

Project Title : Applying Virtual Reality Technology for building students' risk awareness and knowledge of environmental hazards

Leading University : The Education University of Hong Kong

Participating UGC-funded University(ies) : Hong Kong Baptist University, The Chinese University of Hong Kong, The University of Hong Kong

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Despite that in-situ experience in real environments is important for fieldwork learning of environment hazards among social sciences and environmental studies, availability of suitable outdoor field study sites, access to places having hazards, constraints in curriculum time, uncontrollable weather conditions and financial support to needy students will limit the utilization of outdoor and overseas learning opportunities to enhance student's knowledge of environmental hazards and their associated risks in local and neighbouring regions. This project aims to incorporate Virtual Reality (VR) technologies into the university curriculum in order to develop locally-specific and tailor-made curriculum modules about natural hazards and risk awareness benefiting different student cohorts and university teachers. The pedagogical VR technologies covered in this project include photos and videos capturing 360° space together with VR viewers. The team will develop a series of curriculum modules of six natural-induced and human-induced environmental hazards, with an integration with the named VR innovations utilizing Hong Kong and overseas contents into the teaching and learning among local university students. Apart from the development of the curriculum modules, training workshops for both university teachers and students will be organized. University teachers could gain from the training workshops the skill in adopting VR technology for teaching and learning. Whereas, university students could experience the new pedagogy for learning

environmental hazards and thus enhance their preparedness to the present and future risks. The objectives of this proposed project are (1) to design curriculum modules using the VR technology for teaching environment hazards in Environmental Studies, Geography, Liberal Studies and General Studies as well as General Education curriculum in universities; (2) to build resilience (preparedness, response and recovery) among university students through VR experiences of environmental hazards and their impacts on community to prepare themselves for adaptation in an increasingly hazard-prone world; (3) to enhance regional, global and environmental awareness of university students especially those who lack financial means for in-situ overseas experiential learning opportunities; and (4) to utilize the VR technology to lessen limitations of time management and resources on field-based learning experience.