

Solid Earth Discuss., referee comment RC1  
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## Comment on se-2021-107

Terry Pavlis (Referee)

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Referee comment on "The Mid Atlantic Appalachian Orogen Traverse: a comparison of virtual and on-location field-based capstone experiences" by Steven Whitmeyer et al., Solid Earth Discuss., <https://doi.org/10.5194/se-2021-107-RC1>, 2021

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### Summary

This is a very well written, insightful paper outlining experiences in using a virtual field trip format to replace a long standing in person field class conducted at James Madison University, Virginia, USA. The authors clearly state the history and objectives of the virtual field trip development and provide a clear assessment of the results of running the trip. I really appreciated the pros and cons of conventional vs virtual methods, in part because I think they are spot on based on my experience, but also because it is important for these things to be pointed out. All in all, a really nice paper.

The paper is well enough written that it could be essentially published as it. I have a few minor nit picky points linked to line numbers below, but all of them are very minor. My only significant comment is I think a lot of figures could be improved. There were very few annotations on the figures that I could read, no doubt because most of the figures are screen shots from the virtual field trip. For some things this is trivial, but for some of the images where there are important annotations that the students would see, this makes it hard to grasp what is presented to the students. This is an easy fix; if you use something like illustrator you could just reproduce the text box over the screen shot. You might be able to do more high resolution screenshots too? Depends on the software I would guess.

Specific comments keyed to text:

98-100: maybe clarify that these represent clastic wedges shed from the orogenic highland?

101: reference figure 1

115: drop the "will"—future tense not necessary here

291: Might be worth mentioning here that 3D terrain models can allow virtual measurements quite easily, so had those been included this could have been done. There are several sources for this, but my former student's paper (Brush et al., 2018, Geosphere) has a description of using the method. There are a lot of other references, most cited in that paper; or you could reference the QGIS extension qsurf, which is an open source solution to the problem.

312: I wouldn't use the term faulting here; that means brittle deformation to most people. I'd say ductile shear or ductile shear zone development

332: This whole section suffers from lack of clarity on how much of the field trip mechanics is automated and how much relies on direct communication with the instructor. This is an important point for anyone who wants to export what you've learned here to their exact situation.

430: "lousy weather" may not translate well in this European journal. Bad weather would be better!

498: say "virtual class"; as worded it could be read as they "virtually indicated" as in they nearly all indicated.

677: You might note that it might be more than tactile. I'm not an expert on memory, but I have certainly read popular science articles that indicate that environmental factors can be powerful long term memory influences. Something as simple as smells or sounds could impact people's ability to remember things more than 5 minutes at the outcrop. Might be worth a comment?

Most of the figures with Google earth screen shots have illegible lettering. Not sure how to fix this, but it is a problem. Can you use a different monitor for the screen shot and reduce the figure to make higher resolution images?

Links are not live on the pdf I have, so I couldn't easily jump the NAGT website referenced