# Behind the clicks: what can eye tracking and user interviews tell us that click statistics cannot?

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Anecdotal evidence at Manchester Metropolitan University Library has suggested that users struggle to find information on our website. We create, adapt and store high volumes of essential and necessary information online. Our design and content builds up from additions and contributions over time, for a variety of purposes and from many different sources. However, the more we try to 'help' our users, the harder we can make it for them to find that information. Previously, we have relied upon click statistics to assess successful navigation of the website. I wanted to look behind the click statistics to see whether clicking means that a user has reached the correct destination, read the information and answered their individual question.

We have been piloting the use of an eye-tracking kit to see more clearly how users are navigating our website. We use a device from Tobii that clips onto the inside hinge of a laptop. This device follows and records where a user looks and clicks when navigating a website, creating a dynamic visual recording of the user journey.

## The tasks

I created a scenario wherein participants had a number of tasks to solve, using the Library website. In writing the tasks, I focused on areas of concern highlighted in staff meetings, or based on questions asked at our physical and virtual help desks. Areas included: potential 'hidden gems' (such as Inter Library Loans); too much text; tiny links; too many options for finding the same information; a lack of clarity over how to use some features; more than one search box on the homepage.

Wording the tasks without giving the game away was difficult. The instruction 'Navigate to your subject guide', for example, would cause even participants who

had never before used this route to click on the phrase 'subject guide' anywhere they came across it on the homepage. A pilot is strongly recommended to get the questions right. I adapted some tasks after a focus group with Information and Library Management students.

After looking into ideal numbers for this type of research, I was aiming for between 10–12 participants. I received 11 replies to promotion drives via subject librarians and on social media, as well as sweeping for participants within the Library. After a briefing, I left participants alone to work through the tasks at their own pace. I also conducted two control tests using librarians. Both librarians followed the same or similar path to answers, suggesting we may have specific expectations regarding navigation for particular questions. I discounted one set of participant data, as although they completed the tasks, there were connectivity issues on the day, which affected elements of the homepage display.

## Data Analysis

I watched the video back with each participant, to confirm that I did not make any assumptions about eye movements or decisions. To ensure I had fully analysed each decision made by all the participants, I created data sheets for multiple library staff analysts to watch the videos and annotate with five-bar gates and comments for every eye movement that occurred on each page, tab, link, or search box. I used other analysts for this process, rather than myself, to eliminate any bias.

The interview data turned out to be invaluable for two key reasons:

1. *There were instances where participants misinterpreted the task. The interviews gave the opportunity to understand why – providing additional insights.*

   An example: Participants were to request an item from another Library; I was expecting participants to use the Inter Library Loan form. Some of the participants instead searched the Library catalogue for items they could reserve from our Crewe Library – based at our other campus in Cheshire. However, participants were not filtering for the other campus, instead trying multiple alternative searches to find a title available at this campus. Could we therefore make this process easier or more obvious? A number of participants had also not heard of the service; could we consider promotion and visibility?

2. *During the data collection phase, there were some inconsistencies between what data analysts reported and what participants reported in the interview.*

An example: The participants were to search for a paper in our research repository:

The analyst's notes: User finds resource, searches, finds a result and demonstrates knowledge of how to export the result. Task success: YES

The participant's notes: I searched the repository, but my search did not work. Nothing came up.

Viewing the video showed that despite using search effectively, the participant did not at any time look at the search result. Task success: NO

This shows us that we might want to look at how search results display, but I could easily have missed this insight in the analysis stage, without the follow-up interviews. It is easy for staff to make assumptions about student intent and success, even with evidence in front of them.

## Findings so far

The findings are far-reaching and will require ongoing analysis and collation to pinpoint both the key and manageable features for change. I have outlined some of the key findings below.

### Clicks vs behind the clicks

According to click statistics, our *Opening hours* guide has been viewed 13,121 times in a 1-year period. If you use click analysis, this is the point when you assume that the user has achieved their goal.

During the test, I asked the participants to discover helpdesk opening times. All options selected by all participants for this task and their outcomes are shown in Figure 1 (over page).

The chart shows that of the 10 clicks made by participants, only one led to success – an extremely low 10 percent success rate. Crucially, users would need to read and scroll in order to get to the required information. During the study, only four of the participants used scroll and only one read the information on the page. If I were to test this again, however, I would include an answer sheet for each task. This would eliminate any doubt as to whether participants could not see the information, or had considered navigating to the guide to be enough.
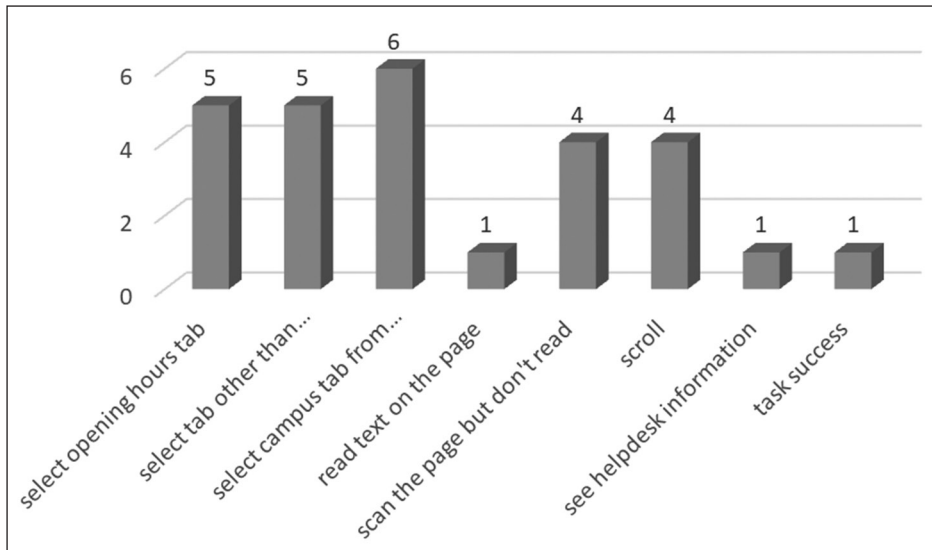
*Figure 1*   Options for accessing Opening hours.

The participants also spent a long time looking around the front page before finding a link to click. However, the click stats just tell us they clicked on something, so again we assume success, even though it might take participants several minutes to get there.

This hesitancy could initially be viewed as a reaction to test conditions. However, this behaviour did not change throughout the duration of the test. I have used a chart from a later question to demonstrate this (see Figure 2). The numbers show how many times during one question all 10 participants looked at potential options before they chose an option to resolve the task (widgets refer to different areas of the homepage).

Throughout the test, participants clicked several options that took them to the wrong location, before returning to the front page and trying again. Figure 3 shows the result from just one question.

There were 44 incidences of looking at an option across the 10 participants. This led to only 15 clicks, replicating the issue of spending considerable time searching through options before clicking. Furthermore, only four of these choices turned out to be the correct option. With click stats analysis, however, all these incorrect clicks would count as a success.
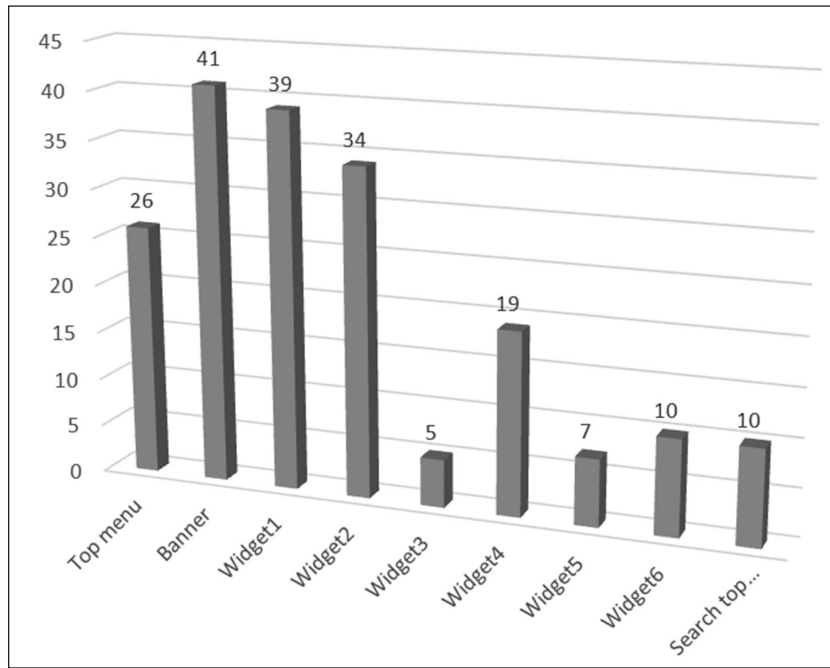
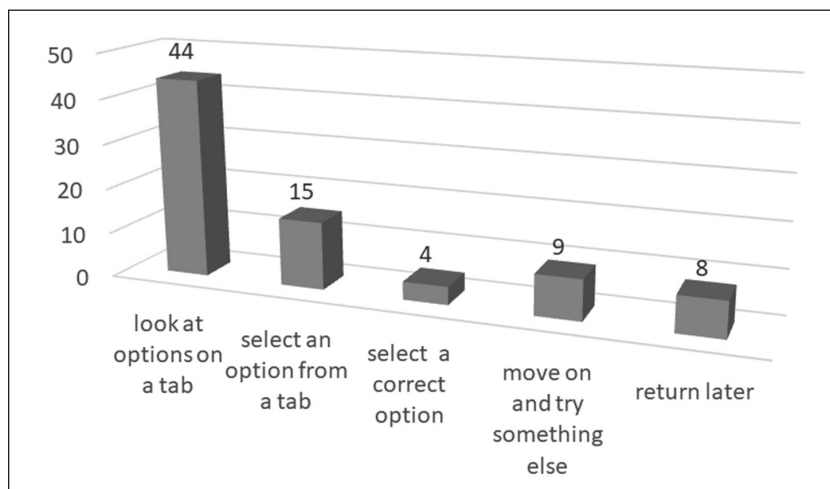*Figure 2*   Where participants look on the front page during task 6.



*Figure 3*   Using top menu options.

Figure 4 shows a sequential set of screenshots of a recording of a participant looking at a menu after selecting a tab and trying to make a decision about which options to choose (the bigger the circle, the longer the eye has rested in that area).

These screenshots illustrate the ongoing consideration participants were making of the available options. The eye tracker has given us direct visual evidence of potential difficulties our website layout can cause and that our click analysis strategies will not pick up.

## Overabundance of lists?

On our homepage, we have a number of resource discoverability options beyond general search. These include Databases A-Z, Reading lists, eJournals A-Z and Subject guides, and are intended to help students find information more easily. There were two questions about these lists in the test. Expected navigation for question 1 was *Subject guides*, while for question 2, the expected route was *Databases A-Z*. The actual navigation results (and further interview data) are in Figure 5.

There was uncertainty about list choices and quite a variance in participant awareness of features. The follow-up interviews implied that this might relate to
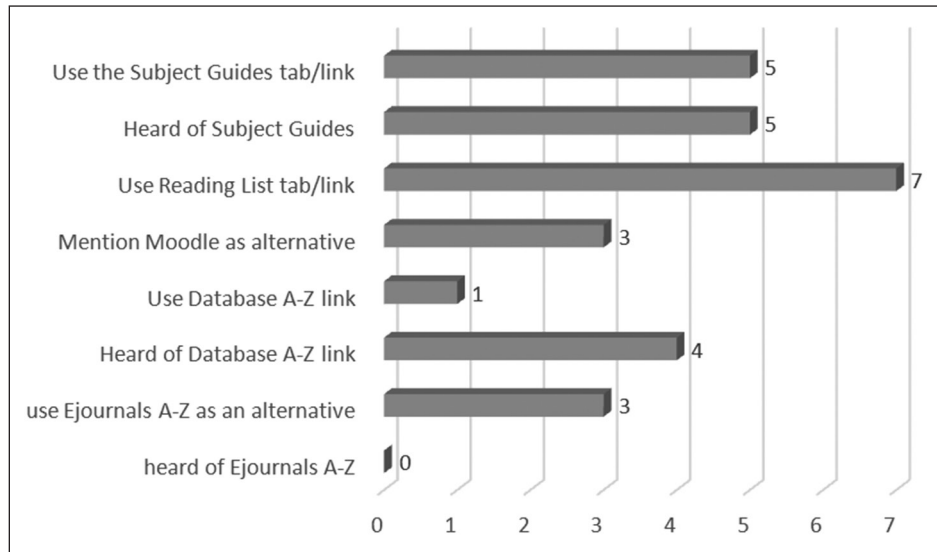
*Figure 5*　Resource list choices (across 10 participants).

what different groups of students are shown at induction, suggesting choices are based on librarian rather than user preference.
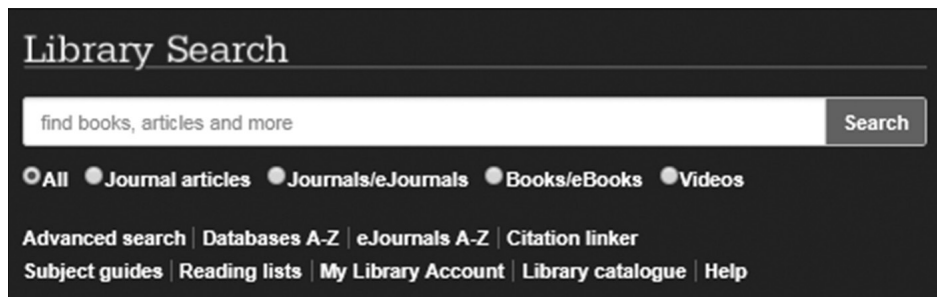
## Library Search/Summon



*Figure 6*　Summon search box.

The box shown in Figure 6 sits in the centre of our homepage and is a Summon search with filtering radio buttons beneath. The box also contains some additional links to popular guides and applications. Participants did not tend to use this box or any of the links beneath it. They preferred the additional MMU site search

box at the top of the page (sometimes referring to this as the Library catalogue). Participants were not sure how to use Library Search, or used it to search for information about the library, not to find resources. Some users also struggled to recognise that this was a search box at all, expecting some form of autofill. We are not clear enough with our users about what this box can do and we have perhaps hidden it with potentially unnecessary options around it.

## Recommended links

Our eye tracking footage suggests that participants did not see, or chose to ignore recommended links such as that pictured in Figure 7.
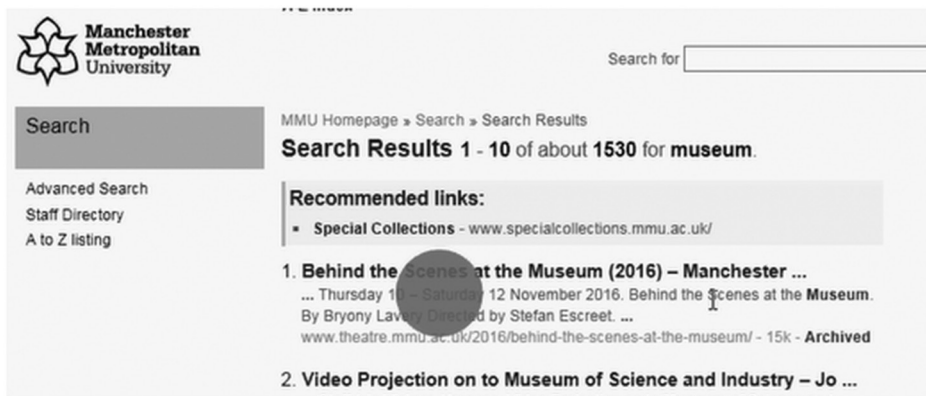


*Figure 7*    Eye tracking footage of search results.

This happened on a number of occasions throughout the study. We have many links that replicate this format (database recommender/ best bets/etc.). We use these as workarounds; however, they perhaps appear similar to adverts in a Google search that users might ignore. Alternatively, are participants ignoring the greyed out link and going straight for result 1?

## Where next?

I found this user-centred method an excellent way of going beyond our usual statistics and providing context for user journeys. Using eye tracking technology has provided further insights into how users respond to particular tasks and where else

they look before choosing particular routes to information. In addition to allowing us to explore elements of the user journey in much more detail, our eye tracking data has stopped us from making assumptions about intent and challenges. We have already agreed a number of key changes that we can implement to increase the ease of usability of our website, including improving access points to information and removing jargon. We have added many more findings to our website usability project plan.

I have been invited to talk about the research at more varied events than I had first envisaged, including a number of conferences and a web usability workshop with Masters students (that may lead to a joint and ongoing usability project). I also now undertake eye tracking kit training with Undergraduate students. This has been a great way to network to inform our research, work with academic departments and spread the UX word.