Supporting STEM knowledge and skills in engineering education – PELARS project - DTU

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experimental scenarios for engineering students with the use of learning analytics. We accomplish this through teacher and learner engagement, user studies and evaluated trials, performed at UCV (University of Craiova, Romania) and DTU (Technical University of Denmark). The PELARS project (Practice-based Experiential Learning Analytics Research And Support) provides technological tools and ICT-based methods for collecting activity data (moving image-based and embedded sensing) for learning analytics (data-mining and reasoning) of practice-based and experiential STEM. This data is used to create analytics support tools for teachers, learners and administrators, providing frameworks for evidence-based curriculum design and learning systems. The PELARS project creates behavioral recording inputs, proving a new learning analytic that is scalable in application, and bridge qualitative and quantitative methods through reasoning and feedback from input data. The project serves to better understand learners' knowledge in physical activities in laboratory and workshop environments, as well as informal learning scenarios. PELARS traces and helps assess learner progress through technology enhancement, in novel ways building upon current research. The project results in learning analytics tools for practice-based STEM learning that are appropriate for real-world learning environments.