Art & Design New entry
4 Personal Development	4 Management & Leadership +1
5 Management & Leadership	5 Self Improvement New entry
6 Data Science	6 Humanities New entry
7 Artificial Intelligence	7 Computer Science -6
8 Information Technology	8 Communication Skills New entry
9 Career Development	9 Health & Medicine New entry
10 Entrepreneurship	10 Foreign Language New entry

December 14, 2020
The Second Year of the MOOC: A Review of MOOC Stats and Trends in 2020, Dhawal Shah, Class Central
https://www.classcentral.com/report/the-second-year-of-the-mooc/

10

Slide 11

MOOCs Stats

December 14, 2020
The Second Year of the MOOC: A Review of MOOC Stats and Trends in 2020, Dhawal Shah, Class Central
https://www.classcentral.com/report/the-second-year-of-the-mooc/

New Registered Users	2019	2020	Total
coursera	8M	31M	76M
edX	5M	10M	35M
Future Learn	1.3M	5M	15M
class central	350k	800k	2.3M

11

Slide 12

MOOCs Stats

December 14, 2020
The Second Year of the MOOC: A Review of MOOC Stats and Trends in 2020, Dhawal Shah, Class Central
https://www.classcentral.com/report/the-second-year-of-the-mooc/

Growth of MOOCs

class central

By the Numbers: MOOCs in 2020
Statistics do not include China

12

Slide 13

December 15, 2019
Coursera <no-reply@m.mail.coursera.org>
Ends TOMORROW: 50% off top tech Specializations

13

Slide 14
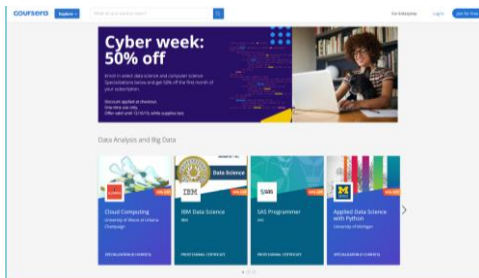
MOOC books (2020) and (2015)

14

Slide 15
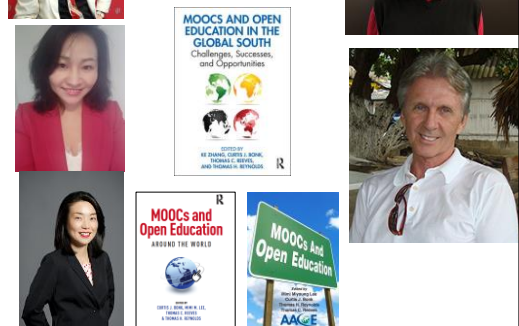
October 22, 2021
Wanted:
Billions of Self-Directed Learners

15

15

Slide 16

Benefits of Self-Directed Learners
https://discoverpraxis.com/reasons-not-to-go-to-college/

THE BENEFITS OF
SELF-DIRECTED LEARNING

- Teaches you to take initiative and create value
- Builds self-confidence
- Teaches perseverance and flexibility
- Kindles intrinsic motivation

- Promotes self-awareness
- Helps you find a career you find personally fulfilling
- Allows you to learn skills more holistically
- Teaches social skills

- Lets you explore a wider range of interests
- Gives you the practical experience to execute what you've learned

PRAXIS

16

16

Slide 17

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

17

Slide 18

Key Terms

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

(1) self-management

(2) self-monitoring

(3) motivation
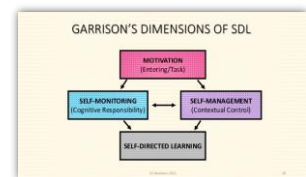
18

18

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).

19

19

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.**

20

20

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.**
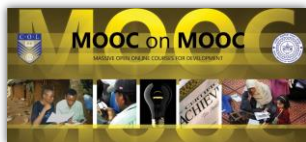
21

21

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?

22

22

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

23

23

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

24

24

Slide 25

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 with 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
Fernando	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

25

Slide 26

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

26

Slide 27

Research Context

MOOC Subject Areas

Subject Area	Value
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

27
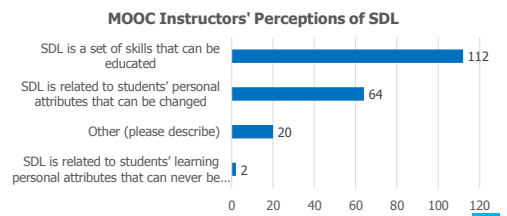
Slide 28
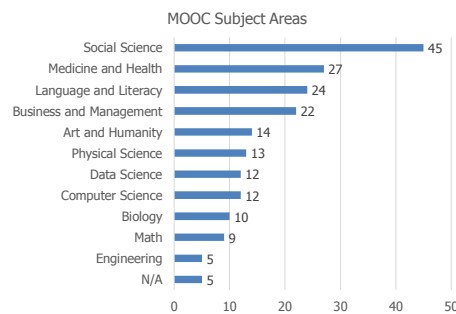
RQ1 Perceptions of SDL

- 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

	Value
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

28

Slide 29

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."
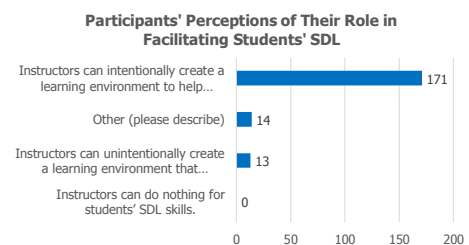
29

Slide 30

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

	Value
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

30

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."

31

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.

32

RQ3 Learning Community
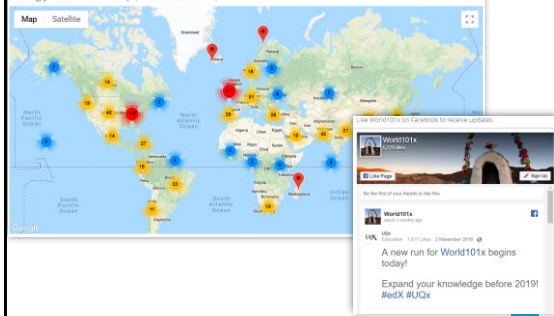
33

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.

34

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

35

RQ3 Progress Indicators

36

Slide 37
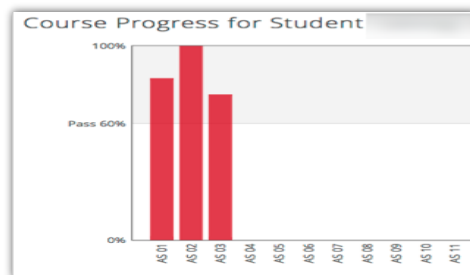
RQ3 External Feedback: Peer-assessment (e.g., 3 peers assigned to review each assignment)

REQUIRED	GRADE	DUE
🔒 **Quiz** Module 2 Review Quiz **20 min**		Nov 19
🔒 **Peer-graded Assignment** Critical Evaluation of the 2 Approa... **2h**		Nov 22
🔒 **Review Your Peers** Critical Evaluation of the 2 Approa...		Nov 25

37

Slide 38

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.**

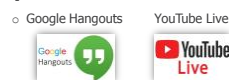| Self-management	Strategies
Enactment of learning goals	Providing discussion questions, reflections, survey, and appreciation students' learning goals.
Time management	Providing time frame, progress indicator, short learning units, and flexible timeline.
Management of resources and support	Providing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

38

Slide 39

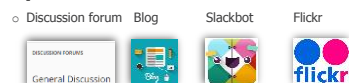**RQ3 Time Management (e.g., time advisories and estimates)**

39

Slide 40

RQ3-a. Tech Used for SDL

- **Synchronous communication technologies**
  - ○ Google Hangouts   YouTube Live
- **Asynchronous communication technologies**
  - ○ Discussion forum Blog   Slackbot   Flickr
- **Multimedia** (e.g., video and graphics)
- **Feedback technologies**

40

Slide 41

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.

41

Slide 42

Implications

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

42

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.

43

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.'"
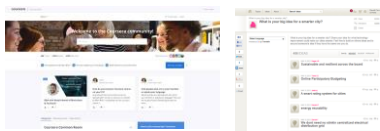
44

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."
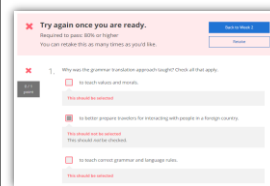
45

Top 10 Strategies to Facilitate SDL in MOOCs

3. Offering immediate feedback.
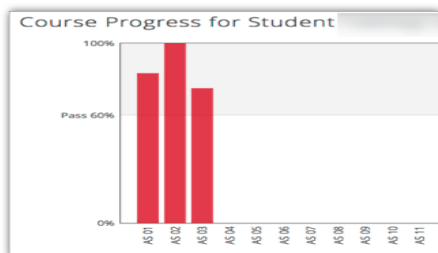
4. Embedding quizzes for self-assessment.

46

Top 10 Strategies to Facilitate SDL in MOOCs

5. Providing progress indicators

47

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)

48

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

49

49

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

50

50

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

51

51

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

52

52

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.
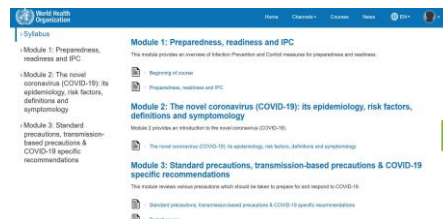• The syllabus, number of course modules, and title of each module.

53

53

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.
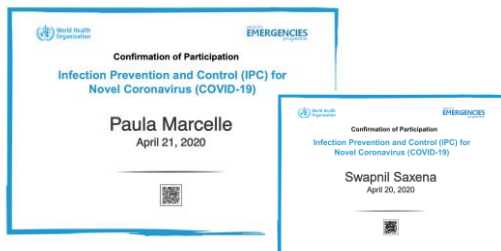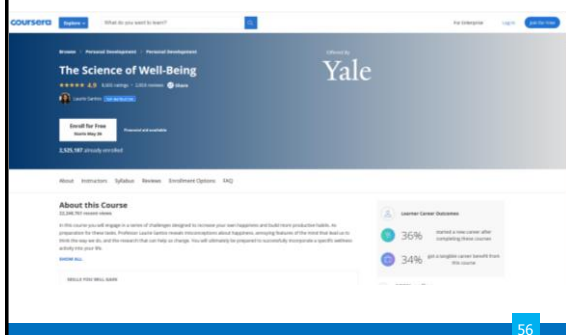
54

54

9

10 More Strategies to Facilitate SDL in MOOCs

12. On completion of modules participants get a certificate.

55

The Science of Well-Being, Yale

56

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.

57

10 More Strategies to Facilitate SDL in MOOCs

14. Lecture recorded and captions added.

Caption added to video

Video of student audience
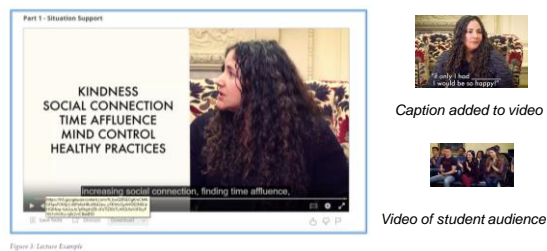
Figure 3: Lecture Example

58

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

59

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 8: Quick Check Example

60

10 More Strategies to Facilitate SDL in MOOCs

16. Providing students with self-selection options.

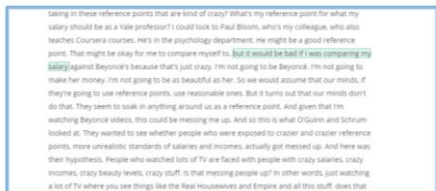There is the choice to watch all of the videos, read all of the materials, and submit all of the assignments, or there are choices all along the way to "cut corners" and take in only what the participant wants to.

61

10 More Strategies to Facilitate SDL in MOOCs

17. Visuals showing tasks completed.

62

10 More Strategies to Facilitate SDL in MOOCs

18. Visuals showing work progress.

63

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.

64

10 More Strategies to Facilitate SDL in MOOCs

20. Offer community support and help.

65

10 More Strategies to Facilitate SDL in MOOCs

Bonus Item: Peer-graded assignments.

66

MOOC Study #3

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[1], Shuya Xu[2], 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

67

MOOC Study #4

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

Curtis J. Bonk[1],

Zhu, M., Sabir, N., Bonk, C. J., Sari, A., Xu., S., & Kim, M. (2021, April). Addressing learner cultural diversity in MOOC design and delivery: Strategies and practices of instructors and experts. *Turkish Online Journal of Distance Education, 22*(2), 1-25. https://doi.org/10.17718/tojde.906468;

68

Table 3. Best Practice Recommendations by MOOC and Open Education Experts for Addressing Cultural Sensitivity (n=25)

MOOC Stage	Category	Approach
Design	Communication	Provide possible alternative back channels for traditional discussion boards (e.g., WhatsApp, WeChat, KakaoTalk, etc.).
		Consider the different ways learners read information – Some languages are not presented in a linear format.
	Course design	Leverage straightforward course designs as intricate or nested course designs can be difficult to convert across languages and platforms.
		Ensure visual examples (i.e., icons and caricatures) repeated throughout the course appeal to as many stakeholders as possible.
	Media use	Consider different audiences through perspective taking when incorporating multimedia.
		Overreliance on visual rhetoric (e.g., visual images) alone to communicate can be problematic.
		Use caution when including videos on an external website, such as YouTube, as content could be restricted for certain users.
		Remember that converting text into various languages is easier than videos, and it takes much longer to create a video.
		Slideshows should not overwhelm learners with text; try to use symbols, icons, and other visual elements.
	Reuse and remix	Ensure inclusivity by openly licensing all educational materials developed for MOOCs, to guarantee the permissions and freedoms required for translation, adaptation, re-use, redistribution, and repackaging.
		Understand the legal differences and barriers between copyright, copyleft, and public.
		Consider the technology used in development. Ask yourself, "Does it assist reuse and remixing?"
		Weigh the potential of other instructors' capabilities in remixing/reusing the content and provide support where appropriate.
	Technology accessibility	Appreciate the power of mobile learning! In many regions of the world, learning occurs through mobile devices. Courses should be pedagogically and technologically developed with this mindset.
		Identify the range of learner digital literacy skills.
		Encourage learners to create low bandwidth versions of multimedia for those in low bandwidth areas.
		Foster a learner community where learners help learners in downloading, translating, and hosting multimedia.
	Working with a design team	Encourage courses/content to be developed by teams consisting of members for various institutions, countries, and/or cultures.
		Actively prepare MOOC instructors and online course designers for cultural sensitivity.

69

Delivery	Attire and mannerisms	Remain presentable and well-dressed when appearing in multimedia.
		Be thoughtful about body movement and overall gestures, as well as images of hand gestures, as different cultures decipher meaning in diverse ways.
	Culture specific	Asian audiences may not be the quickest to voice their opinions and prefer to be spoken to with deference, politely, and softly.
		Not all learners read left to right. For example, some Middle Eastern learners read content right to left, and some Asian learners read content top to bottom.
		Content including case situations or scenarios involving alcohol, the incorporation of pictures of dogs (from some nations), political humor/satire, and the use of quotes from religious figures can prove to be controversial and potentially offensive.
	Developing a sense of community	Avoid references to current events that may only be shared by a small subgroup.
		Urge learners to meet locally or amongst themselves to share materials and address any sensitive concerns.
		Avoid issues related to religion and politics.
		Minimize distractions and possible negative responses by staying away from controversial topics.
	Emphasis on expertise	Respect the deep-seated cultural differences related to the following: the value of expert vs. learner-originated knowledge; deference to experts; and willingness to engage in discussion and critique - with the most noticeable contrasts between those educated in Anglo-Saxon education systems and in Confucianist ones.
		Have instructions/directions at the ready, just as a backup, for those who tend to respect authority and prefer following directions.
	Language and translations	Make subtitles and transcriptions, when possible, available in multiple languages based on intended audiences. This also empowers hard of hearing learners.
		Even when English is the primary or secondary language of the target audience, consider making MOOC content available in the major dialect(s) of the country.
		Identify any cultural aspects of resources disseminated as understandings and meanings may not be exact when translated; each linguistic group has its own scientific history and culture.
		Jokes and humor, in general, can be easily misinterpreted.

70

Table 4. Approaches Employed by MOOC Instructors to Enhance Access for Learners with Different Backgrounds and Technology (n=35)

Category	Approach
Collaboration	Work alongside various university divisions (e.g., international office, student support, university expert, and language department).
	Pilot the course with international learners.
Communication, feedback, and language	Offer multiple communication channels.
	Use simple, slow, and clear language.
	Do not focus on language or grammar when commenting on forum posts.
Content	Create material that is acceptable for various cultures.
	Keep cultural differences in mind when designing and producing the material.
	Emphasize materials which accommodate for various learning preferences.
	Share personal stories, to some degree, by recording lessons in and around personal spaces.
	Follow target country's compliance rules and regulations.
Course instruction	Ensure material is kept at a non-expert level.
	Provide detailed outlines of the lesson.
	Arrange open course work where everyone can choose to work individually.
	Provide background information and course expectations.
Multimedia use	Strive to include captioned or transcribed videos and screencasts.
	Ensure videos are kept simple and short and include animations in presentations.
	Leverage free textbooks and open resources.
	Attempt to provide PDF documents and Word version of materials.
	Provide text reader or read aloud options, when possible.
Optional resources	Offer supplemental or optional materials.
Technology accessibility	Course materials should be device agnostic, easy to use, and easy to access. Materials can be used on a computer, tablet, smartphone application, or mobile phone.
	Provide materials that use low bandwidth and make class activities browser based.
	Make multimedia interactive apps more user-friendly by not engaging Flash-based platforms.
	Encourage simple navigation.
	Create user-directed FAQs.
	Videos and transcripts should be available for download later.

71

MOOC Study #5

MOOC Learners and SDL

Zhu, M., Bonk, C. J., & Berri, S. (in press). Fostering self-directed learning in MOOCs: Motivation, learning strategies, and instruction. *Online Learning*

72

Research Questions

1. **What motivated individuals to enroll in MOOCs?**
2. **What were the learning strategies that helped learners' SDL in MOOCs?**
3. **What were the design and instructional elements of MOOCs that facilitated learners' SDL?**

73

MOOC Study #5

MOOC Learners and SDL

Zhu, M., Bonk, C. J., & Berri, S. (in press). Fostering self-directed learning in MOOCs: Motivation, learning strategies, and instruction. *Online Learning*

Table 1
Fifteen Interviewees' Demographic Information

Pseudonyms	Gender	Countries	Occupations
Abdulrahman	M	Turkey	Teacher
Ali	M	Yemen	Student
Alina	F	The UK	Student
Betty	F	Albania	Engineer
Chang	M	Canada	Athlete
Dan	M	Mexico	Professor
Helen	F	Indonesia	Administrative assistant
Jacob	M	The US	Retired management consultant
Jane	F	The US	Educator
Joe	M	The UK	Retired engineer
Melena	F	Germany	Student
Mostapha	F	Egypt	Student
Sandy	F	The US	Student
Sarah	F	The US	Between jobs
Sophia	F	The Netherlands	Retired office manager

74

MOOC Study #5

MOOC Learners and SDL

Zhu, M., Bonk, C. J., & Berri, S. (in press). Fostering self-directed learning in MOOCs: Motivation, learning strategies, and instruction. *Online Learning*

Table 2
Coding Themes

Themes	Sub-themes
1. Motivation	Intrinsic motivation
	Extrinsic motivation
2. Learning strategies	Task strategies
	Self-monitoring
	Self-management
3. Instructional elements that support SDL	Self-assessment
	The discussion boards and instructors' involvement
	The flexibility of the courses
	Clear learning goals
	The authenticity of the content
	Small learning units

75

RQ1. Intrinsic Motivation

Jacob, a retired management consultant from the US, expressed his motive behind enrolling in MOOCs as strictly intrinsic, "there's no reward. I'm retired. It's really just [that] I get very interested in topics. I realize holes in my knowledge and try to fill the holes."

76

RQ1. Extrinsic Motivation

Besides educational purposes, some participants enrolled in MOOCs to help with their career development. For example, Sarah, who received her Ph.D. degree and was in between jobs at the time, selected topics such as anatomy, MatLab software, oncology, biology, and neuroscience. Sarah explained the purpose for taking these types of MOOCs was:

To acquire and improve my knowledge as a medical physicist...I consider my resume when selecting MOOC. I choose courses related to my professional field to add them to my curriculum; otherwise, there would be a period without being in contact with my profession.

77

RQ2. Learning Strategies

RQ2: What were the Learning Strategies that Helped Learners' SDL in MOOCs?

Dan considered the progress bar to be a good indication of his progress, and it also created a healthy competition among the learners. Seeing where he was at in the course compared to the other learners gave him a push. He stated, "All the progress bar with milestones, with a small quiz that doesn't count for the evaluation, but they're good for you to check if I'm really learning. And, for example, I like when you have these kinds of nice competition[s], right. Everyone starts a MOOC at the same time, but you see that these weeks you progress faster than other members in the MOOC."

78

13

RQ2. Self-monitoring

To help her self-monitoring, Melena noted how enriching her knowledge and knowing new things that she did not know before, along with doing well on the quizzes and tests, were vital indications of her progress. She explained, "**Usually, there is a test after each week. Performing it, I can see in which topic I have the biggest gaps, or I got it well.** Moreover, if I apply it in other areas of my life and it can also be seen then."

79

79

RQ3. Design Elements

Design Element: Authentic Examples
One participant, Helen, believed that **authentic examples, resources, and visuals that some instructors demonstrated in their courses helped maintain her curiosity**. In our interview, she explained:
When I studied the brain, **the professor showed the real brain**. Like, she took us to the laboratory and showed us how the brains, how they did it, they did things in the laboratory. So, I find it fascinating. I find it very interesting. Even though for the test I try to read, but for understanding and looking at the real thing, the visualization is very good.

80

80

RQ3. Design Elements

Design element- small learning units

As Joe explained:
I think what's really good is keeping it into small chunks. I'm going to say, roughly speaking, 3 to 7 minutes long because that makes it easy for you to put it down and pick it up again in small bits.

81

81

RQ3. Responsive Feedback

Design Element: Discussion board and feedback.

Jacob sadly acknowledged that: "I'll ask [the professor] a question today. **I'll type in a question on my computer in the forum. It may be 2 to 3 weeks before I get a reply."** Ali expressed that "it would be great to communicate with professors." Similarly, Sarah explained that what affected her experience the most was the "**lack of real-time interaction with the teacher.**"

82

82

Study #6: Self-Directed learning in MOOCs:
Exploring the Relationships among motivation, self-monitoring, and self-management, Zhu, Bonk, & Doo, 2020, ETR&D
(SEM: Survey of 322 MOOC Learners)

83

83

Research Questions

H1: Motivation positively affects self-monitoring of MOOC students.
H2: Motivation positively affects self-management of MOOC students.
H3: Self-monitoring positively affects self-management of MOOC students.
H4: Self-monitoring mediates the relationship between learning motivation and self- management of MOOC instructors.

84

84

14

Study #6: Self-Directed learning in MOOCs:
Exploring the Relationships among motivation, self-monitoring, and self-management, Zhu, Bonk, & Doo, 2020, ETR&D
(SEM: Survey of 322 MOOC Learners)

Table 7 Direct and indirect effects of each variable in the research model

Paths	Total effect	Direct effect	Indirect effect
H1: Motivation→Self-monitoring	.647	.647***	
H2: Motivation→Self-management	.561	.137	.424*
H3: Self-monitoring→Self-management	.655	.655***	

***$p < .001$, **$p < .01$, *$p < .05$

Fig. 5 The results of hypothesis testing

Motivation
Self-monitoring
Self-management

Note. 4. ***$p < .001$, **$p < .01$, *$p < .05$

85

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")

86