

Geosci. Commun. Discuss., author comment AC1  
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## Reply on RC1

Madeline S. Marshall and Melinda C. Higley

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Author comment on "Multi-scale virtual field experience: sedimentology and stratigraphy of Grand Ledge, Michigan, USA" by Madeline S. Marshall and Melinda C. Higley, Geosci. Commun. Discuss., <https://doi.org/10.5194/gc-2021-10-AC1>, 2021

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**6/25/21**

### Online discussion response to Reviewer 1 comments

Thank you, Reviewer 1, for your helpful comments! We offer responses to the main comments below.

We would first like to address the scientific significance that exists in this article. The dataset compiled in this VFT visually documents in detail a suite of locally significant outcrops for the first time. The level of detail and completeness of datasets (encompassing outcrop, hand sample, and thin section data for ten outcrops) is essential for the preservation of this unique site, and brings the ongoing discussion of the depositional environments of this area to a new audience.

The concept behind this VFT is novel. In other excellent VFTs we have explored and read about, the scope is typically limited in number of localities, scales of data available, open-ended responses, and/or explorations of explicit connections or correlations between localities. Our goal with this VFT was to utilize our local outcrops to create a comprehensive VFT. We found it very important to structure this VFT so that student learning could happen without explicit right or wrong answers (our emphasis on skill development rather than correctness is reflected in this goal). Further explanation is detailed below in response to the Line 44 comment.

The main reviewer concern was about how the student responses were coded and processed. We interpret this to mean that we lack transparency in our methods for presenting student reflections. We will clarify the following in the revised manuscript: In reading student reflections, we selected representative student responses about their learning outcomes that corresponded to each SLO, and coded these responses by SLO and school to ensure an even distribution of comments from Albion and Calvin students.

Student experiences and outcomes were markedly similar between the two schools, and comments from reflections were aggregated. We excluded student reflection responses that were not related to an SLO, or were focused on specifics they learned about their particular outcrop. Additionally, because student reflections were intended to be open-ended, as opposed to a structured survey, further qualitative data analysis is beyond the scope of this project.

**Line 44:** We thank the reviewer for drawing our attention to this important point, and will clarify in the revised text that by "inflexible scope" we mean that in our experiences, most VFTs focus on discrete sites or only one or two scales of data (map scale, outcrop, hand sample, or thin section). Flexibility was built into this VFT with respect to how many outcrops and scales each student or group could work on, while still achieving the SLOs. Instructors have flexibility in the implementation of the VFT; for example, they could assign more than one outcrop per group or visit each outcrop together as a class. Students with questions about their assigned outcrop have the flexibility to seek additional data from other outcrops, since the full suite of data is available to all students.

**Figure 1:** Heavy vegetation, steep cliffs, and limited outcrops created challenges in photographing all aspects of outcrops from uniform distances. We will clarify in the revised text that the panorama incurred distortion during the photomerging process.