Simulated disaster: how games prepare us for emergencies and crises

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Games can help us prepare for emergencies and manage crises as they enable players to experience emergency situations in a safe and interactive way.

Disasters are situations that are threatening, highly dynamic and with uncertain developments. How humans react when hit by a disaster is difficult to predict as this depends on unknown and sometimes irrational factors. Farmers who do not want to leave livestock behind when threatened by a flood, tourists who continue taking videos of a volcanic eruption, or friends holding large gatherings in times of a global pandemic are examples of unpredictable behaviour that is far from what science calls 'rational choice'.

Disasters are challenging for emergency responders. Humanitarian aid workers face the risk of being attacked during aid delivery and medical personnel operating new machines or instruments often need regular training.

Immersive games allow experts to step into simulated yet realistic worlds. Games can represent threatening and new or unusual situations without the serious consequences of an emergency or real disaster. Immersive experiences such as medical simulations are very efficient educational tools. When confronted with a real emergency, medical personnel who have trained in immersive worlds are well prepared and can act accordingly.

Immersive, interactive games that simulate disaster events offer safe and engaging ways to prepare for an emergency as players are exposed to and experience likely situations before they eventuate. Games provide a safe environment to explore actions and procedures. Players can walk through scenarios, take over roles and explore the consequences of certain actions and decisions to change the course of events.

Imagine the management of a medical team confronted with many patients suffering from a fast-spreading virus like Covid-19. Numeric models can forecast how fast the disease spread would increase under certain circumstances. Yet, models cannot show how patients would react being asked to wait and keep their distance to others while they struggle to breathe. Most probably, most people would not follow those lines of rational choice.

Immersive, game-based experiences allow for new and insightful perspectives on an emergency situation that would otherwise be dangerous and difficult to realize. For example, putting responders and people in danger when 'trying out' different disaster management approaches in a real situation. Immersive games make use of realistic models, which include experiences and knowledge about the real situation. In comparison to mathematical models that are based on numbers and rational choice models, games offer deep, qualitative insights into human behaviour under extraordinary circumstances.

Immersive games go beyond preparation and training. They serve as laboratories, such as the game Foldit that is used to find solutions to the spread of the Covid-19 virus. This approach has already produced thousands of puzzle solutions to the problem. While games may still be seen as something to mainly entertain us and offer a way to flee into a simulated world when the 'real' one becomes too tough[1]; in the right context, they might enable people to take that extra step and help save lives in times of crises.

End note

1 Lukosch H & Phelps, AM 2020, *Online plagues, protein folding and spotting fake news: what games can teach us during the coronavirus pandemic. The Conversation, 7 May 2020.*