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Taking a Breath of the Wild: Are gamers or geoscientists better in judging whether game-world landscapes are realistic?

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From the wilderness of Hyrule[1], the entire continent of Tamriel[2] to Middle Earth[3], players of videogames are exposed to wonderous, fantastic, but ultimately fake, landscapes. Given the time gamers may spend in these worlds, compared to the time they spend being trained geoscience, we wondered if gamers would differ from non-gamers in general and geoscientists in particular in whether they judge the landscapes in these games to be "realistic". Since games have a great opportunity for tangential learning[4] it would be a missed opportunity if it turns out that features obviously fake to geoscientists are perceived as plausible by non-geoscientists.

To satisfy our curiosity and answer this question we did a survey where we asked people to judge both photos from real landscapes as well as screenshots from the recent "Zelda: Breath of the Wild" video game on how likely they thought the features in the picture were to exist in the real world. Since game-world screenshots are easily identified based on their renderend nature, we pre-processed all pictures with an artistic "Van Gogh" filter that removed the rendered nature, but retained the dominant landscape features.

We found that there is a small but significant difference between geoscientist and non-geoscientists with geoscientist being slightly better at judging which pictures are from the real world versus from the game world. While significant the effect is small enough to conclude that fantastic worlds in games can be great for tangential learning on geoscientific subjects.

[1] From the Zelda series, most noticeably the latest "Zelda Breath of the Wild" game.
[2] From the Elder Scrolls series with, among others, the Morrowind and Skyrim games.
[3] From the Lord of the Rings books that have also been turned into numerous games.
[4] See https://www.youtube.com/watch?v=rlQrTHrwyxQ for a video arguing the value of tangential learning in games.