Instructor Efforts to Address Cultural Diversity in MOOC Design and Application

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Concerns Regarding the Emergence of MOOC

- Learners are heterogenous (Watson, Ho, & Raman, 1994)
- Misunderstanding might occur due to language barrier & communication style (Callaway, Matthew, & Felvegi, 2014)
- Different cultures have different communication pattern (Hofstede, 1986; McLouglin, 2006)

Huge Need to Study Personalization

While several researchers have evaluated MOOC elements for personalization, such as course designs, assessments, and means of content delivery (e.g., de Oliveira Fassbinder, 2015; deWaard et al., 2011; Yousef, Chatti, Schroeder, & Wosnitza, 2014; Yuan & Powell, 2013), there is a scarcity of empirical studies which specifically investigate MOOC personalization from instructor perspectives.

Technologies for Personalization

Recently, Hayworth (2016) suggested that there are a wide range of technologies that can help personalize the learning environment including social bookmarking, wikis, blogs, image sharing, and collaborative tools. He also notes that such personalized learning environments (PLEs) have significant implications for distance educators, instructional designers, life-long learners, and administrators. Hayworth cautioned, however, against placing too much emphasis on technology solutions. Rather than technology-centered, adult learners exhibit a preference for learning which is social, participatory, and supported by rich media (McLoughlin & Lee, 2010).

Personalization Defined

Tapping into those two perspectives, the definition of personalization used in the present study was as follows: "personalization indicates ***the process by which MOOCs instructors adapt their course and teaching to meet students' individual learning needs***."

Why Instructors?

- Instructors are one of the five primary elements (instructors, learners, topic, materials, and context) in MOOCs (Kop, 2011)
- Few studies leverage instructor perspectives to better understand such personalization and cultural sensitivity (Veletsianos & Shepherson, 2016)

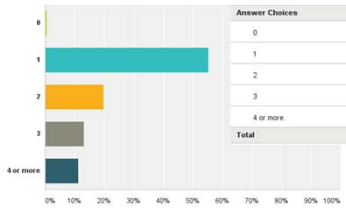
Research Questions

In particular, this study focuses on the following three research questions:

1. **What are the personalization practices of MOOC instructors in terms of content resources and associated technology tools employed?**
2. **What are the personalization practices of MOOC instructors in terms of the task structuring and pedagogical activities employed?**
3. **How would MOOC instructors structure their MOOC differently next time in terms of MOOC personalization?**

MOOC Personalization Survey Results

1. How many MOOCs have you taught? (N = 152)



Answer Choices	Responses	
0	0.66%	1
1	55.26%	84
2	19.74%	30
3	13.16%	20
4 or more	11.18%	17
Total		152

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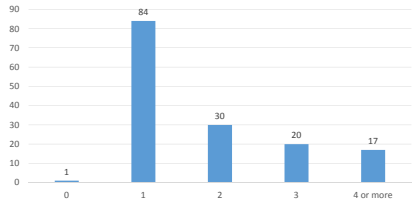
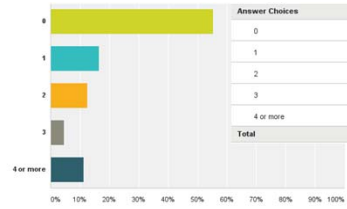
How many MOOCs have you taught (including any that you are currently teaching)?



3. How many MOOCs have you completed as a learner (N = 152)



Answer Choices	Responses	
0	55.26%	84
1	16.45%	25
2	12.50%	19
3	4.61%	7
4 or more	11.18%	17
Total		152

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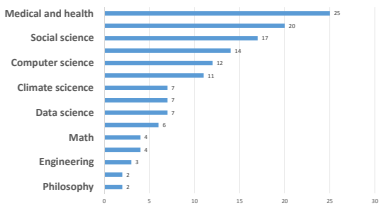
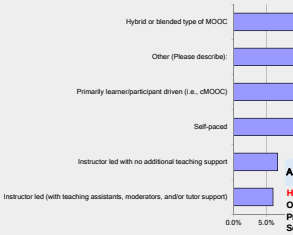
Q6. MOOC Instructor Dept./Discipline

Figure 1: MOOC instructor affiliations as reported on the online survey questionnaire. 140 (out of 145) MOOC instructors identified departmental and disciplinary affiliations for which they taught courses.

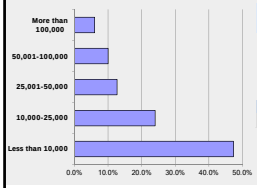


7. What is the delivery format of your most recent MOOC?



Answer Options	Response Percent	Response Count
Hybrid or blended type of MOOC	42.7%	64
Other (Please describe):	18.0%	27
Primarily learner/participant driven (i.e., cMOOC)	14.0%	21
Self-paced	12.7%	19
Instructor led with no additional teaching	6.7%	10
Instructor led (with teaching assistants,	6.0%	9
answered question		150
skipped question		12

8. How many people signed up for your most recent MOOC? (N = 150)



Answer Options	Response Percent	Response Count
Less than 10,000	47.3%	71
10,000-25,000	24.0%	36
25,001-50,000	12.7%	19
50,001-100,000	10.0%	15
More than 100,000	6.0%	9
answered question		150
skipped question		12

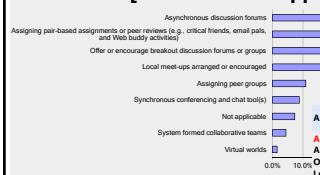
13. How do you address students' varying competencies and needs?[Check all that apply]

Answer Options	Response Percent	Response Count
Establish learner-based discussion forums	81.0%	115
Embed supplementary course materials (e.g., readings,	78.2%	111
Post timely course announcements and emails	63.4%	90
Record video tutorials or walkthroughs (e.g., Screencasts, YouTube	40.8%	58
Emphasize project-based learning over exams	34.5%	49
Using preexisting online videos (e.g., Lynda.com, TED talks, YouTube,	32.4%	46
Other (Please describe):	26.1%	37
Hold synchronous lectures, meetings, and events (e.g., Skype, Google	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
answered question		142
skipped question		20

14. What types of learning resources can participants select from in your most recent MOOC?[Check all that apply]

Answer Options	Response Percent	Response Count
Discussion forums or threads	91.5%	130
Video lectures and tutorials	76.8%	109
Readings (including textbooks, literature, scientific & tech reports)	76.1%	108
Practice quizzes and exams	57.7%	82
Interactive assessments	50.7%	72
Expert interviews	50.0%	71
PowerPoint and other presentation slides	47.9%	68
Instructor lecture notes	44.4%	63
Animations and other types of animated or interactive contents	43.0%	61
Visuals (e.g., concept maps, diagrams, flowcharts, timelines, etc.)	42.3%	60
Video examples (e.g., TED talks, YouTube, etc.)	39.4%	56
Social media (e.g., Facebook, Instagram, Snapchat, Twitter, Pinterest, etc.)	28.9%	41
Popular media (e.g., news stories and videos)	28.2%	40
Wiki-style documents	18.3%	26
Podcasts	15.5%	22
Instructor blogs	14.8%	21
Simulations and games	14.1%	20
Jobs aids and study guides	12.0%	17
Mobile applications	12.0%	17
Learner blogs	9.9%	14
Other (fill in the blank - optional):	9.9%	14
Virtual conferences and summits	4.9%	7
answered question		142
skipped question		20

16. In what ways is peer interaction encouraged in your MOOC? [Check all that apply; N = 137]



Answer Options	Response Percent	Response Count
Asynchronous discussion forums	80.3%	110
Assigning pair-based assignments or peer	25.5%	35
Offer or encourage breakout discussion forums	22.6%	31
Local meet-ups arranged or encouraged	16.1%	22
Assigning peer groups	10.9%	15
Synchronous conferencing and chat tool(s)	8.8%	12
Not applicable	7.3%	10
System formed collaborative teams	4.4%	6
Virtual worlds	1.5%	2
answered question		137
skipped question		25

17. How did you design your course to be suitable for students from different cultures and/or linguistic backgrounds?[Check all that apply]

Answer Options	Response Percent	Response Count
Offer transcripts of video or audio content	66.2%	88
Add subtitles to video content	63.9%	85
Be careful with language use and hand gestures	51.9%	69
Simplify the language used	42.1%	56
Slow the pace of speech	36.8%	49
Simplify the course content and navigation	27.1%	36
Limit text by relying more on pictures	19.5%	26
Encourage participants to translate and localize content	18.0%	24
Other (Please describe):	15.8%	21
Translate the content to different languages	11.3%	15
answered question		133
skipped question		29

18. Does the structure of your most recent or current MOOC provide any of the following? [Check all that apply; N = 126]

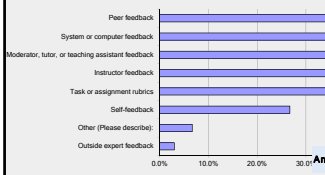
Answer Options	Response Percent	Response Count
Optional readings, videos, or other materials	74.6%	94
Learner selected incentives (e.g., certificates, badges, course credit, etc.,	64.3%	81
Options with course tasks and assignments	38.1%	48
Learner discussion and negotiation of content	36.5%	46
Two or more media elements to learn the same content	31.7%	40
Learner determined or contributed content	30.2%	38
Learner selected learning pathways (i.e., different routes to learn the	19.0%	24
Learner portfolios of course accomplishments	16.7%	21
Choice in team or collaborative partners (i.e., self-formed teams)	12.7%	16
answered question		126
skipped question		36

Does the structure of your most recent or current MOOC provide any of the following?

19. How is student progress/participation monitored or tracked? [Check all that apply; N = 137]

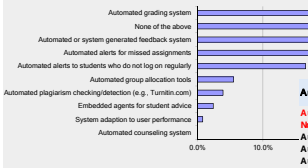
Answer Options	Response Percent	Response Count
Self-monitoring and self-evaluation	42.3%	58
Modular or unit based progress	34.3%	47
Weekly or daily reports offered by learning analytics	24.8%	34
Moderator, tutor, or teaching assistants feedback	23.4%	32
Not applicable (learner progress is not monitored or tracked in this MOOC)	14.6%	20
Hybrid system of two or more of the above	13.9%	19
Peer or group member reports	13.1%	18
Other (Please describe):	11.7%	16
Personal tracking from tutors, moderators, and teaching assistants	9.5%	13
Personal tracking from instructor	7.3%	10
answered question		137
skipped question		25

20. In what ways do students get feedback in the course?[Check all that apply; N = 135]



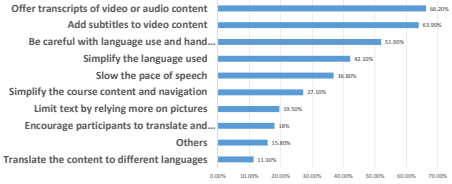
Answer Options	Response Percent	Response Count
Peer feedback	64.4%	87
System or computer feedback	57.8%	78
Moderator, tutor, or teaching assistant feedback	43.0%	58
Instructor feedback	40.0%	54
Task or assignment rubrics	37.0%	50
Self-feedback	26.7%	36
Other (Please describe):	6.7%	9
Outside expert feedback	3.0%	4
answered question		135
skipped question		27

21. Does your most recent (or current) MOOC utilize any of the following? [Check all that apply; N = 127]

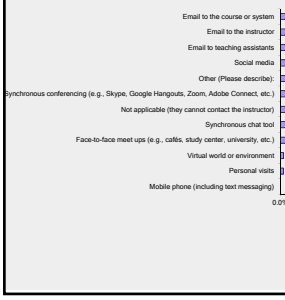


Answer Options	Response Percent	Response Count
Automated grading system	52.8%	67
None of the above	29.1%	37
Automated or system generated feedback	22.0%	28
Automated alerts for missed assignments	18.9%	24
Automated alerts to students who do not log on	16.5%	21
Automated group allocation tools	5.5%	7
Automated plagiarism checking/detection (e.g.,	3.9%	5
Embedded agents for student advice	2.4%	3
System adaption to user performance	0.8%	1
Automated counseling system	0.0%	0
answered question		127
skipped question		35

How did you design your course to be suitable for students from different cultures and/or linguistic backgrounds?

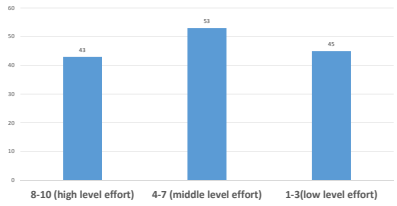


22. How do participants in your MOOC contact you if they have questions, concerns, or suggestions? [Check all that apply; N = 135]



Answer Options	Response Percent	Response Count
Email to the course or system	57.8%	78
Email to the instructor	55.6%	75
Email to teaching assistants	31.1%	42
Social media	25.9%	35
Other (Please describe):	19.3%	26
Synchronous conferencing (e.g., Skype, Google	13.3%	18
Not applicable (they cannot contact the	9.6%	13
Synchronous chat tool	8.1%	11
Face-to-face meet ups (e.g., cafés, study center,	3.0%	4
Personal visits	0.7%	1
Virtual world or environment	0.7%	1
Mobile phone (including text messaging)	0.0%	0
answered question		135
skipped question		27

On a scale of 1 (low) to 10 (high), how much effort was placed on addressing the needs of individuals from different cultural backgrounds and languages in your most recent MOOC?



On a scale of 1 (low) to 10 (high), how much effort was placed on addressing the needs of individuals from different cultural backgrounds and languages in your most recent MOOC?

Figure 2. **Efforts noted by MOOC instructors to personalize their course, as related though ranking questions (Note: the number indicates the number of instructors at each level).**
Reported on a scale of one to ten, where ten indicated high levels of effort and one indicated low levels of effort.

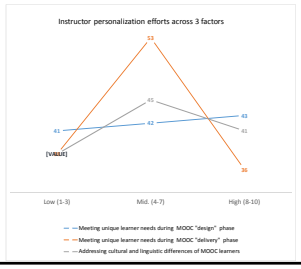


Table 2: Approaches employed by MOOC instructors to enhance access for learners with different backgrounds and technology access.

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Category	Subcategory	Count
Multimedia presentation	All videos and screencasts had caption and transcriptions.	13
	Provide pdf and word version 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
Content	Creating material that is acceptable for various cultures.	2
	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 house.	1
	Following country's compliance/regulation.	1
Language	Use simple, slow, and clear language.	3
	The material is kept in a non-expert level.	5
Course instruction	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

How MOOC instructors design their courses with the consideration of students' background and technology access （Top 4 ways):

1. Providing captions and transcriptions to all videos and screencasted materials
2. Offering supplemental or optional materials
3. Making sure that all materials can be viewed on various devices, including computer, tablet, or smartphone
4. Keeping the materials at the level of a non-expert

Open-ended question 1: Can you provide one or more ways that you attempt to personalize the MOOC experience for those enrolled in the course?

Answered: 36 Skipped: 119

Mainly, we ran moderated peer discussion through Piazza. Students, teachers, and the moderator commented on student contributions.

Replying personally to asynchronous discussion messages to explain or reference materials to students as well as to refer to peers. Retweeting and commenting on learners social media posts.

To give more different case studies and examples, considering different backgrounds and interests. To have high order and low order assessments, considering the personal interest for deepening into content.

Its all about expectations and communication. From the first day of 'launching' we have moderators & academics assigned to welcome and encourage learners to ask questions and post comments for peer-to-peer feedback, etc. We also list specific times when different academics and experts will be online (various times/dates due to international reach) to have 1-2-1 and group discussions where applicable.

I adjust some of the content based on early discussion in the course to better meet the needs of the recruited cohort. Some of the material was co-created and labelled geographically.

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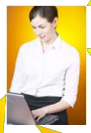
Open-ended question 2: How do you use learning technology such as computer conferencing (e.g., Skype, Zoom, Google Hangouts, etc.) to personalize your MOOC?

Answered: 37 Skipped: 118

Slack for group projects

I held virtual office hours during each of the three offerings of my course. In several had teaching associates join in. In the last offering, I used the first part of the meet-up to share current nutrition related news and studies to help keep the course more up to date (we also posted news and studies). One challenge of the course is keeping content current in subsequent offerings without reshooting videos or redoing all the PowerPoints. Used announcements, resources and the meetups to provide updates.



Online office hours were available through Appointlet. Had an online whiteboard to share with students' during scheduled office hours. Used Skype or Google Hangouts to video conference during online office hours.

We didn't but I am working on another distance learning course now that is closed using Skype, Zoom and Webex. They are all good in different ways. The participants in the closed course have bonded much more as a cohort than any of the groups in the MOOC.

Google Hangouts are excellent - but they don't work in China. We also use WarpWire to allow student video presentations in private environment.

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Open-ended question 3: How did you design your MOOC to make it easier to access for students with different backgrounds and technology access?

Answered: 34 Skipped: 121

Follow UK accessibility compliance guidelines. Main course material pitched at entry level but more complex further reading provided to allow students to 'go deeper' as well as range of case study content to facilitate more in-depth analysis.

Our content covered examples from different political and religious contexts, across Europe, the Americas, the Middle East and Asia, designed in turn to encourage students from diverse backgrounds to share their own political experience.

Worked closely with university expert. Consulted with language dept. Talked with and piloted with our international students and friends from Jordan, China, Greece and Turkey.

There was scripts for everything ... videos mainly. There was also downloadable documents produced in different formats to make it easier depending on the technology they had available. The content was 'beginner' level so I think we naturally slowed down and covered the basics in a lot of detail - as well as providing links and documents with more information as different points.

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Open-ended question 4: In what ways, do you or your teaching assistants and moderators provide just in time support, feedback, and individualized learner attention?

Answered: 37 Skipped: 118

We had all of our academics who developed the MOOC...assigned a different section to deliver and then moderate. So during the few days before/after the 'official launch' of our sections, we were online at various times to provide comments and feedback. We also gave learners specific dates/times that we would be online to discuss synchronously and answer questions, etc. We had resident entrepreneurs and business experts who were asked to be online over certain dates/times to provide the 'practical' view. Finally, we also have a central 'digital learning team' who support all University MOOCs.

Tremendous amount of work here. We continuously monitor student performance and find where students are struggling. We then respond to struggle areas with forum posts and weekly updates.

Tremendous amount of work here. We continuously monitor student performance and find where students are struggling. We then respond to struggle areas with forum posts and weekly updates.

Constant, constant, constant attention to discussion forums.

Our computer technician checked every day for posts from students who were having technical problems and helped to correct them.

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Open-ended question 5: If you were to redesign the course for enhanced personalization within your most recent MOOC offering, what would you do?

Answered: 37 Skipped: 118

Introduce Google Hangouts. Develop alternative pathways for content. Allow students more space to share own competencies and knowledge levels (perhaps wikis etc.).

I would probably include one or two more items from non-western cultures and find an opportunity for students to share work in a different way.

I would hire some of our students and alumni to get involved - the students really loved the additional points-of-view and the interaction.

I would encourage study groups with 'pupil teacher' techniques... champions in the 'crowd' leading smaller groups who are struggling or who would like more social and tutor presence.

I would review the latest cognitive science evidence on how best to achieve this important goal and redesign the course and its production accordingly.

Change the videos - make them shorter and less formal. Give better instructions on use of discussion boards.

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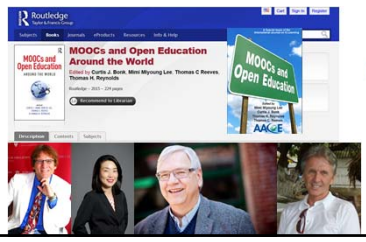
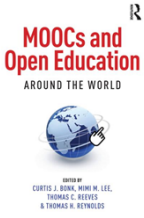
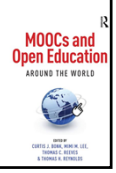
MOOCs and Open Education Around the World

http://routledge-ny.com/books/details/9781138807419/





Any Questions or Comments?

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