

Cross-Cultural Learning Design Preferences in MOOCs

SAMAN RIZVI

IET, THE OPEN UNIVERSITY

[saman.rizvi@\[open/ucl\].ac.uk](mailto:saman.rizvi@[open/ucl].ac.uk)

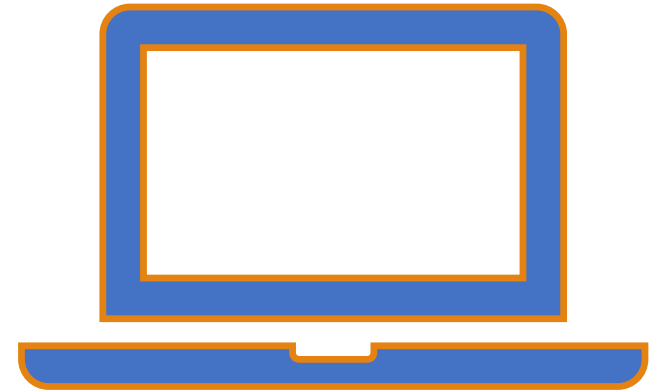
MOOCs

Formal Definition

A learner can learn from these courses as long as they have access to appropriate resources such as a computer, laptop or mobile device and an adequate internet connection.

(Jansen & Schuwer, 2015)

- ☐ Language skill?
- ☐ Digital literacy level?
- ☐ Hidden costs (socioeconomic status)?



Global disparity in MOOC learning environment

- ❑ Emerging data suggest varied persistence / achievement gaps for learners from various regions
- ❑ Substantial inequality and disparity in the global digital learning landscape
- ❑ Geographical and cultural backgrounds may influence the way learners engage with MOOCs

(see Reich & Ruipérez-Valiente, 2019; Kizilcec et al., 2017; Kizilcec & Halawa, 2015; Ogan et al., 2015; Guo & Reinecke, 2014).s

Learning Preference

- ❑ Previous work occasionally suggests that various geo-cultural groups have a distinct preference for particular learning activities* (Joksimović et al., 2017).
- ❑ Extended TAM theory when used in culturally adaptive UI designs: Perception matters!
- ❑ Strong correlation between perceived enjoyment and [(self-reported) current usage, and (self-predicted) future usage] of the respective web-based resource or software.

* Learning preference and not learning styles

Learning design (LD) and persistence

- ❑ The way MOOCs are designed – learning design (LD) – can substantially influence learners' persistence. LD entails various types of learning activities, offered in a predetermined order.
- ❑ A centralised LD containing prearranged, fixed number of activities, may not work for all learners (Bearman et al., 2020).
- ❑ Overall, LD and other pedagogical factors may have a predictive and causal link with learners' progression and whether or not they stay in the course (see Xing, 2019; Guo et al., 2014)

Knowledge gap

There is limited focus on

- ❑ How and to what extent does the association between LD and persistence vary with geo-cultural contexts. [**Quantitative study: Study 1**]
- ❑ How do learners perceive the role of LD towards their persistence in a course? Variation among geo-cultural contexts? [**Qualitative study: Study 2**]

Frameworks

- ☐ OULDI framework. Four activity types: Articles, Videos, Discussions (course steps), Quizzes
- ☐ GLOBE / Hofstede NCD cultural dimensions: Power Distance Index, Individualism/Collectivism
- ☐ (IP based locations)

GLOBE / Hofstede NCD geo-cultural categorization

Table 1. Geo-cultural regions categorisation based on the region's median score in two NCD dimensions; Power Distance Index and Individualism/collectivism.

Cultural dimension		Geo-cultural region
Power Distance	High Power Distance	Sub-Saharan Africa (AF), Confucian Asia (CA), Eastern Europe (EE), Latin America (LA), Latin Europe (LE), Middle East (ME), Southern Asia (SA)
	Low Power Distance	Anglo-Saxon (AS), Germanic Europe (GE), Nordic Europe (NE)
Individualism	High (Individualist)	Anglo-Saxon (AS), Germanic Europe (GE), Nordic Europe (NE), Latin Europe (LE)
	Low (Collectivist)	Sub-Saharan Africa (AF), Confucian Asia (CA), Eastern Europe (EE), Latin America (LA), Middle East (ME), Southern Asia (SA)

Study 1

How different proportions of the various learning activity type (reading material, videos, quizzes and discussion-based activities) can be used to predict learners' persistence.

RQ1. To what degree does the number of (a) assimilative learning activities (e.g. articles, videos), (b) communication activities (e.g. discussions), and (c) assessment activities (e.g. quizzes) in a course predict learners' persistence?

How the predictive link varies between geo-cultural contexts?

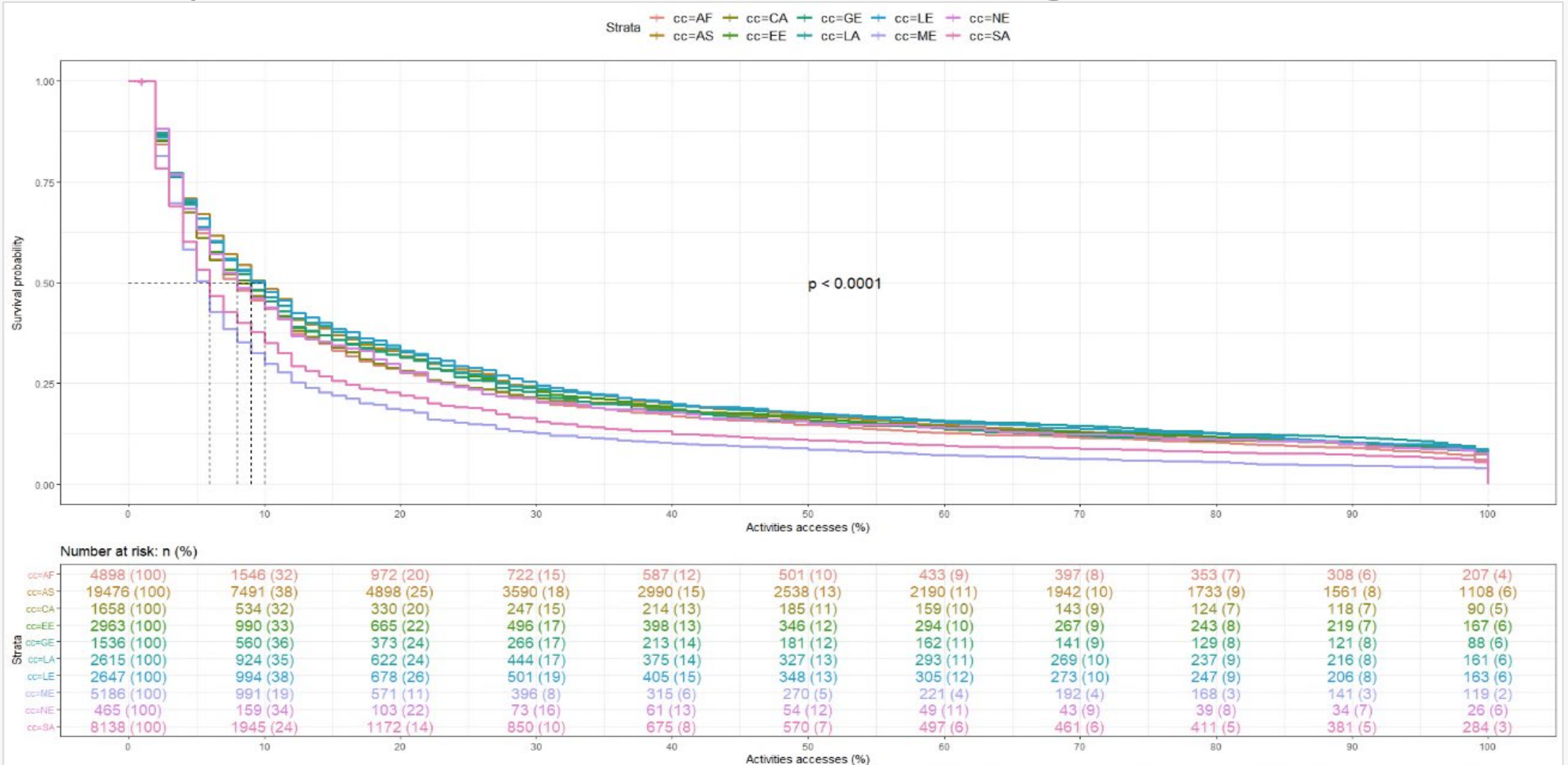
RQ2. To what extent does the association between course learning design and learner persistence differ between geo-cultural contexts?

Persistence: Percentage of course activities accessed by a learner before they dropped out.

Data: Ten large OU - FutureLearn MOOCs (n = 49,582).

Method: cross validated interactions in survival analysis (Cox regression)

Study 1: What was interesting?



Study 1: What was interesting?

- ❑ Most quantitative methods remain biased in favour of the largest subgroup in the data.
- ❑ Therefore, empirical studies often reflect the results fitting to the needs of the largest subgroup (Anglo-Saxon context in our case), which may or may not be appropriate for other subgroups.

Study 1: What was interesting?

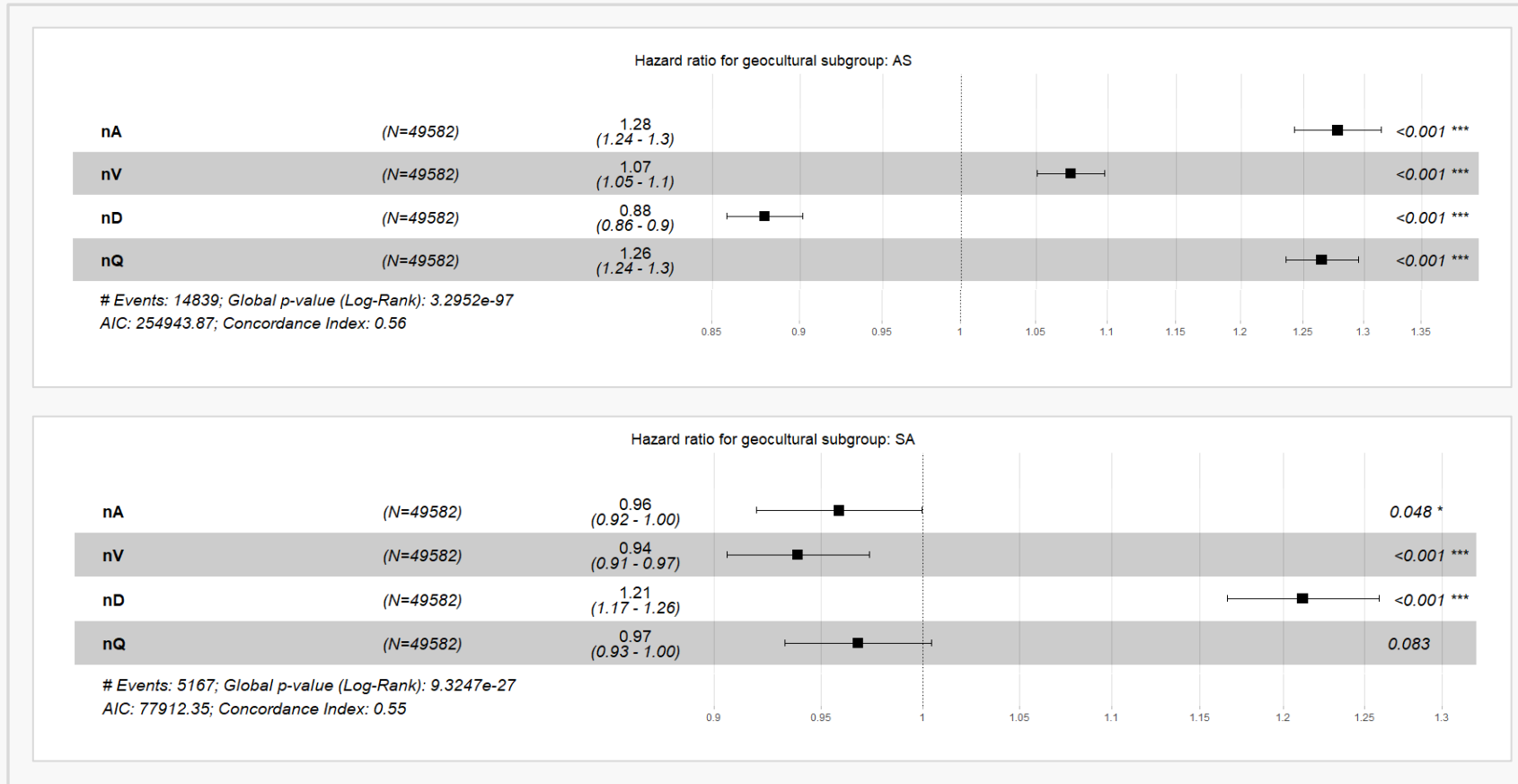


Figure 2. Contrasting behavior of learners in the two largest geo-cultural subgroups, Anglo-Saxon (top) and South Asia (bottom), showing the opposite results for the two largest geo-cultural subgroups in data.

Study 2

RQ1: What are learners' perceptions of various learning design elements (i.e., activity types, predetermined path) in relation to their engagement in the MOOC course?

RQ2: In what ways do learners' perceptions (from RQ1) differ between geo-cultural contexts?

Data: Interviewed 22 participants (FL learners) from seven geo-cultural groups.

Data collection instrument: Semi-structured interviews and artefact-mediated questions.

Question: Which of the following learning activities did you like most/least (and why?) : Articles, Videos, Discussions and Quizzes.

Data analysis methods: Thematic analysis, sentiment mining

Study 1: Selected findings

Articles

- ❑ An increased dropout risk of 14% for every 20 short reading steps added in a course, if the course already had around 52 such reading steps.
- ❑ This dropout risk was most severe and statistically significant for learners from Latin American region (48%).

Study 2: Selected findings

Articles

Participants from Latin America, Middle East, South Asia : Articles as *boring* or even *unnecessary* at times

“When you're studying (from an article) in [participant's native language], you can pick it quite in a limited time. But when it's in English, it takes you time to pick up those points and absorb that information.”

(p6, Male, SA)

=> Critical role of language of instruction?

Study 1: Selected findings

Videos

- ❑ Every increase of 9 videos in a course reduced the dropout risk for South Asian learners by 6% (given that the course already contained around 22 short instructional videos).
- ❑ In contrast, a small negative association between the number of videos and persistence for Anglo-Saxon learners, but further analysis found the risk to be not statistically significant.
- ❑ The most significant association was found for Middle Eastern learners (9% increase in dropout risk).

Study 2: Selected findings

Videos

I needed to see an instructor when I was watching the videos, it was not there. English is not my first language, so I need to see mimics or the face expressions... I just want to see more colourful, more engaging and an instructor... or more than one instructor in the video. (p7, Female, ME)

I mean they [videos] are slow because they are always speaking very clearly, and slowly to make sure that you understand. Well, I've now lost my focus and I'm already at some other planet. It's just far too slow for me. It doesn't work and if you speed it up, gets on mentally, really weird! So, it doesn't work. Speeding it up doesn't work. So, that's why I dislike videos that are just far too slow for me. ” (p16, Female, GE)

Study 1: Selected findings

Discussions

Overall data analysis: a small, negative association between the number of discussions and persistence in the course (3% decrease in dropout risk if 6 more discussion-based steps added in a course already containing 14 discussions).

A subgroup analysis: impact was dissimilar across the various geo-cultural subgroups.

A negative association between early dropout risk and number of discussions for learners from Anglo-Saxon, Nordic Europe, Germanic Europe, Latin Europe (engaged less with the courses containing fewer discussions).

In contrast, African and South Asian learners' in our data did not favour a large number of discussion steps (early dropout risk increased by 9% and 23% respectively).

Study 2: Selected findings

Discussions

Someone else knowing that I think that way or this way? In the classroom, as I said, I'm okay. I don't need to know these people. I'm okay to share my thoughts face to face, because you say it and it's gone. But in your live platform, your comment stays there. And you can't really delete it is as far as I know. So that fact makes me uncomfortable. It's beneficial. But to me as a learner, it's not comfortable. (p8, Female, ME)

Study 1: Selected findings

Quizzes

Adding 7 more quizzes in a course that already had around 7 quizzes, tended to increase the average dropout risk by 15%.

As discussed before, this pattern did not mirror the view of the second largest subgroup of South Asian learners, where the association was positive, slightly favouring more quizzes in MOOC LD. Large elevated risks we noticed were for learners from African and Anglo-Saxon countries (9% and 21% respectively).

Study 2: Selected findings

Quizzes

Fun, engaging, numerous suggestions for quizzes embedded in the videos

Most learners tend to prefer a pick-and-choose learning behaviour => remained hesitant on being quizzed on the content they might have missed.

Limitations and Future Direction

Limitations:

One fixed LD for each of the ten MOOCs. => Experimental manipulation of multiple LD during and between the runs

All OU, FL MOOCs. => Other universities, multiplatform analysis

No interview participants from Confucian Asia, Nordic Europe, Latin Europe

22 participants, interview based study => Other qualitative instruments ?

***Reviewer2:** When discussing the "perfect recipe" of activities, I wondered, couldn't choice be given to learners on different equivalent alternatives to successfully complete a given MOOC? Could going beyond one-size-fits-all possibly mean to offer different ways to reach the aims of a course?*

Potential future work:

Empirical method: Robust yet Easy to implement [Want to examine your data?]

Qualitative instruments: Based on extensive literature [Replicate in your FL MOOC?]

Thank you

Q/A

Africa
Confucian Asia
East Europe
Latin America
Latin Europe
Middle East
Southern Asia

Learner 1

I prefer maximal structure,
linear or flat navigation,
and I expect instructor to
outline paths to follow.



Learner 2

I like to navigate nonlinearly,
and I prefer to find my own
path through the course
activities.



Anglo – Saxon
Germanic Europe
Nordic Europe

Anglo – Saxon
Germanic Europe
Nordic Europe
Latin Europe

Learner 3

I prefer text over visuals or videos.



I prefer video or visuals over text.



Learner 4

Africa
Confucian Asia
East Europe
Latin America
Middle East
Southern Asia

Learner 5

Anglo – Saxon
Germanic Europe
Nordic Europe
Latin Europe

I think acquiring competence is more
important than acquiring certificates;
as diploma or certificates have little
symbolic value!



I think certificates are important as
they can be displayed in one's LinkedIn
or other job profiles, therefore, gaining
certificate is important with or without
gaining knowledge... after all you can
always polish your skills later.



Learner 6

Africa
Confucian Asia
East Europe
Latin America
Middle East
Southern Asia

Africa
Confucian Asia
East Europe
Latin America
Latin Europe
Middle East
Southern Asia

Learner 7

I participate in a discussion only if it's
necessary and unavoidable. Even then, I never
felt a need to go vocal, as less is more...



I feel comfortable
participating in a discussion no
matter how large the group is.



Learner 8

Anglo – Saxon
Germanic Europe
Nordic Europe