Extract of the paper "Learning methodology based on weld virtual models in the mechanical engineering classroom"

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Abstract

Welding inspection activities within engineering degree programs are usable in practice. The competences acquired through these are usually contextualized in laboratory environments, using for it physical samples of welds, which used to be are scarce and expensive. In this work, a new methodology based on three-dimensional macro-photogrammetric models of welds is designed and actively implemented in the classroom, with students of Mechanical Engineering to evaluate different aspects about the suitability and learning performance of this novel methodology. To obtain the research conclusions, the activities have been chosen to evaluate four important aspects about it: usability, learning, motivation and scalability. Results demonstrate that the adequate acceptation of the novel methodology studied, making possible new approaches for the acquisition of the competences related the welding inspection in the engineering education context.

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Keywords

Virtual Laboratories; Engineering Education; Virtual Reality; Welding Engineer; Learning Innovation

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