

Geosci. Commun. Discuss., referee comment RC2  
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## Comment on gc-2021-17

Anonymous Referee #2

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Referee comment on "Virtual field experiences in a web-based video game environment: open-ended examples of existing and fictional field sites" by Mattathias D. Needle et al., Geosci. Commun. Discuss., <https://doi.org/10.5194/gc-2021-17-RC2>, 2021

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### General Comments

Needle et al. present an exciting contribution to geoscience education with new virtual field sites for a range of students. I thoroughly enjoyed reading this paper and can imagine using it in my own classroom, however, without any data presented regarding student feedback or pedagogical theory, it needs major revision before publication as a research article. As it stands now, it is more an article on how the game fared, not a study on its impact or use.

Mainly, the authors do not present any quantitative feedback from students on games feasibility. Words used to assess the game were relative and speculative. With the addition of quantitative data relating to student use and feedback, this paper has the potential to fully address relevant scientific questions within the scope of GC. This is a significant classroom advancement with the potential to be implemented immediately but there is little to no inquiry as to how to build the tool in other classrooms. This manuscript would be benefitted by 1) more data involving student feedback, 2) more data on the type of computers used, 3) more information on how to build the environments. The paper was well written and had few technical errors. It was exciting to read and I look forward to reading the final manuscript

### Technical Corrections:

Line 30 - I agree with your statement that "The need for educational experiences that incorporate fundamentals will remain after the pandemic.", but evidence is needed. It is a strong statement to write without any examples as to why.

Line 35 - I would argue that it is closely tied still

Line 50 - Erase the ",," after "virtual field experience"

Line 72 - Does your line take in to account elevation changes?

Line 108 - "with steeply-dipping/overtuned limbs"

Line 91 – you have already defined SfM, you can use it from here on out

Line 119 – I think this aerial image would be a great addition to figure 1

Line 139 – This is great, but where is the data? How many is “most”? I’d like to see the student feedback associated with this exercise

Line 140 – What type of machines were they using, with how much RAM and which type of graphic card? Have you tested it on computers with less RAM or an unstable wifi connection?

Figure 2 – Very cool graphics! Is there any scale available?

203 – What type of accommodations were prepared?

228 – I think this is fantastic news but would like information on the “array of hardware, connection speeds, and browsers” for guidance when other professors implement this game.