Tone Memory

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THIS IS **NOT** A DEFINITIVE FINAL REPORT

FORMATIVE evaluation studies like this one often:

- **are conducted quickly**, which may mean
  - small sample sizes
  - expedited analyses
  - brief reports

- **look at an earlier version** of the exhibit/program, which may mean
  - a focus on problems and solutions, rather than successes
  - a change in form or title of the final exhibit/program

Sound and Hearing – Formative Evaluation
Tone Memory – Baseline

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PURPOSE

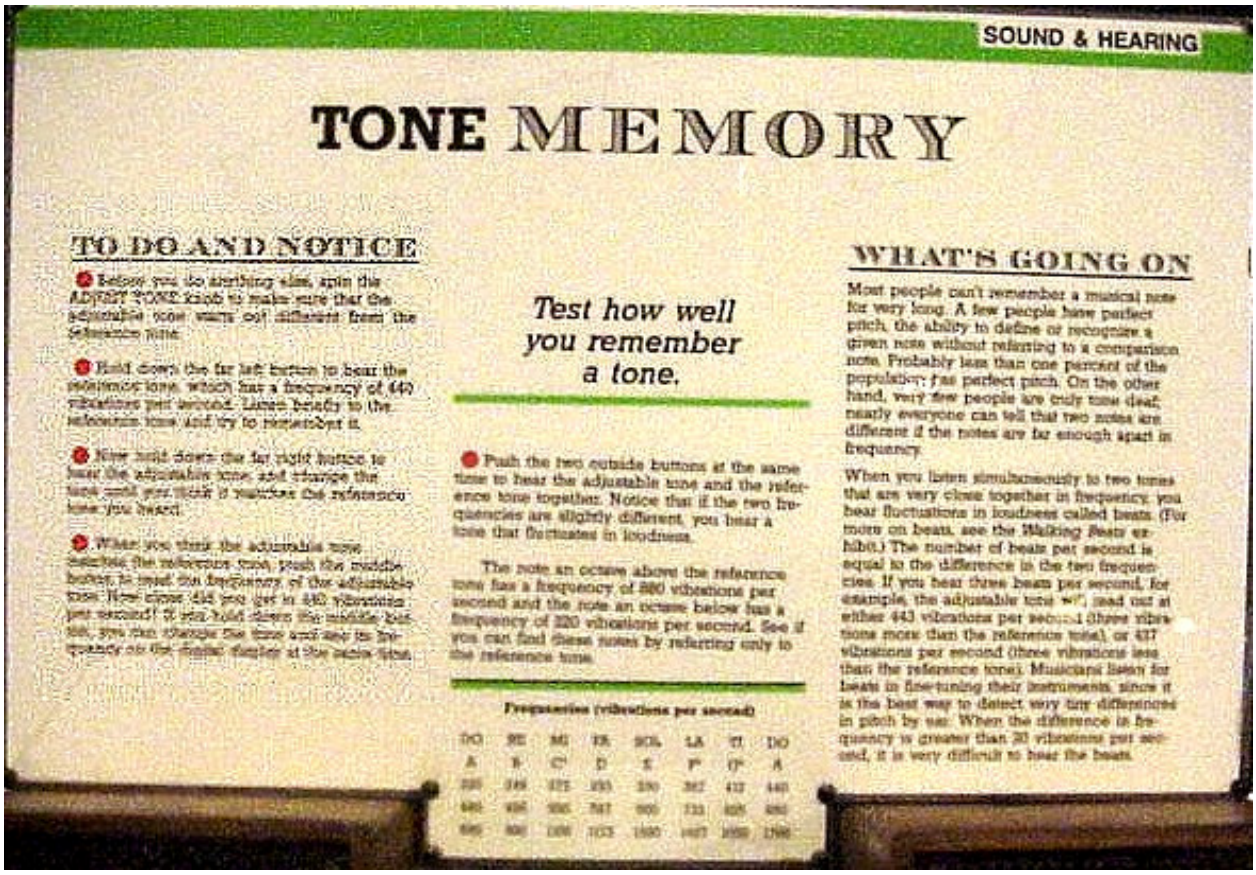
To determine:
- how interesting visitors thought the exhibit, Tone Memory, is,
- what visitors tried to do at the exhibit,
- what visitors believed was the point of the exhibit, and
- whether or not visitors read the label.

This study was performed to collect baseline data about the Tone Memory exhibit to help inform future refurbishment efforts.

EXHIBIT

Figure 1. Tone Memory exhibit.

Figure 2. Label for Tone Memory



METHOD

We observed visitors who stopped at the exhibit for more than 5 seconds. Afterwards, we approached the visitor for an interview.

We made observations and conducted interviews during these times:

Day	Date	Time of Day
Wednesday	6/19/02	12:30 pm – 1:15 pm
Sunday	6/23/02	3:15 pm – 4:00 pm
Wednesday	6/26/02	11:30 am – 1:45 pm
Friday	7/12/02	11:15 am – 3:30 pm

Data Collected

N = 33
Demographic Breakdown

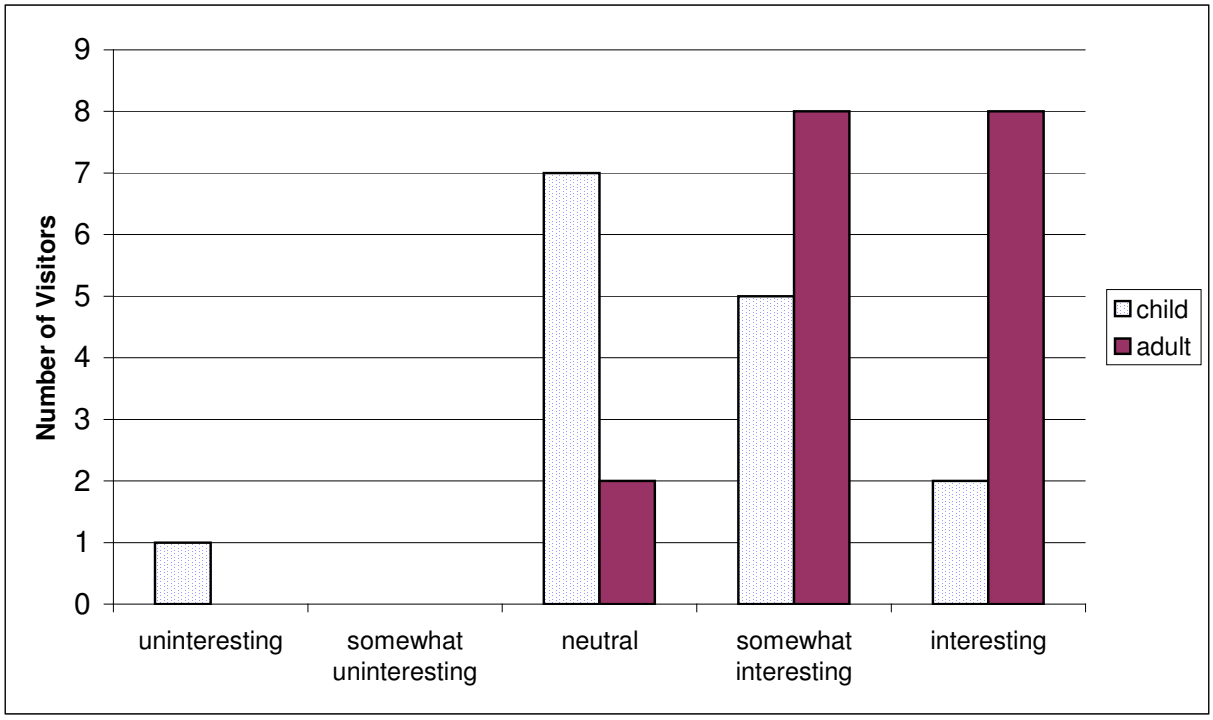
Age Group	Count
Child (8-17)	15 (45%)
Adult	18 (55%)

Gender	Count
Female	16 (48%)
Male	17 (52%)

RESULTS

How interesting did visitors rate this exhibit?

Overall, most visitors found Tone Memory to be *Somewhat Interesting*. Most adults found the exhibit to be *Somewhat Interesting* or *Interesting*. However, most children found Tone Memory to be *Neutral*, neither interesting nor uninteresting.



There is a significant difference between the interest level for adults and children. (Fisher's Exact Test, $p = .02$. Note that for this test, we combined the *Uninteresting* and *Neutral* count into one category and the *Somewhat Interesting* and *Interesting* count into another category.)

Visitors mentioned that they liked the exhibit for the following reasons:

- It was challenging to match the tones.
- They learned something about their own hearing.

Some visitors complained that they could not figure out what to do.

What did visitors try to do at the exhibit?

Overall, a majority of visitors tried to match the adjustable tone to the reference tone. 72% of the adults tried to match the tones; 47% of the children tried to match the two tones. See Table 1.

Table 1. What visitors tried to do at Tone Memory

	Overall (Out of 33)	**Children** (Out of 15)	**Adults** (Out of 18)
Match the tones	20 (61%)	7	13
Make sounds	4 (12 %)	4	0
Did not know	3 (9%)	3	0
Listen for beats	2 (6%)	1	1
Play with buttons	2 (6%)	0	2
(Other explanations)	2 (6%)	0	2

What did visitors believe was the point of the exhibit?

When then asked what they believe the point of the exhibit was, visitors explained:

	Overall (Out of 33)	**Children** (Out of 15)	**Adults** (Out of 18)
The exhibit had no point/ They did not understand the point	8 (24%)	8	0
It showed how hard it is to remember tones	7 (21%)	0	7
It showed the accuracy of our hearing	5 (15%)	2	3
The point was to match sounds	5 (15%)	2	3
It had something to do with sound	4 (12%)	2	2
It showed high and low tones	3 (9%)	1	2

About half (53%) of the children either did not understand the point of the exhibit or saw no point to the exhibit, and none of the children believed that Tone Memory demonstrated our ability to

remember tones. In contrast, adults were able to articulate a point to the exhibit, and 39% thought the exhibit had to do with tone memory.

Do visitors read the labels?

Twenty-five of the 33 visitors (76%) interviewed claimed that they read the label. 94% of the adult visitors and 53% of the children read the label.

RECOMMENDATIONS

Tone Memory is an exhibit that currently works better for adults than children; children have a more negative experience at this exhibit: They believe it is less interesting, have more trouble figuring out what to do, and have more difficulty understanding the point of the exhibit. To help the younger population, we may try the following:

- Currently, there is a lot of text in the label. Experiment with simplifying the text and chunking the information.
- Add graphics to the 'To Do and Notice' to better illustrate the steps visitors should take to test their tone memory.

ACKNOWLEDGEMENTS

The author would like to thank Steve Tokar for collecting the data for this study.

APPENDIX A

Observations

Initial Adjusted Tone: _____ Hz

Turn	(Purple)	(Orange)	(Blue)

Final Adjusted Tone: _____Hz

Interview Questions

1. How interesting would you say the exhibit was to you? Would you say it was …

Uninteresting	Somewhat uninteresting	Neutral	Somewhat interesting	Interesting
1	2	3	4	5

2. What made the exhibit _____ for you?

3. Can you tell me what you were trying to do at the exhibit?

4. In your opinion, what do you think is the point of the exhibit? [What is it trying to show people, if anything?]

5. Did you happen to read the label? *YES / NO*