

Geosci. Commun. Discuss., author comment AC4  
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## Reply on RC1

Clare E. Bond et al.

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Author comment on "Learning outcomes, learning support, and cohort cohesion on a virtual field trip: an analysis of student and staff perceptions" by Clare E. Bond et al., Geosci. Commun. Discuss., <https://doi.org/10.5194/gc-2021-36-AC4>, 2022

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### General Comments

We thank reviewer one (RC1) for their considered review and expertise in questionnaire design and analysis. We appreciate that an extended literature review that covers both the range and variety of virtual field trips as well as questionnaire design and analysis will enhance the manuscript. As part of this we will include a section on the assumptions and limitations of the approach taken.

The reviewer raises questions around the presentation of the data, we will re-consider how the data is presented and make clear how our assertions relate to the data, highlighting areas of interpretation. We will review our presentation of the data to reflect best practice for ordinal data, and will include specific quotes to provide richness to the narrative. We considered making all rich text available, but for the anonymity of the participants we have refrained from providing the full texts.

### Specifics

**Abstract** - The reviewer suggests that the abstract includes a section on what makes this virtual field trip unique from others, but this was not the purpose of the paper. We have no specific knowledge about the uniqueness, or otherwise of the VFT. Apart from the fact that it was a newly designed VFT and therefore in that sense was unique. We feel that the abstract includes evidence supported results, with percentages given for responses to questions.

**Course Design** - The reviewer feels that course design information is 'peppered' through the document. We will review the manuscript again to ensure that all course design information is together, and that the results and discussion are clearly separated. We will use the suggested checklist to aid in changes made to the course design section. We will include the number of responses solicited as well as those elicited, and will provide information on our philosophical approach. Information on the student cohort and their stage in their undergraduate education is already given in the course design section. We did not collect data on demographics or personal characteristics; as this was not part of the design or ethical approval. We will specify the exact timing of questionnaire release in relation to the course. We will discuss how the questionnaire was designed and why.

**Research Questions** - The reviewer asks for defined research questions and we will add in

a section that outlines our research questions to ensure clarity for the reader.

Novelty space – we will include literature on the concept of novelty space to support any assertions made on novel experiences.

Perceptions of Learning - Our paper is focused on perceptions of staff and students, as highlighted in the title, we will check the manuscript for clarity to ensure this is clear.

Learning Outcomes and Questions - The reviewer was interested in how the courses learning outcomes relate to the questions posed. We will be explicit about how the two relate in the text.

Cohort cohesion - We will define cohort cohesion and use referencing to support our definition.

Ethical Approval - The reviewer raises a question on ethical approval. University of Aberdeen ethical approval was applied for and given for the research; we do not include this information specifically as this is normal best practice. By submitting the paper we confirm that ethical considerations and protocols have been undertaken. If Geoscience Communication need more than this – please let us know.

Supplementary Material - We will provide the additional information requested on the supplementary material.

Questionnaire Analysis - We will provide further information on the questionnaire analysis undertaken. The section on internet access fed into course design. We will incorporate this section into course design. The section on student availability was supported by the pre-course questionnaire – we will make this clear.

Data Presentation - The reviewer questions the presentation of Likert scale data as apparently 'continual' distributions in the form of box and whisker plots and inter-quartile ranges. We felt this best allowed comparison of the pre- and post- data as well as between staff and students. We understand that this is not conventional and we will look to create a new set of figures that allow this comparison whilst showing the actual Likert distribution. We will investigate the use of statistical tests, but the dataset is small. If we are unable to use statistical tests we will make sure it is clear that we have not done so.

Code Descriptors - We can provide further information on the code descriptors used. We will describe why we chose to take a quantitative approach.

Figure 5 – the positive and negative framing 'fell-out' of the analysis of responses. We will describe what the percentages mean in the caption.

Discussion and Conclusions - We will amend the discussion and conclusions linking better to existing literature and providing evidence as appropriate to support statements.

The reviewer raises specific line numbered comments we will check though these and amend as appropriate.