

Geosci. Commun. Discuss., referee comment RC1  
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## **Comment on gc-2021-41**

Anonymous Referee #1

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Referee comment on "Magnetic to the Core – communicating palaeomagnetism with hands-on activities" by Annique van der Boon et al., Geosci. Commun. Discuss., <https://doi.org/10.5194/gc-2021-41-RC1>, 2021

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This manuscript describes an exhibition called 'Magnetic to the Core' in which the authors designed a public communication space to allow interactive learning to take place through a range of activities allowing people to learn about paleomagnetism. Overall I enjoyed this paper and felt that the authors covered useful information for others wishing to develop a similar approach to communicating a potentially unfamiliar topic to publics. I commend the authors for highlighting the extra time and financing necessary that can be taken for granted. The level of preparation and development for the outreach activities as well as the training session was fantastic to see, as well as the extensive piloting undertaken prior to the 'live' exhibition. Allowing input from others external to the project and providing a suitable approach and best practices in potentially complex scenarios is desirable so good to see this undertaken.

It is clear that the paper has considered both how to educate and engage the general public on an unfamiliar topic, something that can require a lot of effort if highly technical. The authors clearly described the activities, how they connected to each other and what each represented as part of the learning outcomes and key messages. The included activities were novel and well-designed allowing publics to easily grasp scientific concepts with these clearly presented in the paper.

In order to measure the learning outcomes and key messages that the authors were trying to share with their audience they asked people to complete a quiz to assess their level of knowledge (including those who had not visited the stand). The results from this showed a correlation with increased time and knowledge of visitors. They do acknowledge that groups also answered, however, so it is hard to distinguish if these groups (as opposed to an individual respondent) may have resulted in increased knowledge regardless of time spent at the stand. Nevertheless it is a clear and well-written paper with clear aims and should provide others with an example of successful science communication.

## **Some minor points specific to the manuscript content:**

### **Abstract:**

Line 24 – the authors state a 19.1% increase score but it is not clear what they mean. Change to 'increase in knowledge score' to clarify.

### **Introduction:**

Line 33 – Although the authors go onto describe what paleomagnetism is later on in this section (or you can figure it out based on topics mentioned) it would be useful to provide a sentence at the start to briefly describe specifically what this is for non geoscientists.

### **Outreach team & Training:**

Line 110 – typo 'theme engaged'

Although the authors do include a paragraph (line 253) outlining ethics this is not an explicitly marked section as requested by the journal.

### **Impact on knowledge of visitors:**

Line 330 – the authors collected qualitative data and assessed to what extent the learning outcomes had been measured and clearly show this in Fig 9. If possible it would be interesting to see if there were any other key themes that came out in this data as over half of the responses did not relate to the outcomes (e.g. thematic analysis see Braun and Clarke, 2008).