

Massive Open Online Courses (MOOCs) provide a platform for disseminating high quality training rapidly and widely to the mass, benefiting learners of different sectors such as those without ready access to higher learning, those seeking to upgrade their employment skills, and those engaging in life-long learning. A problem with traditional MOOCs is student engagement and retention, since MOOCs are essentially one-way lecturing in nature. This project embraces the pedagogical innovations and experience of a joint venture by The Chinese University of Hong Kong (CUHK) and the University of Melbourne (UniMelb) in the development of three MOOCs on the subject of “Modeling and Solving Discrete Optimization Problems.” In a nutshell, the MOOCs feature the Fable-Based Learning approach, which is a form of problem-based learning encapsulated in a coherent story plot. Each lecture video begins with an animation that tells a story based on the Chinese classic “Romance of the Three Kingdoms” in which the protagonists in the novel encounter a problem requiring technical assistance from the two professors from modern time via a magical tablet granted to them by a fairy god. The new pedagogy aims at increasing learners’ motivation and interests as well as situating the learners in a coherent learning context. Solution coding videos are also provided for workshop problem exercises. Learners should try out the workshop problems first, before viewing the solution videos to compare with their own approaches and see how the teachers would go about approaching the problems and recovering from modeling errors. Last but not least, the MOOCs also feature an auto-grading system allowing learners to submit multiple times, which relieves learners from stresses and encourages them to strive for their best. In addition to scriptwriting, animation production and situating the teaching materials in the story plot, another challenge of the project is the remote distance between the two institutions as well as the need to produce all teaching materials in both (Mandarin) Chinese and English to cater for different geographic learning needs.