

***“Excuse me, I need better Artificial Intelligence!”
Igniting Students' Intrinsic Math Motivation through Game Design***

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Games are argued to be the next educational revolution for many subjects including math education. Unfortunately, a common but somewhat dubious practice for educational game design employs a “chocolate coated broccoli” approach. Educational math games based on this approach would, for instance, have students shoot at numbers. Sadly, the message here is that math is intrinsically boring and only by adding gripping game concepts such as fighting or killing can we create an interesting educational activity. As part of the Scalable Game Design project we are studying a completely different approach in which we are not providing educational games to students but, instead, have them build their own games and STEM simulations. Our focus is to explore the notion of computational thinking including mathematical thinking. I will present results of the Scalable Game Design study with over 10,000 students from some of the toughest, poorest and most isolated schools in the USA and illustrate how game design can result in intrinsic math motivation without making trade offs between motivational and educational concerns.