

10 March
10-11am
Via Teams

Services
week

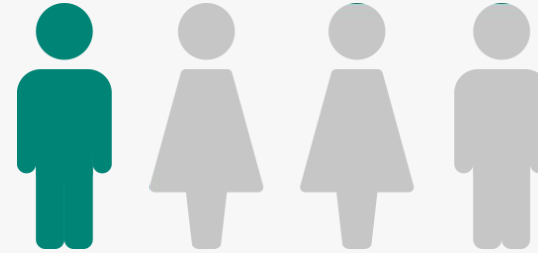
2022

**Taking a plain
numbers
approach to
service design**

**How do numbers
make you feel?**



1 out of 2 adults
have the numeracy level
expected at primary
school



Maths makes
1 out of 4
of us feel anxious



Paying tax

can cause

fear and anxiety

related to paying tax, which may

impair my ability

to pay tax



HM Revenue
& Customs



It's actually just PIN 🏠🏠🏠



Like



Comment



Share



19 · 13 Comments · 3.2K Views

#ServicesWeek

Government Gateway user ID

This could be up to 12 characters.

Enter a valid user ID and password. You will be locked out for 2 hours if you enter the wrong details 5 times

Password

Dyscalculia


dis · kal · kyoo · lee · uh

Civil Service Dyspraxia and Dyslexia Network (CSDDN)



DYSLEXIA AND DYSPRAXIA NETWORK



A woman with dark hair pulled back, wearing a blue collared shirt, is speaking in a video call. She has a slight smile and her eyes are looking down. The background shows a wooden shelf with a wicker basket and some papers on the right, and a small jar on the left. A black text box is overlaid at the bottom of the frame.

cash from machines before, luckily we don't use too much

Evidence suggests **1 out of 20** adults have dyscalculia

“I have dyscalculia so I need to check the numbers I enter at least twice. This makes me feel nervous on your website.”

Designing for accessibility

Designing for users on the autistic spectrum

Do...	Don't...
use simple colours	use bright contrasting colours
write in plain English	use figures of speech and idioms
use simple sentences and bullet points	create a wall of text
make buttons descriptive	make buttons vague and unpredictable
build simple and consistent layouts	build complex and cluttered layouts

Designing for users of screen readers

Do...	Don't...
describe images and provide transcripts for video	only show information in an image or video
follow a linear, logical layout	spread content all over a page
structure content using HTML	rely on text size and placement for structure
build for keyboard use only	force mouse or screen use
write descriptive links and headings	write uninformative links and headings

Designing for users with low vision

Do...	Don't...
use good colour contrasts and a readable font size	use low colour contrasts and small font size
publish all information on web pages	bury information in downloads
use a combination of colour, shapes and text	only use colour to convey meaning
follow a linear, logical layout	spread content all over a page
put buttons and notifications in context	separate actions from their context

Designing for users with physical or motor disabilities

Do...	Don't...
make large clickable actions	demand precision
give form fields space	bunch interactions together
design for keyboard or speech only use	make dynamic content that requires a lot of mouse movement
design with mobile and touchscreen in mind	have short time out windows
provide shortcuts	tire users with lots of typing and scrolling

Designing for users who are Deaf or hard of hearing

Do...	Don't...
write in plain English	use complicated words or figures of speech
use subtitles or provide transcripts for videos	put content in audio or video only
use a linear, logical layout	make complex layouts and menus
break up content with sub-headings, images and videos	make users read long blocks of content
let users request an interpreter for appointments	don't make telephone the only means of contact with users

Designing for users with dyslexia

Do...	Don't...
use images and diagrams to support text	use large blocks of heavy text
align text to the left and keep a consistent layout	underline words, use italics or write in capitals
consider producing materials in other formats (for example, audio or video)	force users to remember things from previous pages - give reminders and prompts
keep content short, clear and simple	rely on accurate spelling - use autocorrect or provide suggestions
let users change the contrast between background and text	put too much information in one place

Plain Numbers Project

Ben Perkins



Plain Numbers overview

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Alison Plant alison@plainnumbers.org.uk

Ben Perkins ben@plainnumbers.org.uk

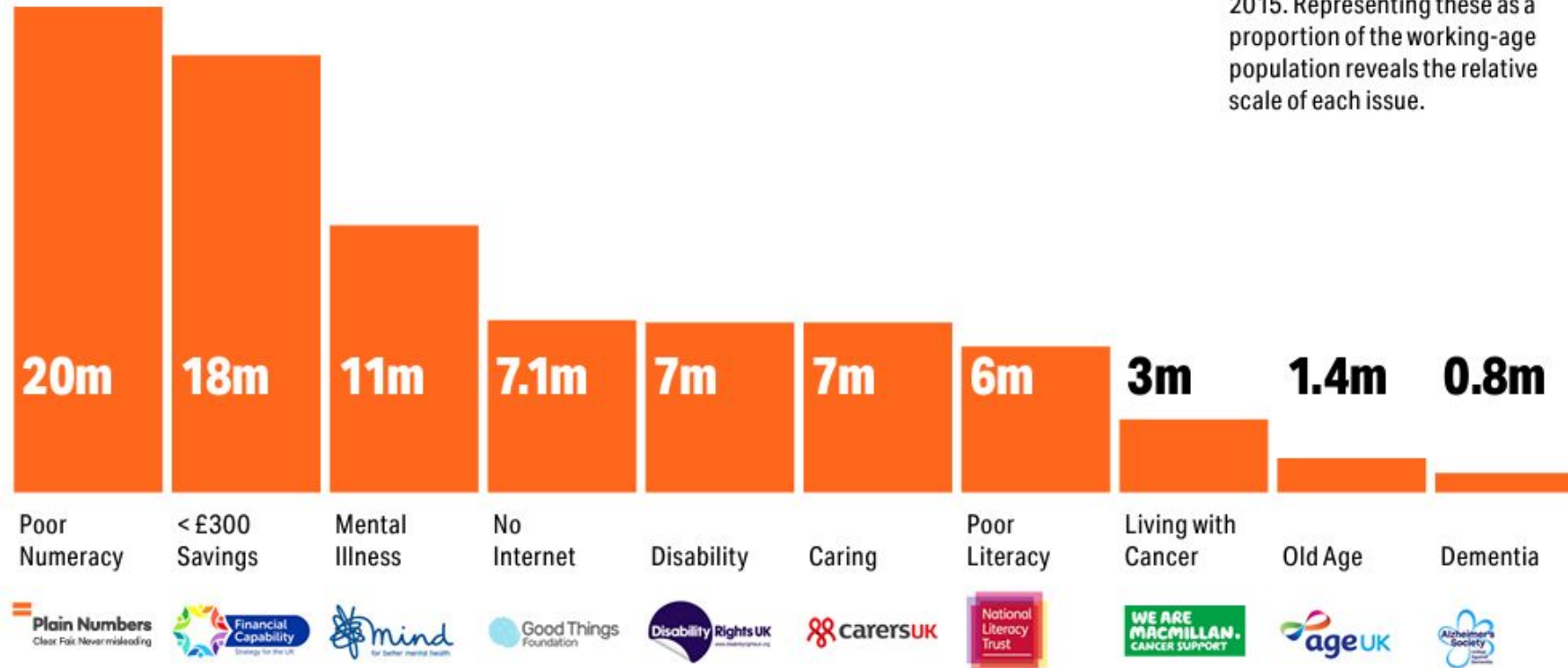
We are proud to be working with a growing group of forward-thinking partners...



.....and are keen to support more organisations who are committed to improving customer outcomes.

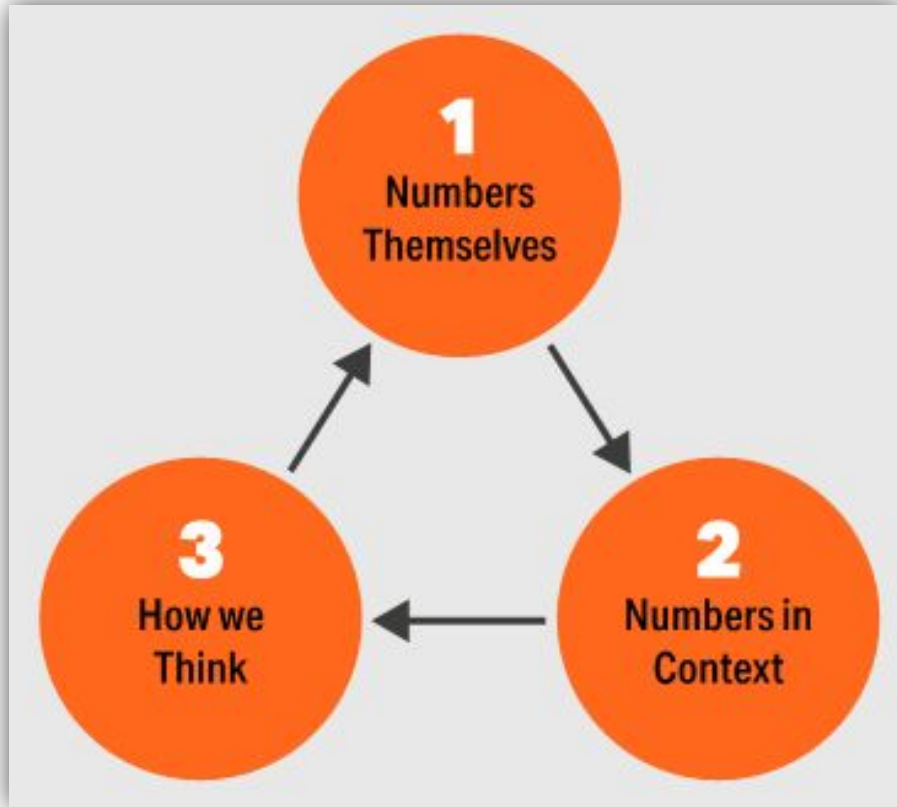
Data used by the FCA shows that poor numeracy is the single most common vulnerability...

Consumer Vulnerabilities



...but most firms don't recognize this - yet.

The Plain Numbers Approach improves customer comprehension through seemingly small changes...



1. Numbers themselves: Numbers do not come naturally to most humans. They need to therefore be presented in ways that most humans can understand

2. Numbers in context: Don't assume the customer understands "our little world". Avoid terminology around numbers and speak "Human to Human"

3. How we think: Are the numerical concepts and the numbers and data we are presenting for 'fast' or 'slow' consumption – do we want to do anything to change this?

...our unique perspective enables firms to better support customers.

In 2021 we trialled the Approach with market leading firms using Randomised Controlled Trials ...

2 Your charges

1 January 2021 to 31 March 2021 (90 days)

This billing period is based on our 2020/2021 rates

Fresh water		Wastewater			
	m ³	rate		m ³	rate
Charge for water used	33.0000	× £1.3818	= £45.60	Charge for waste removed	33.0000 × £0.8963 = £29.58
Fixed charge		+ £4.74		Fixed charge	+ £15.65
Subtotal		= £50.34		Subtotal	= £45.27
Total new charges for this period				£95.61	

1 April 2021 to 30 June 2021 (91 days)

This billing period is based on our 2021/2022 rates

Fresh water		Wastewater			
	m ³	rate		m ³	rate
Charge for water used	33.0000	× £1.4619	= £48.24	Charge for waste removed	33.0000 × £0.9133 = £30.14
Fixed charge		+ £4.79		Fixed charge	+ £15.86
Subtotal		= £53.03		Subtotal	= £46.00
Total new charges for this period				£99.03	

Summary

The cost of what you've used

- From 1 January 2021 to 31 March 2021 **£95.61**
- From 1 April 2021 to 30 June 2021 **+ £99.03**

What you've paid since your last bill

1 Feb 2021: £30	1 Mar 2021: £30	1 Apr 2021: £30	
1 May 2021: £30	1 Jun 2021: £30		
We'll take one more payment of £30 on 1 July 2021.			- £180

What's left to pay:

	= £14.64
The cost of what we think you'll use over the next 12 months	+ £407.22

> Your metered charges explained

We charge you separately for fresh water, which comes out of your taps, and wastewater, which goes down your drains.

Your fresh water charges pay for sourcing, storing and delivering water to your home, while your wastewater charges pay for removing, cleaning and returning wastewater safely to the environment.

If you need help understanding your charges, please head to thameswater.co.uk/bill

What's a fixed charge?

Your fixed charge helps to cover some of our essential running costs, like maintaining pipes and handling enquiries.

> Your summary explained

We've looked back at the last 12 months to check you didn't over or underpay. As you can see from our calculations, your payment plan wasn't covering your water use. That's why we've carried £14.64 over to this bill.

We've also predicted how much you'll use over the next year based on your meter readings.

> Your metered charges explained

We charge you separately for fresh water, which comes out of your taps, and wastewater, which goes down your drains.

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2 Your charges	
What you have used: You have used 66m³ of water (equivalent to around 800 baths) in the first half of the year at a total cost of £194.60 (that's about 24p per bathtub).	
What that costs:	
Charge for water used:	£93.84
Charge for Wastewater removed:	£59.72
Fixed Charge:	£41.04
Total:	£194.60
What you've paid: You've been paying £30 per month so that's a total of £180 for the first half of the year. This is £14.60 less than the cost of what you have used.	
Our estimate of future costs Based upon your meter readings, we estimate that the total cost of what you'll use in the coming year will be £407.22	
Total cost and new monthly payments When we add this to the £14.60 that you owe we get a total cost of £421.82	
Splitting this into equal monthly payments means that your new monthly Direct Debit payments will be £35.15 . This is around £1.16 per day.	
Your metered charges explained We charge you separately for fresh water, which comes out of your taps, and wastewater, which goes down your drains. Your fresh water charges pay for sourcing, storing and delivering water to your home, while your wastewater charges pay for removing, cleaning and returning wastewater safely to the environment. If you need help understanding your charges, please head to thameswater.co.uk/bill What's a fixed charge? Your fixed charge helps to cover some of our essential running costs, like maintaining pipes and handling enquiries.	
Your summary explained We've looked back at the last 12 months to check you didn't over or underpay. As you can see from our calculations, your payment plan wasn't covering your water use. That's why we've carried £14.64 over to this bill. We've also predicted how much you'll use over the next year based on your meter readings.	
Your costs explained How we calculate costs for fresh water used: 66m ³ x £1.42 (£1.4219) average cost per m ³ = £93.84 How we calculate costs for wastewater removed: 66m ³ x 90p (£0.9048) average cost per m ³ = £59.72	

... to test existing documents against a Plain Numbers version.

Across the five trials, we asked ‘basic’ comprehension questions...

Your energy account

18th Feb 2021 - 17th Mar 2021

On 18th Feb 2021

Your balance was above zero:

£88.71

1. We have charged you

These charges are based on your meter readings. VAT is included.

Gas

17th Feb 2021 — 16th Mar 2021

- £63.09

Electricity

17th Feb 2021 — 16th Mar 2021

- £76.05

2. You have paid

Direct Debit collection

25th Feb 2021

£60.00

As of 17th Mar 2021

Your balance is below zero:

£9.57

Your energy account

monthly update

On 18th February there was £89* in your account with us.

On 17th March there was £10 in your account.

Between these dates, you used energy that cost £139 in total (£63 Gas and £76 Electricity) and we received a Direct Debit payment from you of £60 – as we do each month.

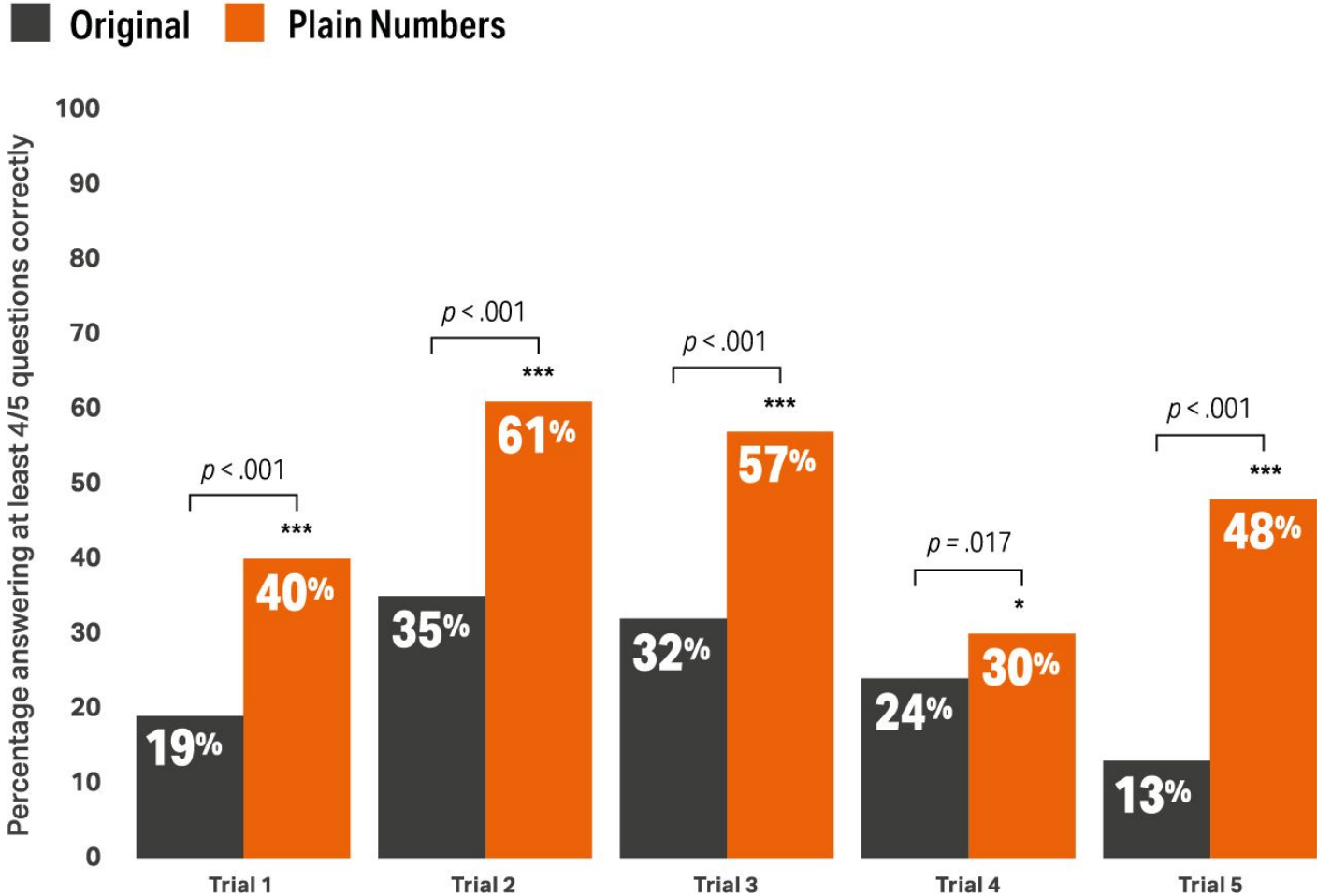
So overall you used £79 more energy than you paid for this month – that’s ok, it’s winter and for most people it evens out over the whole year.

*We’ve rounded the numbers above to the nearest pound. See the attached PDF for charges and balance accurate to the penny.

...in all cases, participants’ answers showed a clear increase in comprehension for the Plain Numbers version.

#ServicesWeek

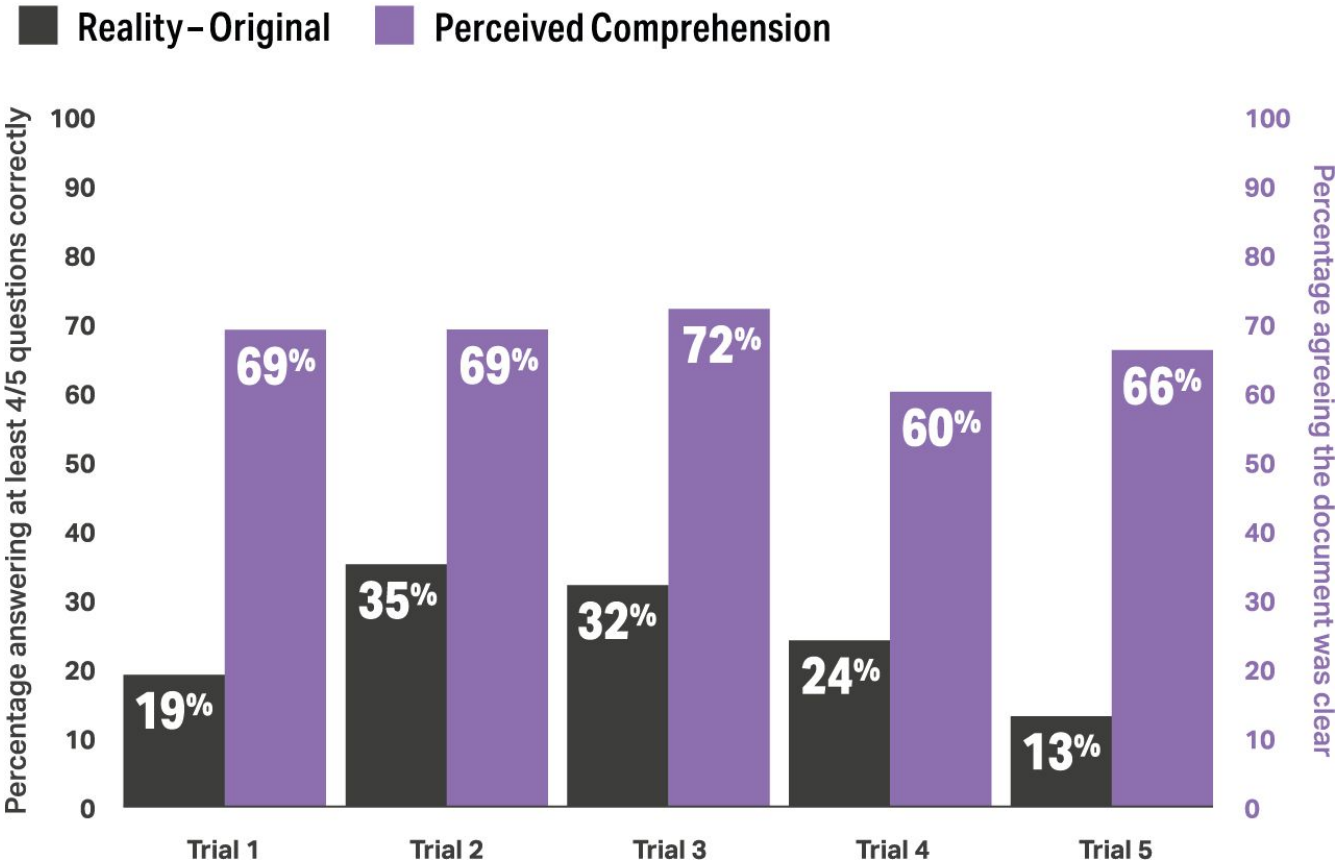
Overall, the number of people answering at least four out of the five comprehension questions correctly doubled



Analysis involved a two-tailed z-test for independent proportions, using the Bonferroni correction to correct for multiple comparisons. p-values for statistically significant differences between arms are indicated using * $p < .05$. ** $p < .01$. *** $p < .001$

We also asked whether the document was ‘clear, fair and easy to understand’ before assessing actual understanding...

Across all trials the majority of participants agreed that the document was ‘clear, fair and easy to understand’.



... this revealed a disconnect between perceived and actual understanding.

We work with leading organisations to raise awareness...

Advisory partners commit to raising the profile of Plain Numbers and encouraging firms to follow best practice

- Champions Training
- Opportunities to steer development of Plain Numbers work
- Access to shared learnings from across the Plain Numbers Community
- Profile as a Plain Numbers partner
- Ongoing support from the Plain Numbers team



Plain Numbers

Working together



Plain Numbers

Champion

...so that it can become the accepted way of communicating numbers.

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We also work with organisations who communicate with customers to embed the Plain Numbers Approach...

Working together for a minimum of 3 years:

- 5 Practitioners trained per year
- Top up training, drop-in sessions and ongoing support for Practitioners as they use the Plain Numbers Approach
- 5 documents certified per year
- Awareness raising sessions for relevant stakeholders
- Social media support to promote the Partner's Plain Numbers journey


Plain Numbers

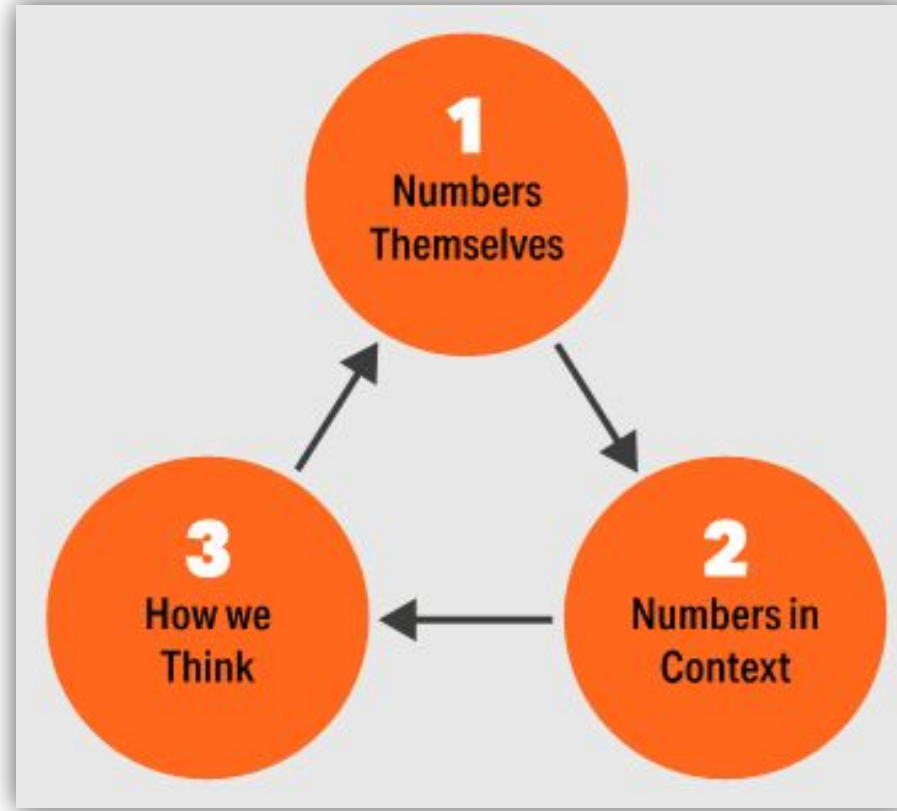
Working together


Plain Numbers

Certified 

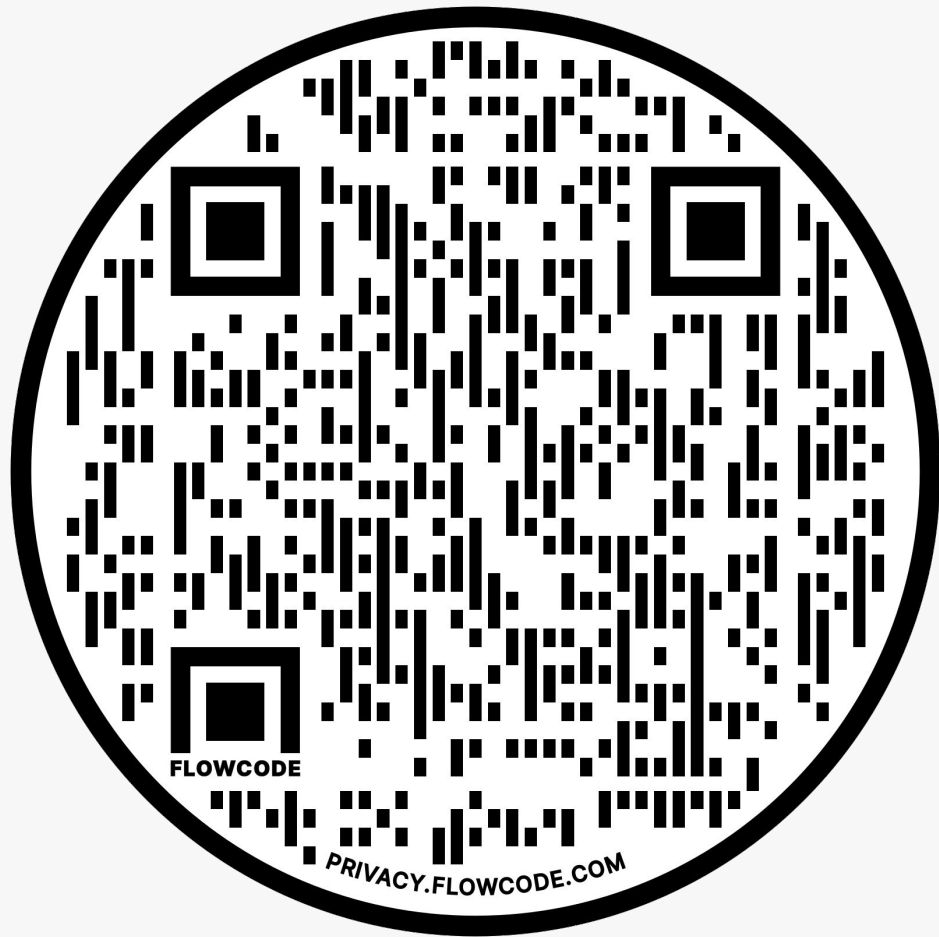
...to improve customer comprehension.

Recap, three key principles to remember...



Next steps.

**Tell us what help you need
to present numbers clearly**



**Scan the QR
code to take
the survey**

Thank you

Anyone interested in joining the Civil Service Dyslexia and Dyspraxia Network (CSDDN) please email
CSDyslexiaDyspraxiaNetwork@culture.gov.uk