Poster-026

Modernising the tertiary education of mining engineering students: designing new blended learning tools

L Waszak, N Schlatter, BG Lottermoser

RWTH Aachen University, Aachen, Germany

Traditional tertiary education of mining engineering students uses teacher-centred methods focused on rote learning and memorisation. Such outdated approaches must be replaced by student-centred and task-based approaches to learning that supports the development of basic, soft and technical skills in future mineral resource professionals and turns the new digital natives into receptors of innovation and champions of research. Moreover, the education of future mining engineering professionals has to embrace the ever increasing number of technical applications that are used to communicate and pass on knowledge. This study is part of the MyScore project that will develop and anchor digitally supported curricula in international teaching cooperations. In particular, new E-learning tools will be developed, including drone and 360 degree video recordings of mines and rehabilitated mine sites, simulator training of mobile mining machinery, and web-based learning of global mineral resources issues. Such E-learning activities will be coupled with face-to-face instruction (i.e. blended learning), which will enhance the ability of mining engineering students to construct new knowledge. The newly developed educational tools will be embedded in the curriculum of the MSc European Mining Course (EMC), a triple MSc degree taught by Aalto University (FI), TU Delft (NL) and RWTH Aachen University (D). In addition, in view of the increasing numbers of internationally-mobile students, collaborations will be established with the University of New South Wales (AUS). It is expected that the new E-learning tools will motivate the learners, provide learning assistance, reinforce key learning points and improve academic performance.