



DataONE Posters Eye Tracking Study Results

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Prepared for:

DataONE Leadership Team

Prepared by:

Rachel Volentine

User-eXperience Lab Manager

User-Experience Laboratory

Center for Information and Communication Studies

University of Tennessee

uxl@utk.edu

865.974.9865

OVERVIEW & TOP FINDINGS

The goal of this research effort was to assess the effectiveness and usefulness of the DataONE product and services posters. The eye tracking study was completed at the DataONE Community Meeting in Tacoma Washington.

TOP FINDINGS

Participants listed data level metrics and metadata quality reports as the key product or service offered by DataONE.

One participant said, "I think [Data Level Metrics and Metadata Quality] are missing from our current repository and they will help researchers understand the impact there data is having. I would like data to take the same level of importance as publications."

An interested audience will take the time to read and engage with a relevant poster.

The eye tracking data showed an even distribution of gaze data on each poster's subtitle, images, and text.

A clear and precise subtitle will draw a user's attention to a poster.

The first place users focused on a poster was the subtitle. The clear language and clean design attracted user's attention before they examine the poster's content.

PROJECT METHODOLOGY

Nine users were invited to participate in the DataONE posters eye tracking study. Testing took place at the DataONE Community Meeting in Tacoma, Washington on July 15 2019. All participants were attendees. The sessions took place during breaks in the meeting schedule. During the eye tracking session the participants were asked to spend a few minutes exploring the posters placed at the back of the room. Before completing the eye tracking study, all participants attended a meeting session where the products and services were discussed.

The study was conducted with Tobii Glasses 2 and Tobii Glass Controller software. Analysis was completed with Tobii Pro Lab. Each test session lasted less than five minutes.

USER PROFILE

All participants were recruited in person by either Rachel Volentine or Amy Forrester. They were all attendees at the DataONE Community Meeting.

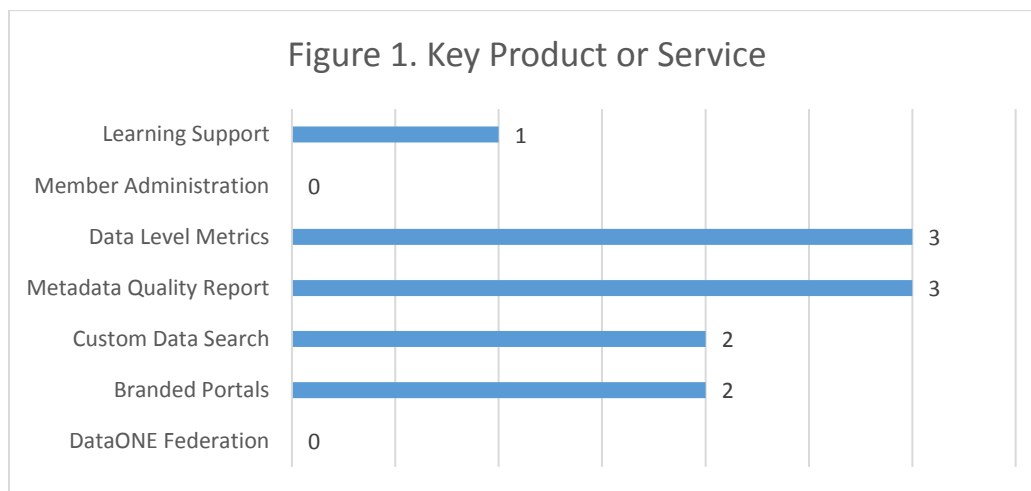
USER #	AFFILIATION WITH DATAONE	ROLE IN ORGANIZATION
1	CI Team	None
2	Member Node	Data Scientist
3	Intern	Student
4	Member Node	Data Manager
5	none	Engineer
6	DUG co-chair	Administrator
7	none	Data Stewardship Manager
8	Former CEE/CEO member	Program manager
9	Member Node	Researcher

SURVEY RESULTS

After viewing the six posters, the participants were asked to complete a short survey asking three questions:

1. What is the key product or service that stuck out to you?
2. Why did it draw your attention?
3. Any other comments about the DataONE posters you saw?

Participant found the Data Level Metrics and Metadata Quality Report to be the most valuable product (Figure 1).



Below are their replies as to why the product or service drew their attention:

Data Level Metrics:

- When I am looking for a very specific product/thing on a website, I look to narrow down my search as much as possible using filters.
- Glad to see COUNTER in practice.
- I think [Data Level Metrics and Metadata Quality] are missing from our current repository and they will help researchers understand the impact there data is having. I would like data to take the same level of importance as publications.

Metadata Quality Report:

- It's novel and necessary. The graphics were clear and easy to understand.
- I think [Data Level Metrics and Metadata Quality] are missing from our current repository and they will help researchers understand the impact there data is having. I would like data to take the same level of importance as publications.
- Impressed at functionality, curious for more details how the metadata quality records are evaluated.

Custom Data Search:

- May provide enhanced search and discovery.

- When I am looking for a very specific product/thing on a website, I look to narrow down my search as much as possible using filters.

Branded Portals:

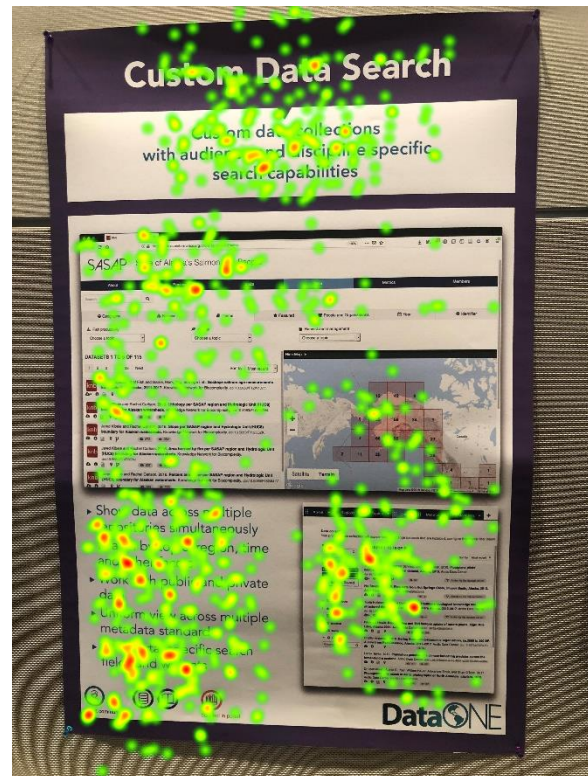
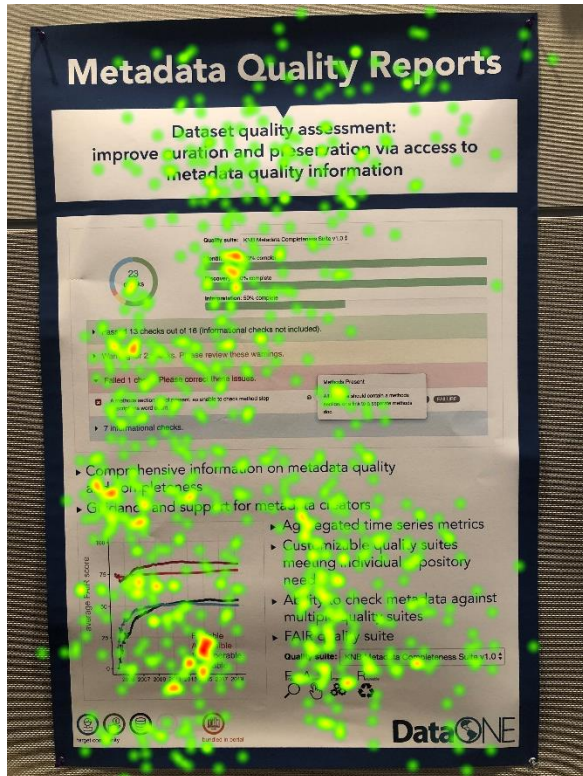
- It's an interesting service that i think many folks will be interested in.
- We would like to develop a community portal to support sample metadata and data searches.

Learning Support:

- The next generations are going to be the most challenged in human history

EYE TRACKING ANALYSIS

Participants, on average, spent between 23 and 29 seconds looking at each poster, except for the data level metrics which they spent, on average, only 18 seconds. The shorter time seems to be due to less content on the poster than as a result of lower interest in the content.



For further analysis of the posters' content, we divided each poster into six areas of interest (AOIs)—title, top description, image(s), text, icons, and DataONE logo.

Participants first looked at either the title of the poster (Learning Support, Member Administration, Metadata Quality Reports, and Branded Portals) or the top description (DataONE Federation, Data Level Metrics, and Custom Data Search).

For all the posters people viewed the images before looking at the text, and they, on average, took nearly 30 seconds to look at the DataONE logo.

Participants spent the longest time, on average, looking at the images on all the posters except for the Metadata Quality Report and DataONE Federation (see table).

Average Total Fixation Duration in AOI (in seconds)

	Text	Image(s)	Top Description	Title	DataONE Logo	Icons
DataONE Federation	10.24	6.13	2.58	0.40	0.45	1.40
Branded Portals	9.70	11.54	2.46	0.58	0.18	0.73
Custom Search	7.38	14.76	3.42	1.33	0.11	1.44
Metadata Quality Report	10.24	8.21, 5.92*	2.24	0.61	0.20	1.10
Data Level Metrics	3.48	8.60	2.12	1.33	0.17	1.62
Member Administration	4.11	12.74	2.78	1.33	0.07	1.19
Learning Support	5.06	14.93	2.23	0.60	0.24	0.97

**The images on the Metadata Quality Report were divided into two AOIs, the first contained the metadata quality image and the second contained the FAIR graph.*

The total fixation duration also shows a longer duration on icons than might be expected. This could indicate that users had difficulty understanding the purpose or meaning of the icons. The icons like the DataONE logo are not graphics that should require a long period of fixation. In the survey and in the audio collected during recording many users expressed confusion about the purpose and meaning of the icons. One participant, for example, said, “I think the icons along the bottom of the posters represent stakeholder groups, but the relation between icon and stakeholder group is difficult to connect.”

CONCLUSION

Our findings showed that people were easily able to take in the information presented on the posters. As one participant said, “Perfect level of detail (not too much, not too little).” The top description drew the user in, more so than the title, and the images and text provided enough detail and understanding for the participants to provide concrete reasons why they preferred a certain DataONE product or service.