

Listening Vessel – Label Positions

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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

Listening Vessel – Label Positions

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PURPOSE

To determine how different placements of labels affect visitor behavior:

- Do visitors see the label?
- Do visitors read the label? What parts?
- Do visitors try what the label suggests? Which activities?
- Do visitors experience the phenomenon each activity purports to show?
- In the distributed placement, do visitors associate the listening phenomenon with the physical structure?

We looked at three different label positions:

Floor Mounted Labels: The label, which described three different activities to try at the exhibit (Figure 1), was taped to the floor in front of each of the two listening vessels. (See Figure 2.)

Pedestal Mounted Labels: The same label (Figure 1) was mounted on a pedestal next to each of the two vessels. (See Figure 3.)

Distributed Labels: Three different labels were placed in different locations (Figure 4-6). Each label describes one and only one activity to try with the vessel. The 'Have a Conversation' label was taped to the floor, in front of each of the vessels (Figure 7). The 'Clap and Listen' label was taped to the inside of each vessel (Figure 8). Finally, the 'Eavesdrop' label was mounted on a pedestal midway between the two vessels (Figure 9). This way, the label is placed where the listening activity would take place.

None: We also collected observational data of visitor behavior when there were no labels describing what to try at this exhibit. This served as baseline data to help us determine if the labels changed visitor behavior.

Figure 1. Label used for floor mounted and pedestal mounted positions



Figure 2. Floor Mounted Label Position



Figure 3. Pedestal Mounted Label Position



Figure 4. "Have a Conversation" Label for Distributed Placement

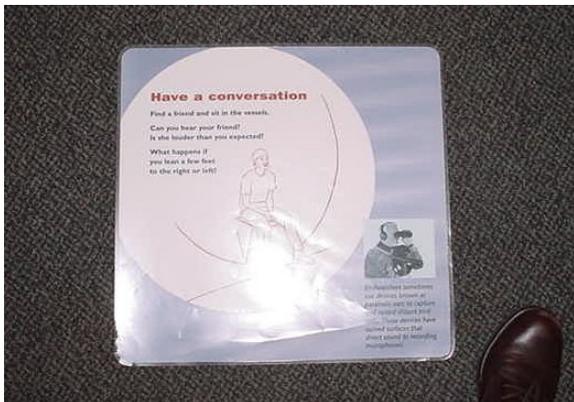


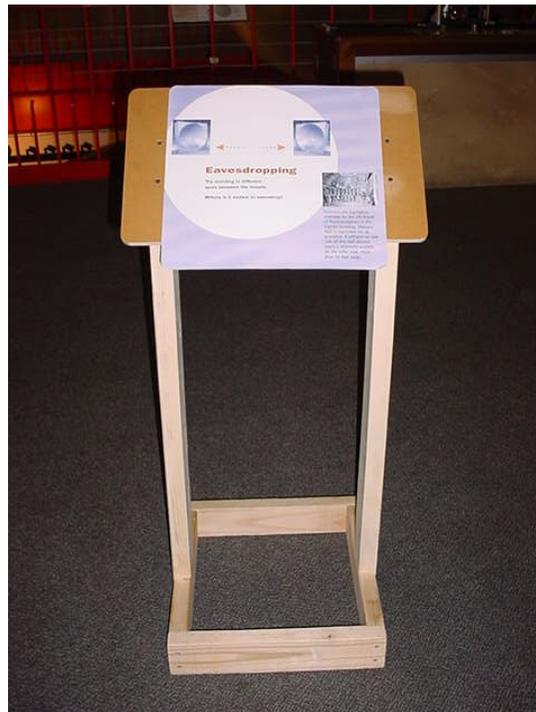
Figure 5. 'Clap and Listen' Label for Distributed Placement





Figure 6. 'Have a Conversation and 'Clap and Listen' Label in Distributed Placement

Figure 7. 'Eavesdropping' Label in Distributed Placement



METHOD

- 16 Observations
- 84 Observations followed by an interview
- We observed every 3rd visitors who approached one of the vessels. Every 30 minutes, the evaluator switched his/her attention to the other vessel. Throughout, we also observed anyone who stood midway between the 2 vessels for more than 3 seconds.
- After the visitor moved out of the Listening Vessel area, an evaluator would approach the visitor for a short interview. (Note: we did not interview anyone in the No Label condition.)
- Data were collected during the following times:

Placement	Date	Day
No label	6/22/03	Sunday
Floor mounted label	6/24/03	Tuesday
Pedestal mounted label	6/25/03	Wednesday
Distributed labels	6/26/03	Thursday
Pedestal mounted label	6/28/03	Saturday
Floor mounted label	7/1/03	Tuesday

- Demographics:

<i>No label</i>		<i>Floor Mounted Label</i>		<i>Pedestal Mounted Label</i>		<i>Distributed Labels</i>	
Gender	Count	Gender	Count	Gender	Count	Gender	Count
Female	6	Female	18	Female	19	Female	12
Male	10	Male	9	Male	18	Male	8
Total	16	Total	27	Total	37	Total	20

<i>No label</i>		<i>Floor Mounted Label</i>		<i>Pedestal Mounted Label</i>		<i>Distributed Labels</i>	
Age Group	Count	Age Group	Count	Age Group	Count	Age Group	Count
Adult	9	Adult	17	Adult	34	Adult	14
Teen	3	Teen	7	Teen	3	Teen	2
Kid	4	Kid	3	Kid	0	Kid	4
Total	16	Total	27	Total	37	Total	20

RESULTS

Did visitors see the label?

Placement	Saw	Did not see	Total
Floor Mounted	21 (84%)	4 (16%)	25 ¹
Pedestal Mounted	25 (68%)	12 (32%)	37
Distributed	16 (80%)	4 (20%)	20
Total	62 (76%)	21 (24%)	82

- A majority of the visitors we interviewed saw a label.
- There was no statistical difference in the percentage of visitors who saw a label between the 3 different label positions; $\chi^2 (2) = 2.461$, $p=.292 > .05$
- In the distributed placement, 10 visitors out of 20 saw the “Have a Conversation” label, 13 saw the “Clap and Listen” label, and 0 saw the “Eavesdrop on your Friends” label.

Did visitors read the label?

Placement	Read	Did not read	Total ²
Floor Mounted	14 (67%)	7 (33%)	21
Pedestal Mounted	14 (56%)	11 (44%)	25
Distributed	11 (69%)	5 (31%)	16
Total	39 (63%)	23 (37%)	62

- A majority of the visitors who saw the label read some part of that label.
- There was no statistical difference in the percentage of visitors who read a label between the 3 different placements; $\chi^2 (2) = .872$, $p=.646 > .05$

¹ We were unable to interview 2 out of the 27 visitors we observed for the floor-mounted version.

² This is a count of the number of visitors who claimed they saw a label.

What part did they read?

Placement	Conversa- tion Activity	Conversa- tion Relevance	Clap and Listen Activity	Clap and Listen Relevance	Eavesdrop Activity	Eavesdrop Relevance
Floor Mounted	16 (76%)	1 (5%)	7 (33%)	0 (0%)	4 (19%)	1 (5%)
Pedestal Mounted	14 (56%)	1 (4%)	8 (32%)	3 (12%)	6 (24%)	3 (12%)
Distributed	11 (69%)	2 (13%)	9 (56%)	2 (13%)	0 (0%)	0 (0%)
Total	41 (66%)	4 (6%)	24 (39%)	5 (8%)	10 (16%)	4 (6%)

- In general, most visitors read the activity description for “Have a Conversation.”
- Less than 20% of visitor read any ‘relevance’ descriptions for “Have a Conversation”, “Clap and Listen”, or “Eavesdrop on your Friends.”

Comparison between the 3 label placements

- There was no significant difference in the percentage of visitors who read the different parts of the label between the 3 label placements, with one exception:
- Significantly less visitors read the “Eavesdrop on your Friends” activity description in the distributed placement compared to the pedestal mounted placement. Fisher’s Exact Test, $p = .004 < .01$
- No visitor read the “Eavesdrop on your Friend” label that was placed midway between the two vessels in the distributed placement.

What did visitors try to do?

Based on observations, we found that visitors tried to do the following with the Listening Vessel exhibit:

Placement	Have a Conversation (Sit, face forward and talk)	Clap and Listen (Stand, face backward, and clap)	Eavesdrop (Stop between the 2 vessels for >3 sec)
No Label (n=16)	16 (100%)	0 (0%)	0 (0%)
Floor Mounted (n=27)	25 (93%)	1 (4%)	0 (0%)
Pedestal Mounted (n=37)	34 (92%)	5 (14%)	2 (5%)
Distributed (n=20)	18 (90%)	4 (20%)	1 (5%)
Total (n=100)	93 (93%)	10 (10%)	3 (3%)

- A large majority of the visitors tried to “Have a Conversation”.
- A small minority of visitors “Clap and Listen”
- Just 3 out of 100 visitors “Eavesdropped” between the two vessels.
- There was no detectable difference (Chi-Square Tests) in the activities visitors tried between the four conditions: No Label, Floor Mounted Label, Pedestal Mounted Label, and Distributed Labels. Furthermore, comparing the No Label condition to each of the 3 label placements indicates no statistical difference in the activities visitors tried. (Fisher’s Exact Tests.)
- In addition, we found
 - 29 visitors clapped, but only 10 of these visitors clapped into the closer vessel. Instead, 2/3 of these visitors clapped facing their friend in the other vessel.
 - Of the visitors who tried to “Have a Conversation”, 31 also experimented with moving back and forth while sitting inside a vessel. And, 10 of the 94 turned around and faced and talked into their own vessels.
 - The 3 visitors who did try eavesdropping did so only after trying another activity at the Listening Vessel. Eavesdropping seems to be a secondary activity for this exhibit.

Do visitors experience the phenomenon each activity purports to show?

- 75 out of the 77 visitors (97%), who tried to have a conversation and who were interviewed³, reported being able to hear the person in the other vessel.
- 8 out of the 10 visitors (80%), who clapped and listened and who were interviewed, heard their own clapping clearly. 7 out of these same 10 visitors (70%) heard an echo.
- 2 of the 3 visitors who tried to eavesdrop heard their friends in the Listening Vessel.

In the distributed placement, do visitors associate the listening phenomenon with the physical structure?

- There was only one person in the distributed label condition, who tried to eavesdrop. This person indicated that she was eavesdropping on people sitting inside the vessel. We cannot tell if visitors associate the sound phenomenon with the physical vessels because of the low number of responses.

³ Recall that visitors in the “no label” condition were not interviewed.

SUMMARY

- A majority of the visitors saw a label. There was no statistical difference in the percentage of visitors who saw a label between the 3 different label positions. When the labels were distributed, no visitor saw the “Eavesdrop on your Friends” label. This suggest that labels placed at the physical exhibit get the most attention while labels in a listening space not clearly attached to a physical object get much less attention.
- A majority of the visitors who saw a label read some part of that label. There was no statistical difference in the percentage of visitors who read a label between the 3 different versions.
- A small minority of visitors read the blurbs that connect the phenomenon to relevant experiences outside the Exploratorium.
- A large majority of the visitors tried to talk to the person sitting in the other vessel. Few visitors tried clapping into their vessel or eavesdropping between the 2 vessels. These 2 suggested activities seem to be secondary activities for visitors at this exhibit. Having labels that suggest these activities did not seem to make any significant difference (i.e., visitors were not more likely to try the clapping or eavesdropping with the labels).

ACKNOWLEDGEMENTS

Alyssa Freedman and Steve Tokar helped collect the observation and interview data for this study.

APPENDIX A***Interview for Consolidated Versions (Version-Floor and Version-Mount)***

1. Have you played with this exhibit before today? Either here or with a similar exhibit at another museum?

YES NO

2. Did you see this sign around this exhibit? This is what the sign looked like [show]

YES NO

3. Did you get a chance to read the sign? YES NO

a. which ones? [circle as many as applies]	b. which parts? [circle as many as applies]
Have a Conversation	To Do
	Relevance
Clap and Listen	To Do
	Relevance
Eavesdrop	To Do
	Relevance

4. Can you describe what you tried to do at the exhibit?

5. Were you able to [ask only those activities that they identified or performed]

[Activity]	Experience		Comments
[Conversation]	Hear the person on the other side?	YES NO	
[Clap]	Hear your clapping clearly?	YES NO	
[Clap]	Hear an echo behind you when you clapped?	YES NO	
[Eavesdrop]	Eavesdrop on the people in the exhibit?	YES NO	

Interview for Distributed Version (Version-Distributed)

1. Have you played with this exhibit before today? Either here or with a similar exhibit at another museum? YES NO
2. Did you see any of these signs around this exhibit? This is what the signs looked like [show] YES NO
 - a. which ones? [circle as many as applies]
 - Have a Conversation
 - Clap and Listen
 - Eavesdrop
3. Did you read any of these signs? [show signs] YES NO

a. which ones? [circle as many as applies]	b. which parts? [circle as many as applies]
Have a Conversation	To Do
	Relevance
Clap and Listen	To Do
	Relevance
Eavesdrop	To Do
	Relevance

4. Can you describe what you tried to do at the exhibit?

5. Were you able to [ask only those activities that they identified or performed]

[Activity]	Experience		Comments
[Convers- ation]	Hear the person on the other side?	YES NO	
[Clap]	Hear your clapping clearly?	YES NO	
[Clap]	Hear an echo when you clapped?	YES NO	
[Eavesdrop]	Eavesdrop on people ?	YES NO	

6. **[Only if able to eavesdrop]** Where do you think the voices you hear are coming from?