

## Evaluation Brief EB8

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### Why Is There a Horizontal Timeline at the Grand Canyon?

When evaluators conduct depth interviews within a naturalistic methodology, they often discover unanticipated findings—issues and concepts that are important to their respondents, in ways unanticipated during evaluation planning. These unanticipated findings can lead to a greater understanding of how respondents think about the topics under investigation, and thus to more effective interpretation. This brief calls attention to an important, but unanticipated, finding from the recent user testing in Chicago.

#### **Methods:**

This brief is based on new data about visitors' potential confusion with a horizontal vs. a vertical timeline. (See Selinda Research Associates, Inc. (2007) for details about the respondents and the methods.) In reviewing earlier research, it became clear that these new findings reiterate a finding from the phase-one formative evaluation (Gyllenhaal & Perry, 2004).

#### **Key Findings:**

During the phase-one formative evaluation at the rim of the Grand Canyon, data suggested that the idea of a horizontal timeline was difficult for many visitors. As stated in the report, evaluators often had to explain to respondents that the *Trail of Time* was a timeline, similar to a timeline in a history book. As noted in the report: "The timeline concept did not work for everyone. For instance, one respondent insisted that timelines had to be vertical; he was confused by the idea of a *horizontal* timeline" (p. 20).

Several respondents in the recent 2007 study also objected—sometimes strongly—to the idea of a horizontal timeline at the Grand Canyon. (We should note that the 2007 protocol did *not* specifically ask respondents to comment on the horizontal nature of the timeline. This was something they brought up entirely on their own.) It became clear that many of these respondents understood that there was a strong link between going deeper into the Canyon and moving through time—that's why they wanted the timeline to be vertical.

These 2007 respondents expressed a range of alternative understandings about the link between time and depth. Some respondents linked time to the layers of rock in the Canyon, although they were sometimes confused about whether the rocks got older or younger as you travel deeper into the Canyon. Other respondents linked time to the erosion of the Canyon; to their way of thinking, "today" was at the bottom of the Canyon. One respondent insisted that the trail *must* be going uphill or downhill, even when they were told that it was level. And a different respondent even tried to imagine the rock layers being pushed up at an angle: "I'm still fussing over how we are going back in time on the flat. Unless the layers are on their side."

These data indicate that visitors to the rim will likely find the idea of a horizontal timeline confusing, especially initially.

#### **Recommendations:**

1. In the interpretive plan for the *Trail of Time* include a multi-pronged approach to helping visitors understand why it makes sense to have a **horizontal** timeline at the Grand Canyon. This should include both supporting text included with the graphics in the Walking Guide and an explanation in the portal signage.
2. Test various visitor-centered explanations during the May on-site prototyping. These could include: The *Trail* is horizontal so (a) **everyone can walk it**; (b) we can **include all of the rocks** in the Canyon along a single trail (i.e. some of the oldest rocks can only be reached by boat); and (c) we can **include all of geologic time** along the trail (i.e. the time recorded in the Canyon's rocks sometimes skips ahead hundreds of millions of years in just one step.) In other words, to have a timeline that is fully inclusive—all visitors, all rocks, all time—it has to be horizontal. Note that while all of these explanation will resonate with the casual visitor at the rim, they build in sophistication—the first is the easiest to grasp and understand, and the last, in particular, is a key concept in understanding layered rocks.

#### **References**

- Gyllenhaal, E. D., & Perry, D. L. (2004). *Phase one of formative evaluation for the Trail of Time at Grand Canyon National Park*. Unpublished manuscript, University of New Mexico, Albuquerque, NM. <http://www.selindaresearch.com/TrailOfTimeFormativeFINAL.pdf>
- Selinda Research Associates, Inc. (2007). *Evaluation Brief #7: Off-site testing of the prototype 10-meter markers: Large numbers and time transitions*. Unpublished manuscript, University of New Mexico, Albuquerque, NM.