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Serious games and gaming.

Lowrie, Tom (ed.) et al., Digital games and mathematics learning. Potential, promises and pitfalls. Dordrecht: Springer (ISBN 978-94-017-9516-6/hbk; 978-94-017-9517-3/ebook). Mathematics Education in the Digital Era 4, 201-232 (2015).

Summary: This chapter studies serious games, games for education and training. First, the nature of what makes a game is discussed and a distinction drawn between games and simulation. Games are considered at multiple levels. At one level, there are games which focus on developing a physical skill, such as learning to fly a plane or carry out a surgical procedure. At other levels are games which develop high-level social skills and gamification, the addition of game-like elements to add motivation. The progress in developing games for mathematics education is described, along with a general perspective on the state of evaluation of serious games.

Classification: U70 R80

Keywords: collateral learning; culture; play; applied drama; classification; simulation; assessment; lusory attitude; affinity space; practice; role distance; magic circle; mantle of the expert; quest-to-learn; AMP (autonomy, mastery purpose); complex systems; relativity

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