Usability Testing, Focus Groups and Feedback

Usability testing is the best way to know if your content and functionality works for real people with cognitive and learning disabilities.

Usability is important for everyone. However, if someone cannot use the content or design without help because of their disability, then the content is not accessible for them. It is important to change the design so that users with cognitive or learning disabilities can use the content independently.

Note that automated testing for accessibility focuses on more technical areas of accessibility. While important, automated testing cannot assess if people with a cognitive impairment can successfully use the content. It is vital for people with cognitive disabilities that development teams do not rely solely on automated accessibility testing, but incorporate design patterns as described in section 3, and if possible test with people who have cognitive disabilities.

Sometimes designs and content are usable for some people but not if they have cognitive or learning impairments. Sometimes content is usable by people with one learning disability but not a different one. For example, content with less words and more numbers may be perfect for some users with dyslexia or autism spectrum disorder, but inaccessible for people with dyscalculia who struggle with numeric information. It is important that useability testing includes a diverse set of users with different cognitive or learning disabilities, such as people with a memory impairment, attention impairment, language and communication disability and intellectual disability.

Including people with cognitive and learning disabilities.

Persons with disabilities should participate in the design and development process. This also includes research that has something to do with them. They're the experts in what works for them.

This can involve including people with cognitive and learning disabilities in:

- focus groups
- usability tests
- the design and research team.

Informed consent

It is important to get a declaration of consent from all participants involved in testing and focus groups before they start. Before they sign up, participants must know and understand the details such as:

- What the project is for.
- What they will be doing and why it is helping you.
- Any risks need to be explained and understood.
- What personal details are collected and how any personal data may be used (note that their comments should be anonymised before being used in any report.)
- They do not have to participate. Participation is always voluntary and they can always stop at any time.

If your tester has a guardian you should get informed consent from both the tester and their guardian.

Using an understandable consent form is important. Our design patterns on clear content will help you use clear language and layout. Adding symbols can also help. You can also add comprehension questions to confirm that the terms are understood. You can also adapt the example consent forms from our developer resource page.

Finding people to include

Finding people to include in usability testing who have different learning and cognitive disabilities can be relatively easy. People sometimes recruit users from an organisation or self-help group for people with learning difficulties. Social media groups can be an easy and convenient resource. Alternatively, small developers can achieve a large improvement by asking people who they know, such as friends, colleagues, relatives or neighbors who:

- Are older and struggle to use computers, or have age-related forgetfulness;
- Are at an early stage of dementia
- Have dyslexia and/or dyscalculia or ADHD
- Have a learning or intellectual disability
- People with acquired cognitive issues (for example, due to neurological trauma) who have the same challenges as people with other disabilities such as:
    - having difficulty (asking a family member to help) with booking travel booking or hotel booking online
    - being unable to use online banking
    - coping with content forms and pop up windows when errors occur

It is helpful to find people with learning and cognitive difficulties who are also in your target group as customers or users.

Our developer resource page references project and resources with information on finding and working with persons with learning and cognitive difficulties as co-researchers or peer researchers. The peer researchers understand the perspective of people with their disabilities. The researchers and developers work together with peer researchers to find solutions. Peer researchers are also involved in testing the solution with other people with cognitive and learning disabilities.

Usability testing

It is beyond the scope of this document to provide a guide to usability testing and user-research, however, there are useful resources available on our developer resource page. As a short overview, usability could be measured based on efficacy, efficiency and satisfaction. This can be done by measuring or tracking:

- successes in completing tasks while noting any errors to measure efficacy,
- time taken per task to measure efficiency, note that the relative time between tasks is often more useful than absolute numbers and
- user's mood and comments to measure satisfaction.

At the end of the evaluation you should be able to answer:

- What prevents the user from completing a task?
- What creates confusion? When and why do they misinterpret the interface?
- What produces an error and an incorrect action?
- When does the user get frustrated or upset
- When does the user misunderstand navigation, menus and controls?
- How can these problems be avoided?

Differences from usability testing with the general population

There are some differences when testing for accessibility, and that includes when testing with people who have cognitive impairments:

- Ask ahead of time if they need any support for their needs. This could include a quiet room, or frequent brakes.
- Ask what test methods work best for them, such as individual interviews or groups.
- Ensure that the participation forms are easy to understand, send them to the participant in advance, and allow plenty of time for the participant to ask questions and fill in forms;

- Allow the participant to bring a carer, family member or friend to attend with them. If your tester has a guardian you should get informed consent from both the tester and their guardian;
- If they bring a guardian or carer, make sure they are not doing the tasks for them. If they give help, monitor closely what help they give as this is probably due to a design fault.
- The testing method should be explained before the test.
- The questions should not be too difficult.
- It helps to provide easy methods of assessing mood, rather than asking for the participant to verbalize, try asking them to select a smiley face, such as:

Figure 1 A simple mood selector

- *Check they understand the methods used to collect the data.*
- Ensure the person does not feel like they are at fault for making mistakes. While this is always important during usability testing, this scenario is even more likely for people with cognitive impairments.
- Ask them for their ideas, such as, what features they would like to see, what design they prefer and what support they find most helpful.

Some brief guidance on usability testing:

1. Before you start, make sure the research team understands that the testers can not do anything wrong. Research should never harm the user or make them feel bad.
2. Make sure the participants and researchers know they can leave at any time. No one should feel bad if they leave!
3. Check that the testers understand the task or question. Encourage your testers to “think out loud”
4. Can your testers (people with learning and cognitive disabilities) manage each task reasonably easily and fast. You can time the task taken to complete, and note any parts that where the users are slowed down or seem to struggle. Also note any errors that they make including clicking on the wrong thing.
5. Is completing the task frustrating or upsetting?
    1. You can ask the users how they are feeling before and after the tasks or rate their mode such as selecting the smiley which represents how they feel, such as:
    2. ask them if anything was annoying.
6. How can you make it better for your users (people with learning and cognitive disabilities)
    1. You can analyze the data collected above
    2. Ask them how they feel about the system and if anything was annoying.

7. If the user if failing blame the designer and not the user. Such as “ it is so helpful that you are doing this because our designers are not very good, or are always playing computer games so they think everyone is good at this stuff” or “you are really helping us make this useable by real people and not just engineers” . Stop the process if users are getting distressed despite this.

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