A methodology for Virtual Reality interfaces assessment in Civil Engineering Education

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***Abstract* —** The Architecture, Engineering, Construction and Operations (AECO) sector has been gradually experiencing developments in working practices and innovative Information Technology (IT) implementations [1]–[3]. Additionally, construction industry is recognized for being a multidisciplinary field, where several participants are actively involved in the project development [4]. To bridge the gap between technological implementation and user-performed operations, in recent years, new approaches have been tested. Indeed, research has been widely documenting potential benefits from the implementation of new methodologies and technological tools such as Immersive Virtual Reality (IVR) interfaces in the AECO sector and related fields [5]–[7]. These favorable outcomes are presented in several areas, such as Civil Engineering Education and Training [8]–[10]. Indeed, authors have stated benefits from the application of VR interfaces in Engineering learning scenarios [11]. However, there is a lack of common frameworks and methodologies to assess learning outcomes that may arise from the usage of IVR technologies in the particular case of Civil Engineering. Hence, the present document describes a methodology for the development of assessment tools to provide comparative, quantitative, and user-centered results in what regards learning outcomes from IVR. The methodology combines and builds upon similar research to assemble a conceptual map geared towards Civil Engineering and related fields of application.

***Keywords* —** *Virtual Reality; Civil Engineering; Engineering Education; Engineering Training; Assessment*

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