A serious game design combining simulation and sandbox approaches.


Summary: Research has proven the usefulness of serious gaming for learning and advancing motivation by a combination of visuals, audio, text, and entertaining elements. Nevertheless, a broadly accepted, practical instructional design approach to serious games does not yet exist, especially when focusing on vocational education. The authors introduce a new instructional design model developed for this massive field of education, and argue some advantages compared to other design approaches. The first application is presented in mechanics mechatronics education to illustrate the close match of timing and provision of information that the instructional design model prescribes and how this has been translated to a rigidly structured serious game design. The structured approach answers the learning needs of applicable knowledge within the target group. It combines advantages of gaming simulations related to the transfer of knowledge from and to the workplace with a sandbox approach, an integrated fun-part of the game, which is aiming at motivating the students in the best possible way.

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