

## **Background**

The research team teaches health emergency and disaster risk management (Health-EDRM) through a summer course “Disaster and Humanitarian Crisis” for postgraduate-level students with face-to-face classroom in The Chinese University of Hong Kong, as well as through a Massive Open Online Course (MOOC) “Public Health Principles in Disaster and Medical Humanitarian Response” via the Moodle platform.

## **Objectives**

This project aims to i) explore the spatial and temporal pattern of student enrolment in the MOOC and the degree to which socio-demographic variables can predict the course achievement; ii) examine the pattern of student engagement (the amount of time a student was logged) in the MOOC and its association with the course outcome (the probability of certificate obtainment); iii) understand students’ different learning experience, course perceptions and outcomes between MOOC and face-to-face classroom; and iv) provide recommendations for future policy associated with eLearning development at the university level.

## **Design and subjects**

Two sets of data were collected: MOOC student data (registration, Moodle log, evaluation and a follow-up survey) and summer course student data (pre-course and post-course surveys). Ethics approvals were sought from Survey and Behavioral Research Ethic Committee, The Chinese University of Hong Kong (issued on 10 July and 17 August 2017). Consents were sought from each participant before survey. Description, chi-squared test, multiple logistic regressions, coding and visualization were conducted using SPSS, R and ArcGIS.

## **Findings**

This project collected retrospective data of 5,160 MOOC participants from cohorts 1 to 6 of the online course. They were from more than 150 different countries and 19.88% ultimately completed the course. Six out of the top 10 reported countries of origins of students were among the seven countries with the highest number of disaster occurrences. Males and students with healthcare qualifications were more likely to complete the course. Time spent on the course was directly associated with the probability of course completion even after adjustment for gender, age and education level.

Moreover, 22 samples of summer course and 392 samples of MOOC participants via follow-up survey were newly collected during June to August 2017. No significant difference was observed on the course outcome achievement between face-to-face teaching and MOOC participants when binary options (yes and no) were adopted in measurements. In general, Face-to-face classroom was still the most preferred method among both summer course and online

course participants. Time management and location of study were reported as the two advantages of online course, while level of interaction and depth of content were the advantages of face-to-face teaching.

## **Conclusion**

This project provides insights for teaching health emergency and disaster risk management (Health-EDRM) by using face-to-face and eLearning platforms. Use of multiple tools (e.g. webinars, videos and audios) and more discussion platforms could transfer and deliver the knowledge better and build a wider learning community. A combination of the advantages of face-to-face and online teaching is suggested as a direction when delivering both face-to-face and online courses. This research also provides evidence to support classroom improvement and future eLearning development strategy and policy in the university.