



6th International Academic Conference on Teaching, Learning and Education

Facilitating Authentic Teaching with 360- Degree Videos

Haider Al Abadi

La Trobe University, Australia

Abstract

Visiting construction sites by civil or construction engineering students is an engaging way to advance students' understanding of construction and structural engineering design practices. Such visits offer a valuable interactive learning opportunity for students to understand real-world projects that scaffolds their in-class theoretical learning. This teaching practice intends to prepare graduate-ready students for the workforce. Facilitating immersive and interactive 360-degree videos are deemed to overcome challenges associated with implementing site visits, including logistics complexity and safety concerns.

This paper demonstrated the development and implementation of authentic learning activities incorporating 360-degree videos taken at construction sites for teaching two engineering subjects delivered at La Trobe University-Australia. The construction-site types are selected to serve the intended learning outcomes of civil engineering subjects that teach the structural design methods for steel, timber and reinforced concrete members. The videos are established pedagogically alongside the projects' authentic construction documents, including structural and architectural drawings. These materials are collectively used to establish industry-driven activities for students to learn and practise real-world engineering tasks with onsite exposure enabled through 360-degree videos.

Findings from quantitative and qualitative analyses examining students' perceptions of learning from 360-degree videos are reported in this paper. A 10-item survey was created to measure students' reflections on using the 360-degree videos to understand the intended skills, engagement in learning, and the development of their employability skills.

From receiving 23 responses to the survey, on average, 94.8% of the participating students reflected their agreement with finding 360-degree videos supporting their understanding, engagement and employability measures, with 80% being in strong to complete agreement.

Keywords: 360-degree video, construction site visits, immersive technology, Technology Enhanced Learning.