



Accessibility Fonts User Testing

Research Summary

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Introduction

The Surpass Accessibility team looked to understand the impact fonts have on people with dyslexia; as part of our accessible delivery program, and with so many ways we can support those who need it, we wanted to explore the value more accessible fonts brings to those with learning difficulties.

According to international research, dyslexia affects around **10%** of the UK population¹ (although as the condition can go undiagnosed, this is likely to be closer to **20%**).

Dyslexia is a learning difficulty (not disability, as it does not affect intelligence), and can cause problems with reading, writing and spelling.²

From a sample of **30,862** Surpass Delivery candidates sitting exams via the Test Center Network in **2020**, **5.4%** were specifically allocated extra time as a consideration for their exam. We have no way of directly linking this figure to the number of candidates with dyslexia as the reason for extra time is not stated in our records,

¹<https://www.gov.uk/government/publications/understanding-disabilities-and-impairments-user-profiles/simone-dyslexic-user>

² <https://www.nhs.uk/conditions/dyslexia/>

but the overall percentages marry closely to global statistics on the number of people with dyslexia.

The Testing Approach

OpenDyslexic is a font created by Abbie Gonzalez to help with his reading after receiving his first laptop 10 years ago.³

We wanted to test the impact of this font versus a more familiar font (Georgia) on participants' reading ability. Does it effect the speed of their reading, their emotional state, their confidence in the text?

As accessibility user testing is a new venture, we decided to focus internally and asked colleagues to volunteer to take part. Five people nominated themselves to be involved in the project.

Participant overview

3/5 participants are diagnosed as people with dyslexia

1/5 participants have an eyesight impairment

1/5 participants have no form of dyslexia or eyesight impairments

The User Test

³ <https://opendyslexic.org/about>

Each participant was asked to give an overview of their experience with dyslexia. Then we presented them with two documents to read. One document contained text in the Georgia font, the other in OpenDyslexic. The text was extracts from the same source, but different parts. They both also contained around 350 words:

He said he hadn't laid out a timeline for the decision, beyond that it must be made before Jan. 20, when Ms. Harris is sworn in as vice president. But, he added, "progress has been made."

The uncertainty has made room for lobbying by an array of aspirants and their political proxies. During some weeks it has seemed that the list of candidates for the post has continued to grow rather than narrowing toward an eventual selection.

Democratic leaders have sought to tug Mr. Newsom in different directions, playing on what they see as his short- and long-term political aspirations. Some argue that he must appoint a Black candidate if he hopes to prevail someday in a Democratic presidential primary, others that he must name a Latino to win a comfortable re-election in 2022, still others that Ms. Harris must be replaced by another woman or that he must placate progressives if he wants to govern successfully in an ongoing fiscal crunch.

This is in addition to the hard fundamentals of campaigning statewide in California, which both the governor and Senator Harris's successor will have to do in 2022, when their terms end. California, the most populous state, has myriad subcultures — north and south, coastal and inland — and primary campaigns alone can cost millions of dollars.

Though Republicans are less than a quarter of registered voters in the state, another third or so of the electorate has no party preference and turnout drops in off-year elections. Whomever Mr. Newsom appoints will need not only experience but the cash, the campaign operation and the charisma to turn out Democrats from the Mexican border to the Oregon state line.

Mr. Newsom has held conversations with a few potential appointees, though he does not appear to have conducted formal interviews for the job, people familiar with the

He and his siblings still live within five miles of the house where they grew up in Pacoima, Calif., in the San Fernando Valley. His original plan, he says, was to work in aerospace but the [anti-immigrant politics](#) that swept California in the early 1990s propelled him instead to political activism.

"That really was a wake-up call," he said last week, chopping onions for pumpkin chili as he spoke from his home. Relatives chattered in the background; he and his wife, Angela, have three children and his mother-in-law lives with them. "I knew I'd have to do my part or our community would continue to be scapegoated."

After his graduation, he worked in the office of Senator Dianne Feinstein. By 1999, he was a 26-year-old city councilman representing his old neighborhood. By 2001, he was the youngest-ever City Council president of Los Angeles.

In the State Senate, where he spent eight years, Mr. Padilla chaired Mr. Newsom's 2009 bid for governor before Jerry Brown got into the race and Mr. Newsom dropped out, running for lieutenant governor instead.

In 2014, Mr. Padilla ran for the secretary of state's office on a promise to register a million new California voters. As a result of legislation he pushed that registers Californians to vote when they get a driver's license, the state has added more than 4 million.

Text A – Georgia font

Text B – OpenDyslexic

Font

We asked them to read the text in silence before sharing their experience with us. For each participant we alternated which text they saw first. We also asked them to provide us with a readability score, a number which best represents how easy they found the document to consume (1 being terrible, 10 being perfectly easy).

Finally, we asked them to compare the two texts and choose their preference.

Analysis

The interviewers conducted an analysis with the aim to provide an overview of the main patterns discovered as part of the user testing process.

Context

Our participants all have differing experiences of dyslexia. Focusing firstly on the three who have been diagnosed with dyslexia:

- Two of the three talked about the perception of dyslexia and how especially at school, the expectation was if you had dyslexia you were not intelligent. In fact, one participant whose mother was a teacher suspected they had dyslexia but decided not to inform the school: *"At the time, if you were diagnosed with dyslexia, schools would put you in lower sets – lack of understanding that it's not an IQ issue"*
- The third participant wasn't diagnosed until they became an adult. They decided to re-take their English GCSE and on submitting their first paper, the tutor immediately suspected they have dyslexia.

People with dyslexia feel as though their reading and writing tasks will take longer than those without dyslexia.

Some of the participants with dyslexia also experience other conditions, such as dyspraxia.

Of the two participants without dyslexia, our participant with eyesight issues talked of visual similarities to those with dyslexia with text blurring, and heightened anxiety making their condition worse. Our control user with no learning difficulties spoke of his association to dyslexia through his sister who has chromatopsia (visual defect in which colored objects appear unnaturally colored and colorless objects appear tinged with color⁴).

There are common symptoms across the participants, but none are exactly the same:

- Confusing letters such as 'b' and 'd'
- Increased amount of time needed to read and write
- Struggling with higher contrast
- Lines of text 'jumping' or overlapping when reading
- Struggling with numbers as well as letters

All participants are highly aware of the stigmas associated to dyslexia, with the most commonly quoted being the perception of stupidity associated with the condition.

⁴ <https://medical-dictionary.thefreedictionary.com/chromatopsia>

Current Support

We asked participants to talk to us about what support they have access to and use in their daily lives to help with their dyslexia.

Of those with dyslexia, all have a range of strategies to help them read text e.g. read twice, following text with mouse, say words in head, work through slowly, printing and color coding information

Participants are likely to change settings to read text; magnifying, reducing contrast, grammar checkers, screen sizes and screen readers are all used to support their reading and writing.

Although the majority of participants do use tools to support their work, they also feel lacking in knowledge as to what else they could use.

"You learn compensation. Habits or tricks that you don't realize you're doing. Take a lot longer writing emails, getting people to check them"

The A/B Test

We conducted an A/B test to understand the impact and affect different fonts have on our participants readability. But, we learnt so much more. We saw the impact contrast ratios and line spacing has on the readers' ability. We saw the different emotional responses when faced with different text styles and we started to understand the huge impact a document has simply in the way it is presented.

Text A

He said he hadn't laid out a timeline for the decision, beyond that it must be made before Jan. 20, when Ms. Harris is sworn in as vice president. But, he added, "progress has been made."

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[An extract of Text A]

Below are the main findings derived from the user testing of Text A

1. Text A (Georgia) achieved an overall lower readability rating of 4.8, and took longer to read than Text B (OpenDyslexic), with an average time of 2 minutes and 21 seconds
2. Readers of Text A tended to prefer the second half of the text as this text was paler and therefore the contrast ratio was less
3. Readers of text A particularly struggled with the lack of spacing and length of paragraphs, preferring larger spacing between paragraphs, lines and words

4. Majority of readers struggled with the content of Text A, feeling like it was a big block of text that was really difficult to read and engage with

“The thing I found hard about the second one was the coloring, so black, spacing so close together and words so close together.”

Text B

He and his siblings still live within five miles of the house where they grew up in Pacoima, Calif., in the San Fernando Valley. His original plan, he says, was to work in aerospace but the [anti-immigrant politics](#) that swept California in the early 1990s propelled him instead to political activism.

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[Extract of Text B]

Below are the main findings derived from the user testing of Text B

1. Text B achieved an overall higher readability rating of 7.2, and took less time to read than Text A, with an average time of 1 minute and 54 seconds
2. The perception of Text B is that it is an unusual font in terms of shape, but does improve readability, with majority of participants describing it as easier to read
 - a. Some participants struggled with the font weighting in Text B, finding the lettering less clear than in Text A
3. The increased line spacing in text B had a positive impact on the readers, stating it felt much better than the Text B extract

4. Again, participants struggled with the content of Text B (as they did in Text A); finding both the writing style and word length tricky

“I’ve never experienced a font like this before, but it definitely helps me a lot. This text was much easier to read overall”

Comparison of Text A and Text B

Participants with dyslexia were confident when stating that their preference for Text B over Text A. However, the two participants without dyslexia began by preferring Text A, but by the end of the user testing session changed their minds and chose Text B as their preferred text.

Interestingly, those with dyslexia appeared much more relaxed in their body language reading Text B in comparison to Text A; one participant even described the font as “less threatening and overwhelming”.

In terms of timing and readability scores:

- Text B, on average, achieved a **30%** reduction in the time it took all our participants to read it, in comparison to Text A
- Likewise, for readability scores, Text B saw an increase of **50%** on average over Text A

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