

Solid Earth Discuss., author comment AC3  
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## Reply on RC2

Manuel I. de Paz-Álvarez et al.

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Author comment on "Virtual field trip to the Esla Nappe (Cantabrian Zone, NW Spain): delivering traditional geological mapping skills remotely using real data" by Manuel I. de Paz-Álvarez et al., Solid Earth Discuss., <https://doi.org/10.5194/se-2021-110-AC3>, 2021

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Thank you for your review. During our first reading of your comment, we missed the specific comments addressed in the attached file. Below we answer to them.

*103 EMP- Please spell it out: Esla Mapping Project or Esla Project. Non-standard acronyms are the bane of scientific writing. They save virtually no space but make papers hard to read.*

We have modified the acronyms throughout the manuscript.

*Fig. 2 Insets are labelled A, B, C but the caption says a,b,c . Be consistent!*

We have modified figure caption.

*195 I think GE means General Electric.*

We have omitted Google Earth acronyms.

*Figure 4- What is the number of students? N= ? I notice that you did not grade the cross sections for structural correctness. That seems strange. Isn't that the point of a cross section?*

The number of students was displayed in Fig. 8 and in the text (line 310), and it is 60. Nonetheless, figure 4 would be more complete if stated directly on the figure caption, and so we have added it. The structural correctness of the section was evaluated under several different categories, so that it was not possible to isolate specific mistakes in this category.

*Figure 5. N=? Some of those questions are awfully similar to each other. If I were taking this poll, I would have been confused.*

n and their proportion to N is stated in the figure legend. Nonetheless, we have added it to the figure caption as well. Although similar in their form, the questions target different topics: i.e. students may feel prepared to undertake a future supervised mapping campaign, but not necessarily an independent one. The reason for this question is that in the UK, students are required to undertake an independent mapping project as a major component of their degree.

Figure 7 N=?

In this case, N = 60 is clearly stated in the figure legend.

*260 The evidence presented in line 257 shows that the virtual field trip did not accomplish what it set out to do. Delete this line.*

The EMP did not set out to establish that the virtual field trip achieved the same as a physical trip, but to offer a teaching alternative in a very specific set of circumstances where no other option was available (i.e. COVID19-related social and traveling restrictions). This line simply expresses that the virtual trip was not perceived by students as useful as a physical trip, which is not surprising and was foreseen even before the exercise implementation.

*Figure 6. The student did not map the fault, did not recognize the overturned beds and did not identify the syncline. I don't see how you can claim that this is a satisfactory result.*

Many students did not adequately represent the fault with its correct symbology on the map, but that does not mean that they did not interpret the contact correctly. In particular, the thrust fault is correctly marked as such in the stratigraphic log of Fig. 3A, displayed in a tectono-stratigraphic order, even though is not adequately represented in the map.

As for the overturned beds, many students failed to represent that symbology, but that is also the case in physical mapping courses, so this is part of their learning process.

Finally, with respect to the syncline in the map and the anticline in the cross section, we explained in our previous comments how this is a misunderstanding caused by the authors' failure to clearly state that the cross section was not constructed through this syncline, but through the more eastern anticline. Thus, the cross section is actually correct. This is now specified in figure 6 caption.

*321 I do not think your paper demonstrated that virtual mapping trains "numerous field geological skills". It does train some office skills.*

We do not consider that field geological skills are restricted to rock identification, dip measurement, and terrain navigation. Constructing a geological map and dividing a lithological succession in coherent stratigraphic units, based on field data, is in our view a field skill independently of where the process takes place.

Regards,

The authors