

Didactical Determinants in Mechanical Design Learning with Using Modeling and Simulation Tool.

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- **Abstract:** This paper presents the results of a study on use of modeling and simulation tools in mechanical design learning. Indeed, the introduction of modeling and simulation tools in teaching-learning activities has opened up new opportunities for learning mechanical design. Modeling tools are used for the development of virtual models intended for sizing and optimisation, and/or validating the behaviour and performance of a system, component, or process. However, their use in the learning activities of mechanical design gives rise sometimes to many problems to student. These problems are often related to the educational use of these tools, the ergonomics of their interfaces, and their interaction with student. This research presents the main results of a quantitative study on the learning of mechanical design. A survey using a questionnaire was conducted among 67 first-year tertiary students. The results of the study identified didactical determinants that promote the efficiency of student mechanical design learning using modelling and simulation tools.
- **Keywords:** modeling and simulation tools, mechanical design learning