

Welcome to our  
Open Event

We are recording  
and live streaming  
on YouTube



Read  
IT



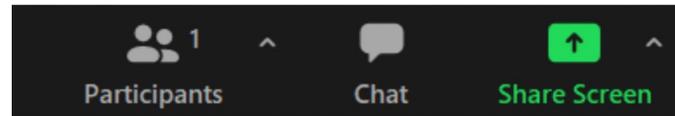
The READ IT Team

# Thanks to

## Our funders

- Sir Halley Stewart Trust
- Donors to City, University of London
- Jason Barlow and City Development and Alumni Relations Office
- The many Students at City, University of London who contributed to the work of READ IT
- All our participants with aphasia

# During the Event



CLICK HERE TO START CHAT



Please mute yourself  
Ask questions in the Chat or  
Raise your hand during our Q&A sessions

# Introduction

## You will hear about:

- How we ran READ IT
- The Therapy
- Our Results
- The Experience of a Participant

## Break

- Technology Demonstrations

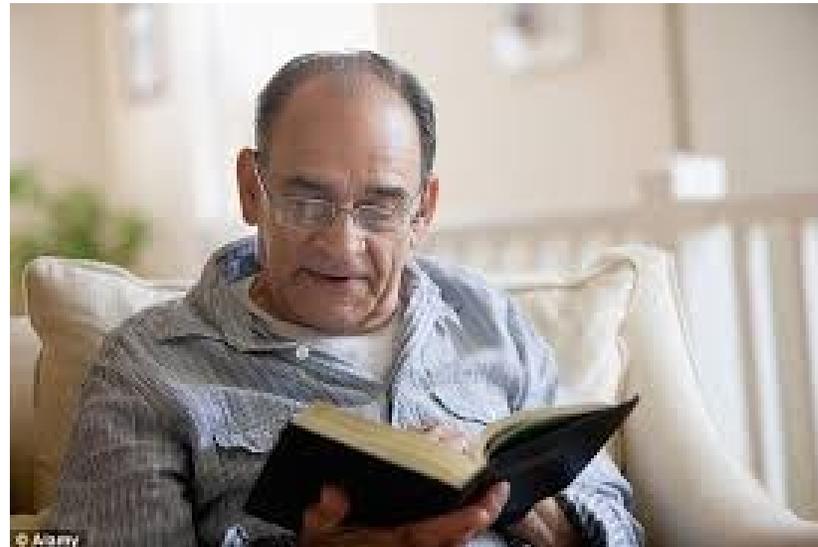


# Helping people with aphasia to read again: the READ IT project

Celia Woolf, Jane Marshall, Jayne Lindsay,  
Morganie Naidoo, Madeline Cruice, Stephanie  
Wilson

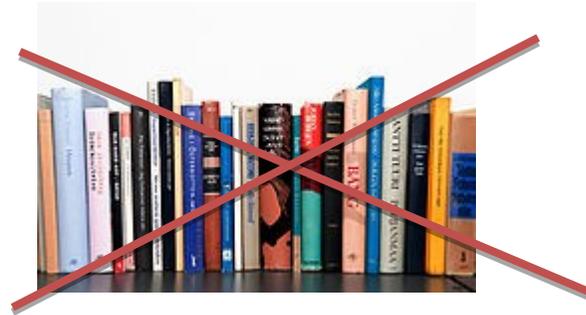
# Background

- **Reading is important**
- **Reading is often impaired in aphasia**
- **Reading is a therapy priority** for people with aphasia (Wallace et al, 2017)



# Background

- **Not much research** on therapy for **longer text** reading in aphasia (Purdy et al, 2018)



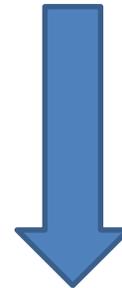


## Previous project

- Combining **assistive technology** with **reading strategies** may **improve text reading** for people with aphasia (Caute et al, 2020)



  
CommuniCATE therapy



+

Book clubs =



Read  
IT



# Research Questions

- Can we deliver a **new, technology assisted reading therapy**?
- Is it **acceptable** to participants?
- Does the therapy improve **reading comprehension, confidence and enjoyment**?
- Does the therapy **reduce wider impacts** of aphasia e.g. on mood and quality of life?



Year 1  
10 people

Year 2  
10 people

Assesments



Therapy



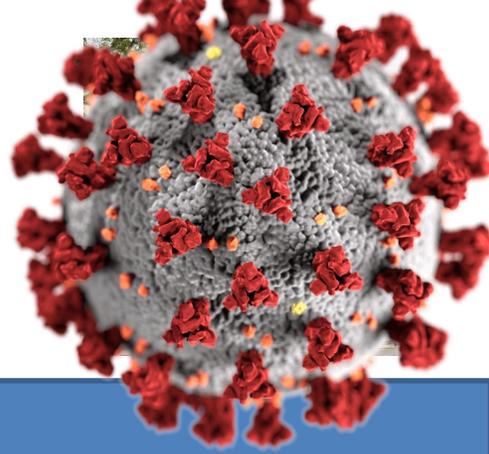
Assesments



Assesments

Interviews

Year 1  
10 people



Assesments

Therapy

Assesments

Assesments

Interviews

Year 2  
10 people





# New research questions

- Can we deliver **READ-IT therapy online**?
- Is **online READ-IT** therapy **acceptable**?
- Are the online research procedures **acceptable**?
- Do people **benefit** from online READ-IT therapy?

# Participants



- **Stroke** more than 4 months ago
- **Mild or moderate** aphasia
- **Difficulty reading** since stroke
- **Fairly good understanding and listening skills**
  
- **Able to learn to use new tech with support**
- **Some people had mild difficulties with memory or concentration**

# Participants



## Year 1

10 people

6 women, 4 men

Ages 40-77

iPad group = 4

Kindle group = 6

## Year 2

9 people

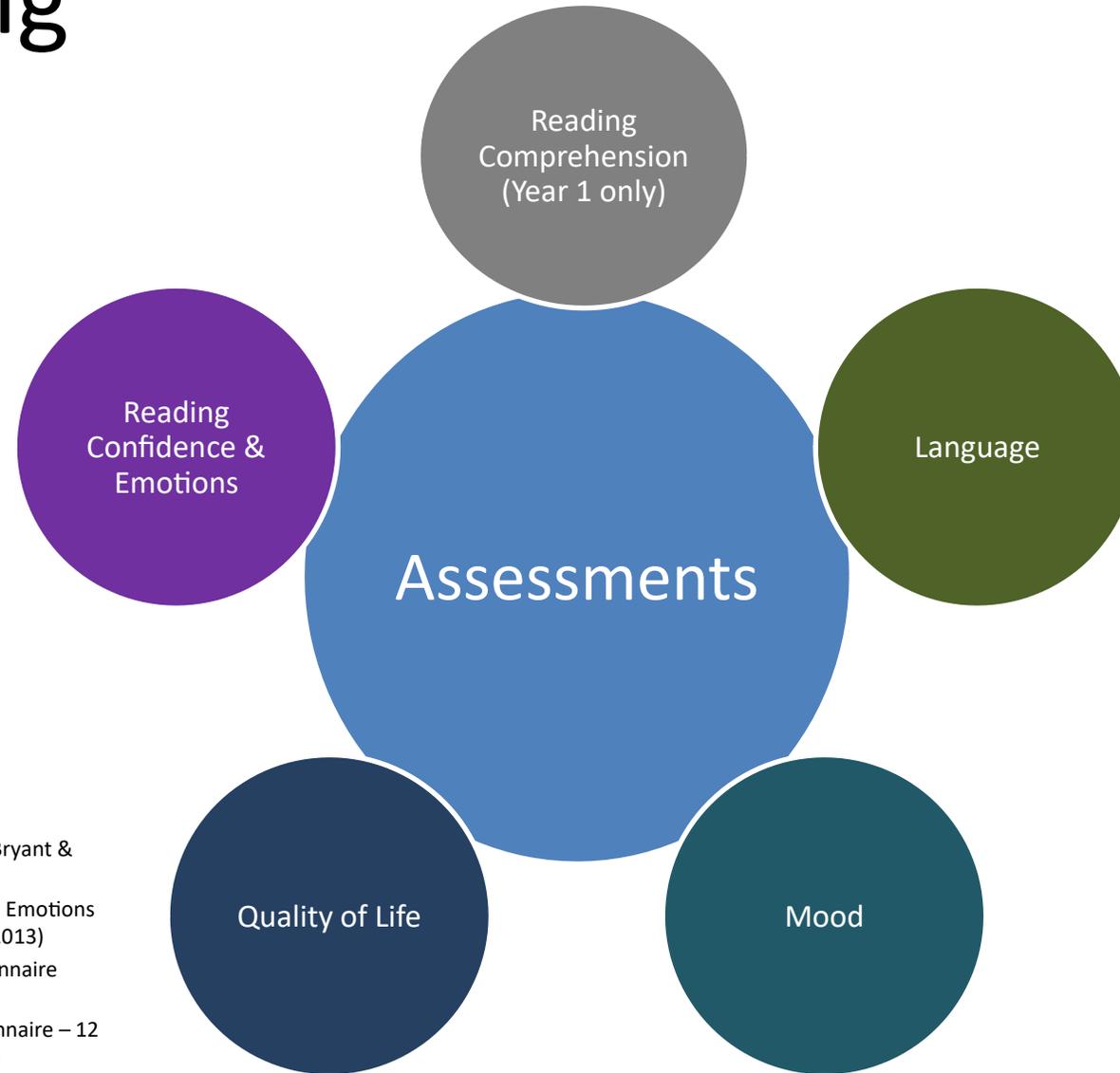
5 women, 4 men

Ages 31-78

Kindle group (am) = 5

Kindle group (pm) = 4

# Testing



- Gray Oral Reading Test – 4 (Bryant & Wiederholt, 2001)
- The Reading Confidence and Emotions Questionnaire (Cocks et al, 2013)
- The Aphasia Impact Questionnaire (Swinburn et al, 2018)
- The General Health Questionnaire – 12 (Goldberg & Williams, 1988)
- The Stroke and Aphasia Quality of Life Scale (Hilari et al, 2003)
- The Western Aphasia Battery - Revised (Kertesz, 2007)



Therapy



Individual sessions

Book club

# The READ-IT therapy

# The Therapy

**Therapy** was done in an **11 week block**

There was **individual** and **group therapy** for everyone

The therapy was done by **Speech and Language Therapists**

and **Speech and Language Therapy students** from **City University**



# Cohort 1 – Face to Face

Therapy **2 x a week** for **11 weeks**

**1 session of individual therapy** a week

**AND**

**1 session of group therapy** a week



# Cohort 2 – Online on Zoom

Tech therapy done **online** can be **tricky!**

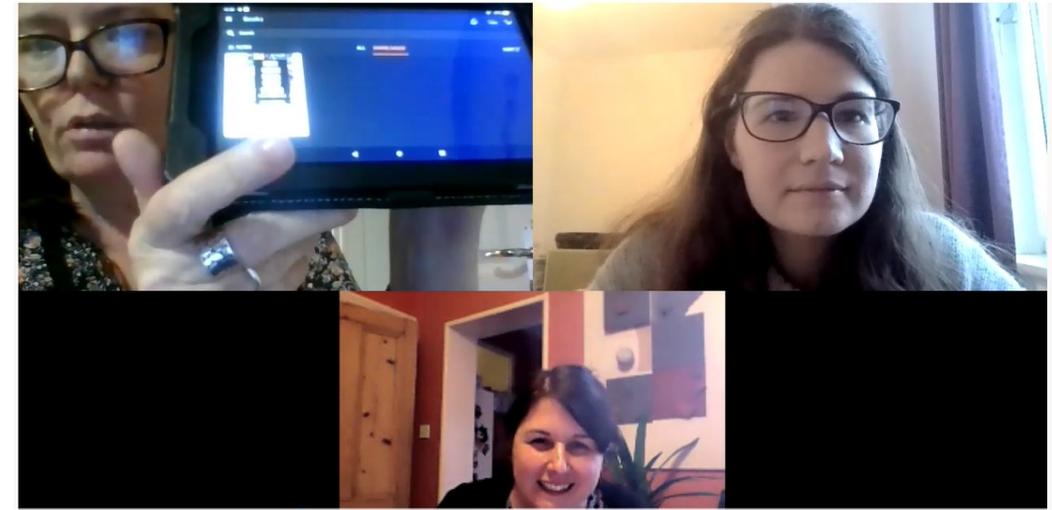
So we did the **individual therapy first.**

Therapy was still **2 x a week for 11 weeks**

- 5 ½ weeks individual therapy

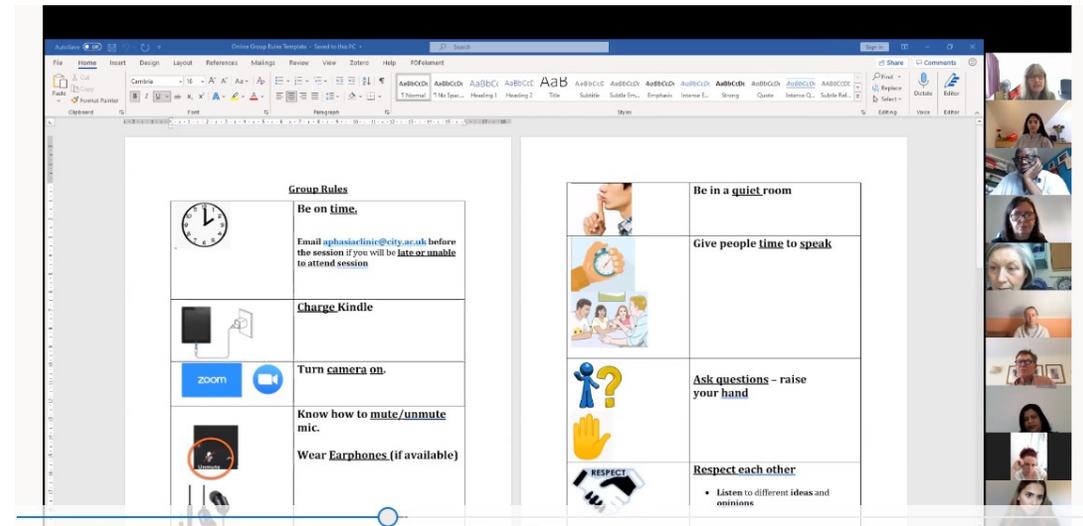
**THEN**

- 5 ½ weeks group therapy



21-02-26 Morning Group Session 1.mp4

Close



# GROUP THERAPY



# Group Therapy

- **Book Club** Approach
- Groups were **divided** according to:
  - **Type of device** – **Cohort 1** had a **Kindle** and **Ipad**  
**Group. Cohort 2** used **Kindles** in both groups
  - **Reading abilities**
  - Level of support for **Communication**
  - Level of support with **Tech use**

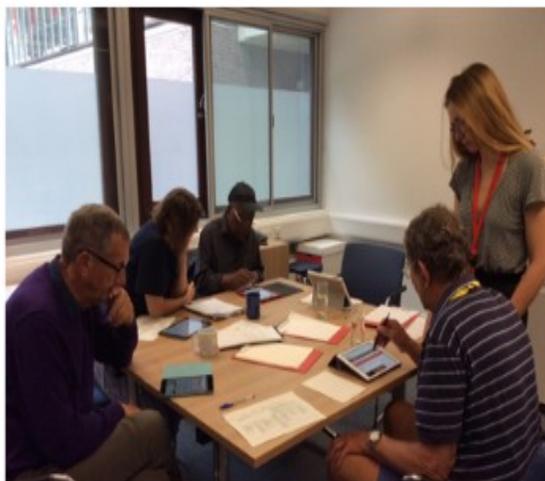
# Group Therapy Description

- **Groups** consisted of 4-6 members
- **All sessions** were **facilitated** by a **SLT** and 2-4 students
- The **therapy** was **guided** by a Group Therapy Manual
- Goal setting by all group members with support from SLT/students
- Novel/Short story selected via a group voting process  
using aphasia friendly book lists

# Group Therapy Manual



## READ-IT Aphasia Reading Group Therapy Manual August 2019



# Aphasia Friendly Book List

	Book	Blurb	Kindle book	Audible Narration
1.	<p>The Donor Clare Mackintosh</p>	<p><i>She gave you everything. But what does she want in return?</i></p> <p>When Lizzie's daughter <b>Meg</b> is given a life-saving <b>heart transplant</b>, Lizzie feels hugely grateful to the <b>nameless donor</b>. Then she receives a <b>letter</b> from the donor's mother, <b>Karen</b>, asking to <b>meet</b>, and it seems like the least she can do. And before long, Lizzie is worried that <b>she might have put Meg in danger . . .</b></p>	£0.99	£2.99
2.	<p>A Fresh Start TEN GRIPPING STORIES FROM TEN BESTSELLING AUTHORS Edited by Fanny Blake</p>	<p>From <b>wronged wives</b> to <b>nosy neighbours</b>, from <b>distant dads</b> to <b>new-found family</b>, from <b>secrets to lies</b>, <b>fresh starts to false endings</b> – and everything in between...</p>	£0.99	£2.99

# Example Group Goals

**Communication Goal:** To be able to read and understand the book/short story we are reading



**Participation Goal:** To be able to talk about what we are reading and other topics with the group

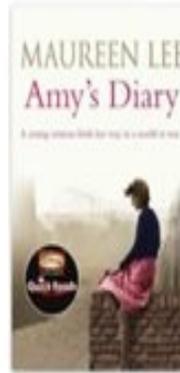
**Technology Goal:** To practice the use of the Kindle and its assistive functions when reading

# Group Therapy Sessions

- **Session plans** were based on the choice of **reading material**
- **All Group Members** engaged in **active discussions** about the **book/short story/news article**
- **Most discussions** were facilitated by **reading ramps**

# Example Reading Ramp

## Amy's Diary, Maureen Lee



- What do you think about the book so far?



- What has happened in the book?
- Have you read any other stories set at the time when the war started?



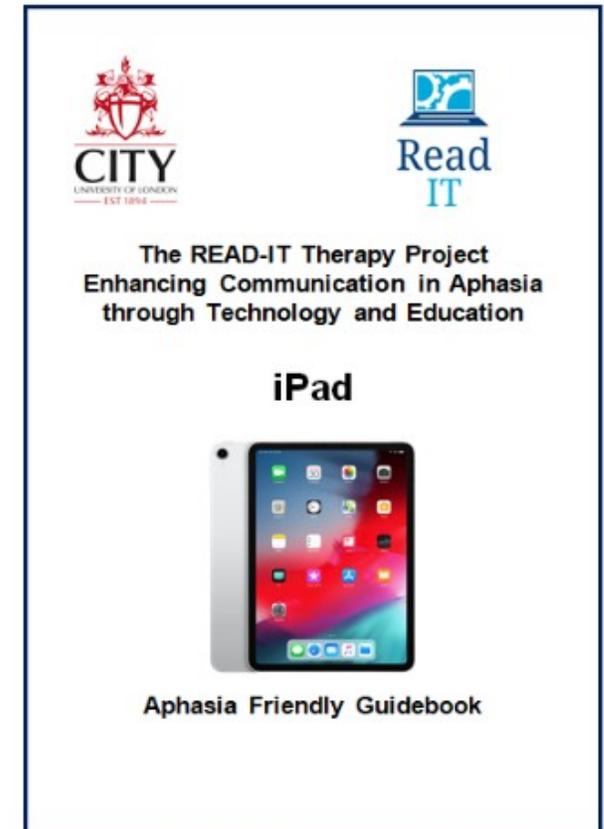
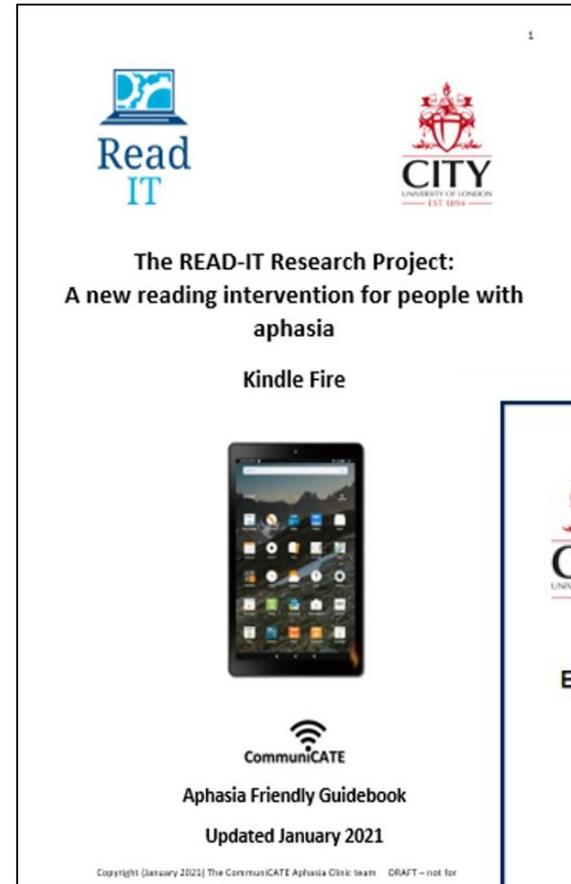
- How would you describe Amy?
- Do you know anyone who reminds you of Amy?

# Individual therapy

Each participant worked with an **SLT** and a **student**

The therapy was guided by

- A manual for the **SLT** and **students**
- **Aphasia-friendly tech manuals**
- **Goal setting**
- **Individual session plans** based on **skills** and **interests**



# Example of individual goals

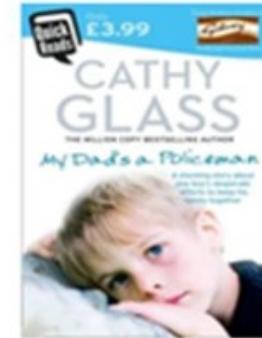
## TECHNOLOGY GOAL

- To use the Kindle with assistive functions to read books and news stories



## COMMUNICATION GOAL

- To read and understand a chapter from **My Dad's a Policeman**



## PARTICIPATION GOAL

- To talk about what I read in my book club



# Individual therapy sessions

**Each session was 1 hour long**

**Therapy sessions included**

- **Demonstrations, explanations and lots of practice**
- **Practical advice and 'trouble-shooting'**
- **Discussion of the stories, books and articles being read**
- **Reading ramps**
- **'Homework'**

# Example of Reading Ramp



AA

🔒 dailymail.co.uk



## Mother-of-two, 53, claims her Sat Nav is 'possessed'

A mortified mum is convinced her 'possessed' sat nav is getting revenge for her shouting at it - by repeatedly branding her a 'motherf\*\*\*\*\*' when it gives directions.



TOMTOM  
SWEARING



SHOCKED - LADY



DAUGHTER LAUGHING



# Results

**Recruiting and keeping people** throughout the study

Did people **get the therapies as intended?**

**Did people improve?** Stay same? (on the assessments)

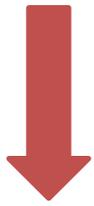
**What did people think?**

# Recruiting and keeping people

PARTICIPANTS NEEDED



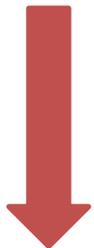
# Recruiting and keeping people in the study



**39 people** referred to the study – but 2 unavailable or unable to make contact



**37 people completed screening** assessments – the study not appropriate for 18 people who were instead offered CommuniCATE clinic

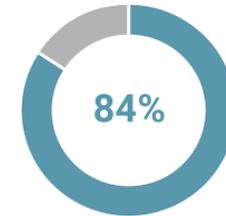


**19 people recruited** to the study

19 people completed T1 and T2 testing

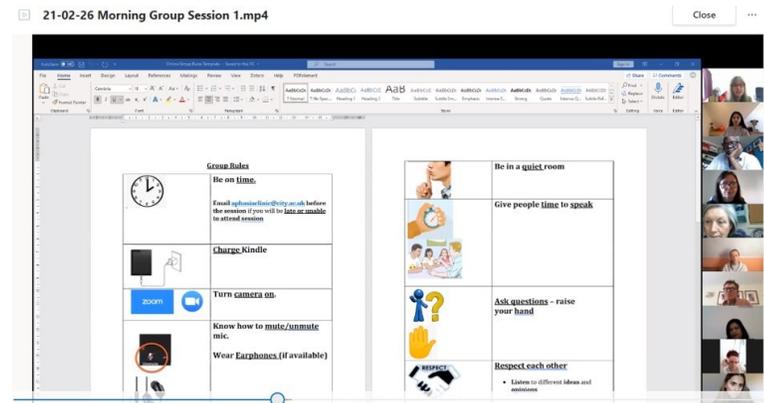
**16 people completed T3 testing\***

**15 people completed interviews\***



\* Missing data was due to covid disruption & lockdown during cohort 1 T3 and interview phases March-April 2020

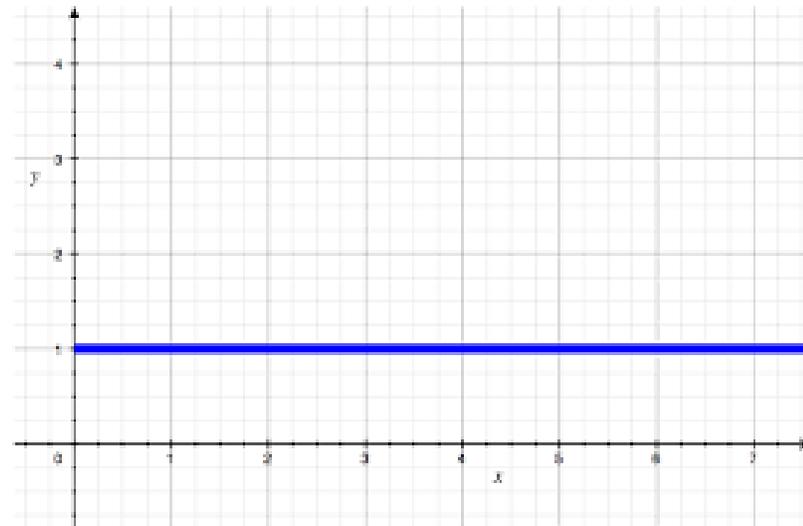
Did people  
get the  
therapies as  
intended?



# Did people get the therapies as intended?

- Delivery of **group therapy** assessed against a checklist of 15 items
- **High treatment fidelity** for group therapy in both cohort 1 and 2 (84%)
- **Kindle** significantly higher than **iPad** in cohort 1
- Some items harder to consistently deliver
  - Giving specific feedback
  - Discuss, demonstrate, share reading strategies
  - Summarise session
  - Outline homework and explain next week's session
- Delivery of **individual therapy** assessed in a prior project and determined to be high at 98% (<https://openaccess.city.ac.uk/id/eprint/26458/>)

Did people improve? Stay the same?



# Did people improve? Stay the same?

1. Reading **ability**
  2. Reading **Confidence** and **Emotions**
  3. **Language**
  4. **Impact** of aphasia
  5. **Mood**
  6. Health-related **quality of life**
1. Gray Oral Reading Test – 4 (Bryant & Wiederholt, 2001): **GORT**
  2. The Reading Confidence and Emotions Questionnaire (Cocks et al, 2013): **RCEQ**
  3. The Western Aphasia Battery - Revised (Kertesz, 2007): **WAB-R**
  4. The Aphasia Impact Questionnaire (Swinburn et al, 2018): **AIQ**
  5. The General Health Questionnaire – 12 (Goldberg & Williams, 1988): **GHQ**
  6. The Stroke and Aphasia Quality of Life Scale (Hilari et al, 2003): **SAQOL**

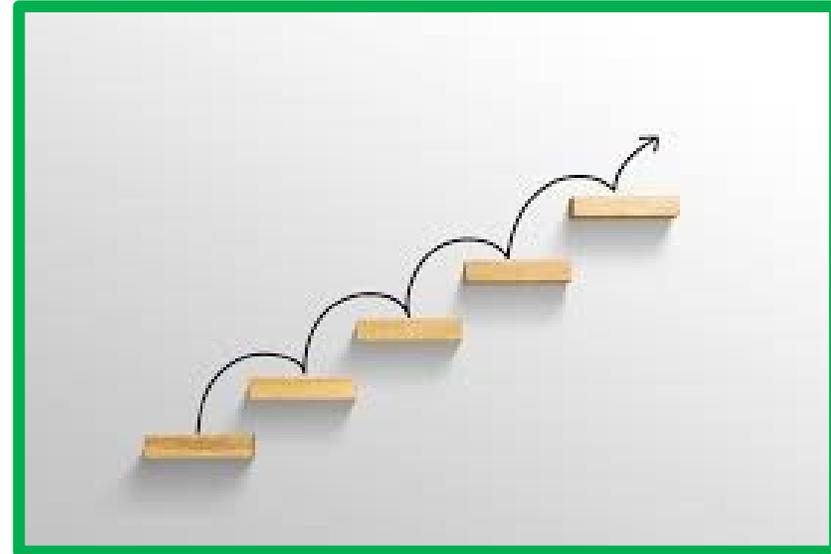


# People improved in their

↑ Reading Confidence  
and Emotions (total)

↑ Health-related  
quality of life

(statistically significant  
improvement)



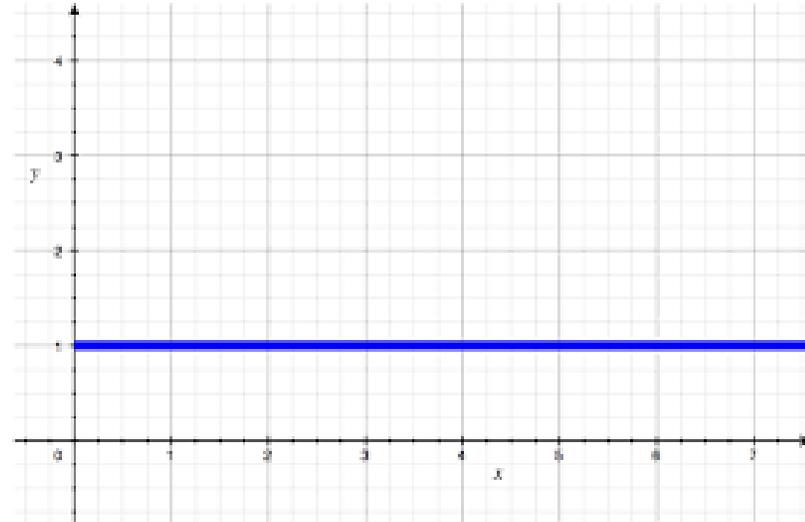
People stayed the same in their

➡ Reading ability

➡ Language

➡ Impact of aphasia

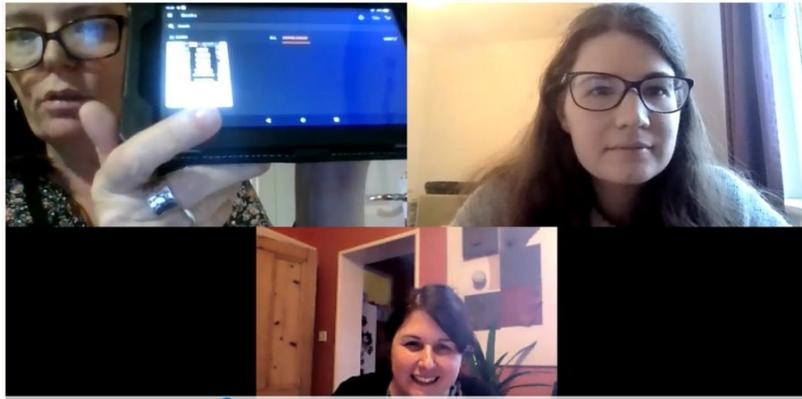
➡ Mood



# Cohort 1 participants

Assessment Scores at Time 1 and Time 2: Mean (SD)			
	Time 1	Time 2	
GORT-4: Items passed	26.6 (16.70)	32.89 (23.95)	
Reading Confidence and Emotions (total)	79 (25.30)	112.8 (44.29)	✓
Reading Confidence sub-section	45.40 (19.07)	66.40 (35.82)	
Reading Emotions sub-section	33.60 (10.36)	46.40 (15.15)	✓
WAB Aphasia Quotient	75.32 (11.48)	73.52 (17.64)	
Aphasia Impact Questionnaire	27.3 (11.35)	27.2 (11.28)	
General Health Questionnaire	8.9 (2.60)	9.44 (5.16)	
Stroke and Aphasia Quality of Life Scale-39	3.49 (0.76)	3.85 (0.91)	✓

# Cohort 2: online



21-02-26 Morning Group Session 1.mp4

The screenshot shows a PowerPoint presentation with the following content:

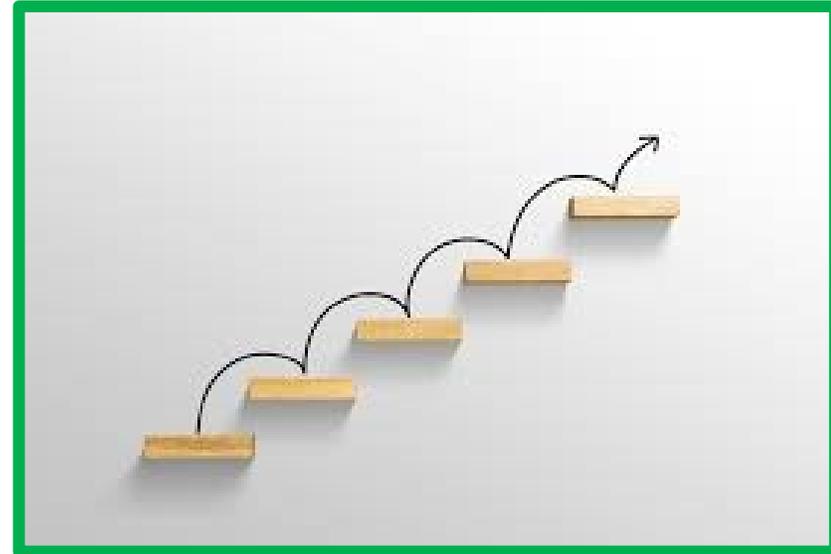
Group Rules	
 <b>Be on time.</b> Email <a href="mailto:eghaston@city.ac.uk">eghaston@city.ac.uk</a> before the session if you will be late or unable to attend sessions.	 <b>Be in a quiet room</b>
 <b>Charge, Kindie</b>	 <b>Give people time to speak</b>
 <b>Turn camera on.</b>	 <b>Ask questions - raise your hand</b>
 <b>Know how to mute/unmute mic.</b>	 <b>Respect each other</b>
 <b>Wear Earphones (if available)</b>	 <b>Respect each other</b> <ul style="list-style-type: none"><li>• Listens to different ideas and opinions</li></ul>

# People improved in their



Reading Confidence  
and Emotions (total)

(statistically significant  
improvement)



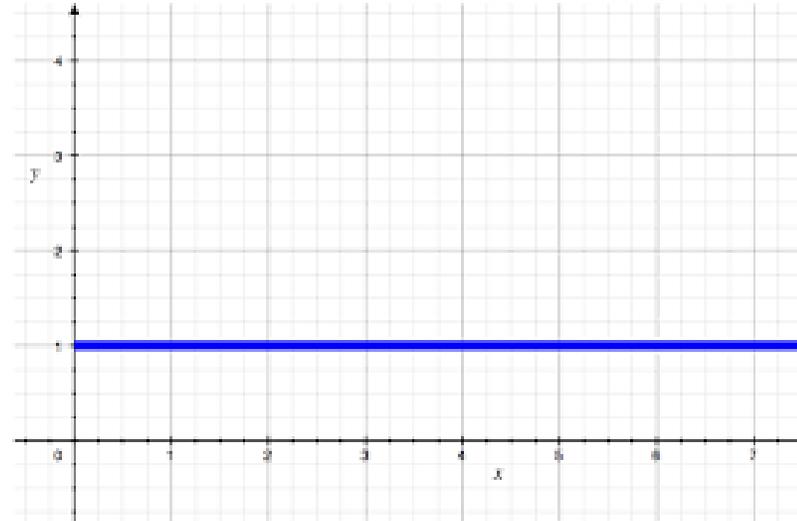
People stayed the same in their

➡ Language

➡ Impact of aphasia

➡ Mood

➡ Quality of life



# Cohort 2 participants

Assessment Scores at Time 1 and Time 2: Mean (SD)		
	Time 1	Time 2
Reading Confidence and Emotions (total)	69.6 (34)	111.7 (27.6)
Reading Confidence sub-section	39.6 (21.7)	73 (20.7)
Reading Emotions sub-section	30 (16.8)	38.7 (12.5)
WAB Aphasia Quotient	83.9 (13)	82.3 (9.4)
Aphasia Impact Questionnaire	33.3 (14.9)	24.6 (11.9)
General Health Questionnaire	12.9 (5.1)	13.1 (5.8)
Stroke and Aphasia Quality of Life Scale-39	3.7 (0.6)	3.8 (0.6)



# Summing up – what does it all mean?

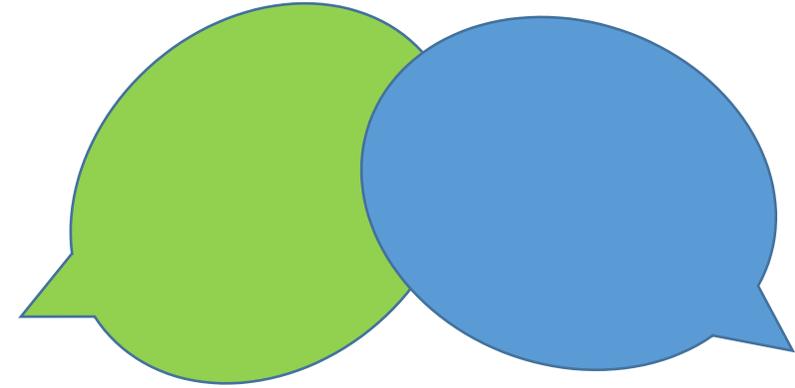
- ✓ We can **run this small study** – so we could now scale it up for a much larger study
- ✓ People with aphasia felt **more confident in their reading** and **less emotionally affected** following the therapy
- ✓ The **Reading Confidence and Emotions Questionnaire** was useful to capture change



# READ-IT Interviews

Some early findings

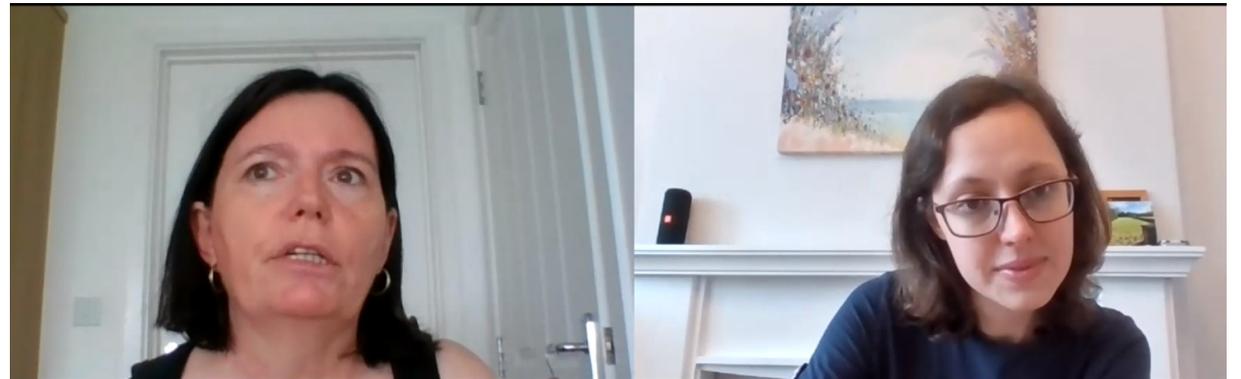
Interviews aimed to find out...



- How **acceptable** was the therapy and project?
- What were people's **experiences** of doing READ-IT therapy?
- Any **changes** after READ-IT therapy?

# How did interviews work?

- Interviews took place **online** over **Zoom, Skype or Whatsapp**
- **Flexible questions** using topic guides
- **Picture resources**
- **Recorded**
- **Transcribed** for analysing (we are still working on this!)



Interviewers: Ruth Ryder & Amy Mulholland

# What have we found out so far?



By Bill Woodrow - Own work; photographed by Senra (John McCullough) on 31 October 2006, 15:45., CC BY 3.0, <https://commons.wikimedia.org/w/index.php?curid=10974073>

# Acceptability of READ-IT therapy

# Acceptability

- People were **very positive about the READ-IT sessions**
- People liked doing the therapy **both at the University and on Zoom**
- Some thought there were **too many assessments**, others **enjoyed** them
- The **amount of therapy** was **about right**, although
  - A few people would have liked **more individual sessions** to practice using the technology
  - Most people would have liked the **groups to continue**

People's experiences of READ-IT therapy

# 1 to 1 sessions: Learning to use the technology and reading strategies

- People often found the devices **difficult at first**  
*“I didn’t dare touch the buttons!”*
- With **support** and **practice** it got easier  
*“It was changing each week, it was getting better... I understand what I was doing”*
- The **aphasia friendly manual** helped people practice at home  
*“That manual is good for if you don’t remember what you’re doing”*



# Book club group sessions



- Some **nerves** at first  
*"I was nervous about everyone, I was stuttering... I wanted to explain all about the man, but I couldn't"*
- After a few sessions people felt more **relaxed and confident**  
*"I was comfortable with the group as well in the end, I was relaxed and talk, just talking just normally again"*
- People **enjoyed the lively discussions**  
*"we were all different, things to talk about and it was interesting that different, different people"*  
*"you are learning from each other and it's just a good way to grow basically"*

What changed following READ-IT therapy?

# Reading stories and books again

- Listening to **text-to-speech** and **Audible narration** helped people **understand the books**

*“so any book that I can get that I can do text-to-speech I can I can I can read”*

- People preferred some voices or Audible accents over others
- Other **reading strategies** helped too

*“the words can be difficult but if I read it again, and read it again, then it gets better and I understand what I am seeing”*

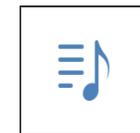
- A sense of **achievement**

*“she said how about finishing [the book] as a plan and I went alright and then yeah we finish it...that was incredible!”*



# Building confidence

- People became more **confident with reading**
- People became more **confident with using technology**
- Some people felt their **reading in everyday life** improved
- Some people felt more **confident socially**  
*“Everything. Yes going to shops, working with people that are out, strange people, friends, family, all of that... everything and more”*



# Personal identity



- Some people had **relied on family members** to read for them since their strokes. They were **happy to be reading independently again.**

*Q. "How big a change has it been for you?"*

*A. "Oh....well... I'm on my own reading, and that's my goal!"*

- Some people **gained pride and self-esteem** from becoming independent readers again

# Summary of interviews

- ✓ People were **overwhelmingly positive about READ-IT therapy**, both **face-to-face** and over **Zoom**
- ✓ READ-IT therapy **helped people get back to reading books again**, some for the first time since their strokes.
- ✓ People needed **support and lots of practice** to learn the technology, but they got the hang of it
- ✓ People **enjoyed being in a book club** with others
- ✓ People improved in **confidence, enjoyment** and **self-esteem**

Helping people learn to use  
the technology

# Face to face therapy



# Gaining Remote Access using Splashtop SOS App



# Helpful features of the Kindle Fire



# Getting started

## Reading books on the Kindle Fire

You will need

- An **Amazon account**
- Access to **WiFi**

You will need **WiFi** to

- **Search for a book** in the Amazon store
- **Download books**



# Kindle books

Kindle books are **downloaded** from **Amazon**.

**Most books** you have to **pay for**.

There are **some free books** and **samples**.

The books you download will be **stored** in your **Kindle's Library**.

**When your book is downloaded**, you can **read it without WiFi**.

Tap Books in menu



Tap on **library** to see **your books**



Or go to **store** to **buy a book**

# Inside your book: The Toolbars

The **Toolbars** are **important!**

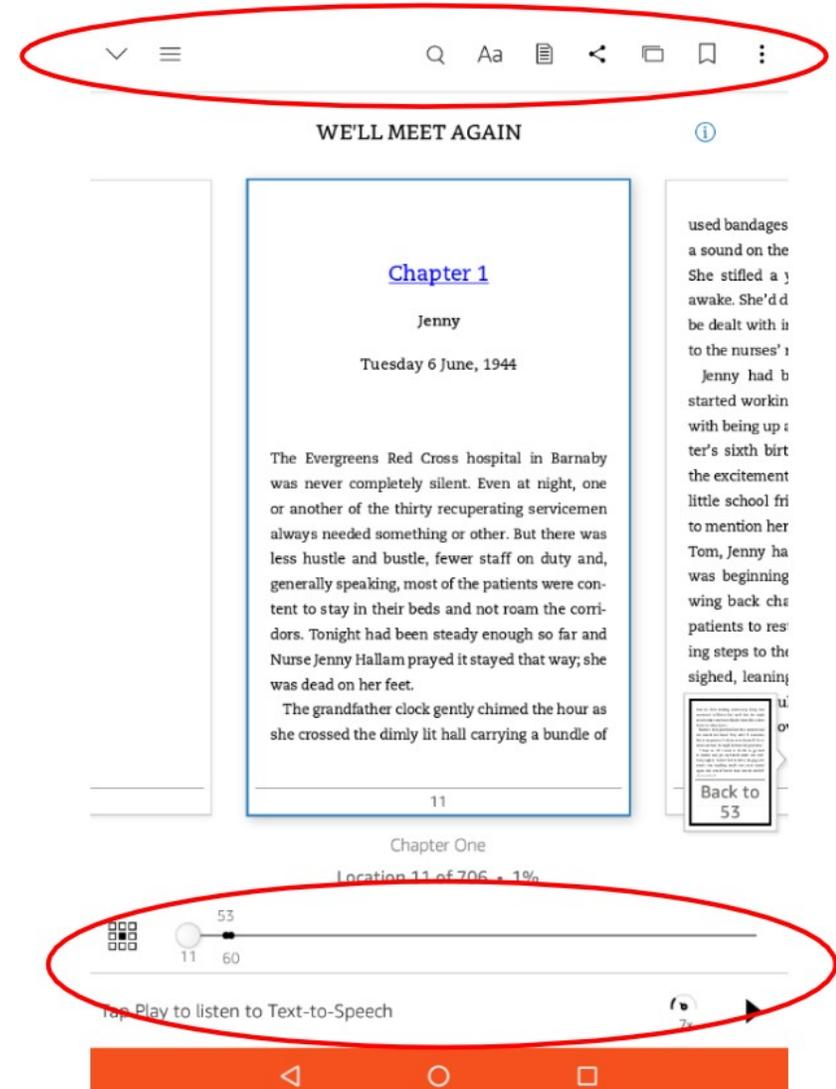
They **help** you to **make changes** to your book

To **find the Toolbars**

- **Open your book**
- **Go to a page**
- **Tap in the middle** of the page

Your **page** will now **look like this.**

There are now **Toolbars** at the **top and bottom.**



# Changes you can make

## Changing how the page looks

You can change the

- **size of the words**
- **space between lines**
- **page margins**
- **font**
- **page colour**

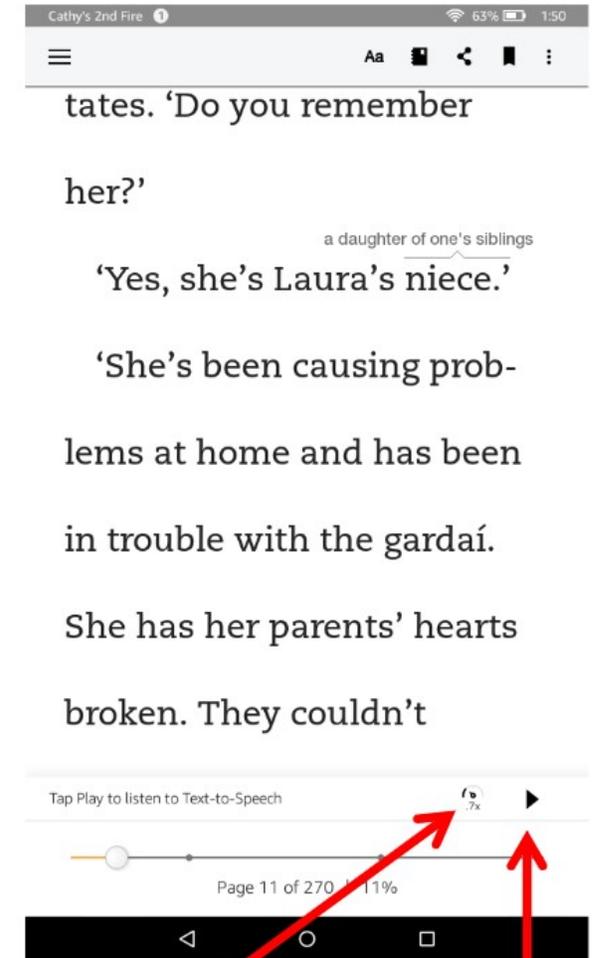
# Changes you can make

## Getting the Kindle Fire to read out loud

You can

- Use **'text to speech'**
- Change the **speed** of the **speech**

The Kindle's **voice** can also be **changed** in the **Settings**.



Tap to change speed

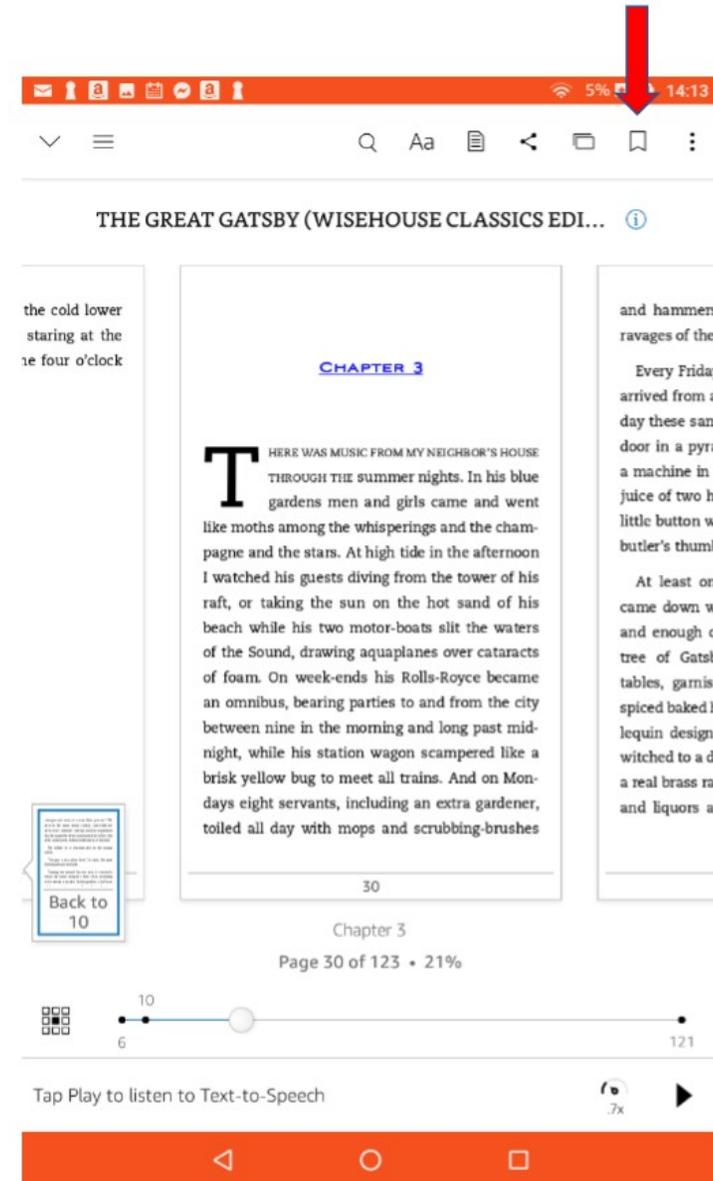
Tap to play

# Finding your place

Do you ever **lose your place** in a book?

Some Kindle books have a **Table of Contents**

You can also **put on and take off bookmarks**



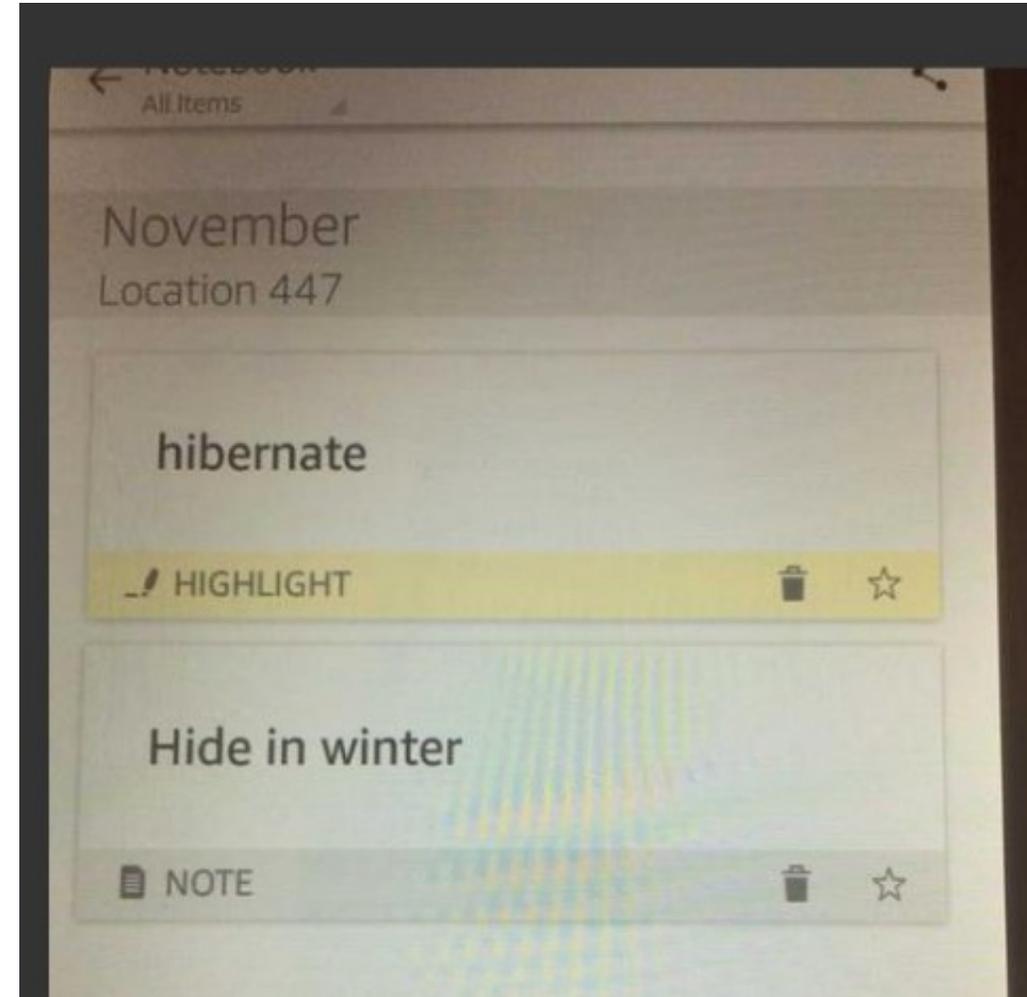
# Adding highlights and notes

Some people use **highlights** and **add** their **own notes**.

You might use **notes** to

- **Summarise** what you have read
- Add your own **meanings**
- Add your **thoughts** on the **book** or on **characters**

You might use the notes to **tell someone else** about the book

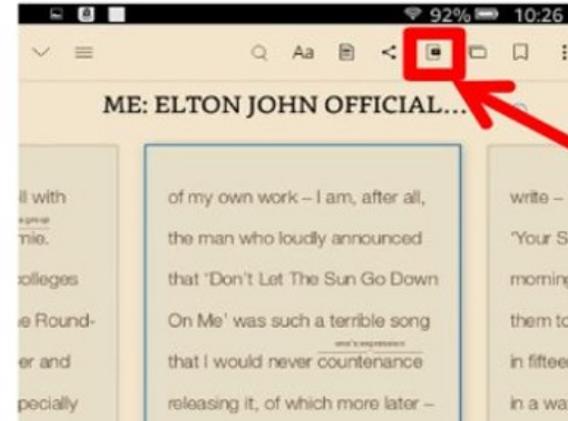


# Finding out more

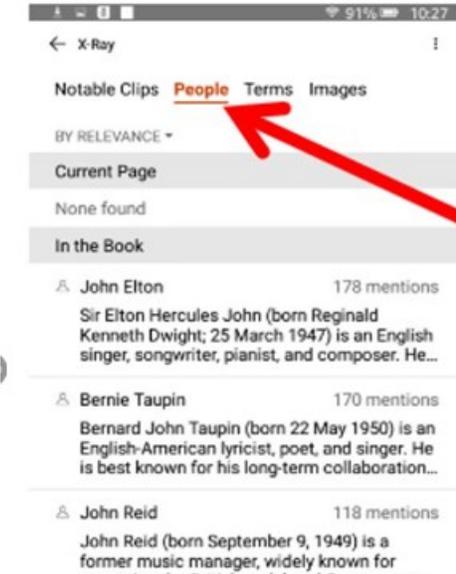
Kindle books can have **built-in** ways to **find out** about **words**, **characters** and the **story**

You might use

- the **Dictionary**
- **WordWise**
- **XRay**



Tap on X-Ray.



Press on **People**, to display **all characters** listed in the book.

# Audible Narration

Some people **prefer a natural voice** when using **text-to-speech**.

**Audible narration** gives these **benefits**:

- **Natural voice**
- **Text highlighting** so you can **read and listen** at the **same time**

**BUT** – **Added costs** for buying **both Kindle** and **Audible** versions

# Helpful features on the iPad



# Reading Books on iPad

- Need **Apple account** + **WiFi** to download books
- **Books** or **Audiobooks** are **downloaded** from the **Book store**
- You need to **pay** for **most books**
- **Some books** and **samples** are **free**
- **All books** you download will be **stored** in your **Books Library**

# The Toolbars

The **Toolbars** are **important!**

They **help** you to **make changes** to your book

To **find the Toolbars**

- **Open your book**
- **Go to a page**
- **Tap in the middle** of the page



# Changing how the page looks

## You can:

- Change the **brightness**
- Change the **text size**
- Change the **font**
- Change the **page colour**

# Using Text-to-speech on your iPad

## Benefits of using Text-to-speech:

- Understanding the text better
- Reading faster
- Read longer texts (novels, longer news articles, etc.)
- Takes away the pressure from physical reading especially when **tired**

**\*Voice and speed** can be changed in the Accessibility Settings\*

# Additional Features- Using Highlighting

- Some people like to use **highlights** for:
  - **Difficult words to look up** later
  - **Key points** in the book
  - Keep track of **different characters**

# Additional Features- Adding Notes

Some people like to add their own notes.

You might use **notes** to:

- Summarise what you read
- To remember key plot and character names
- Add your own meanings (e.g. your definition of a 'tricky' word)
- Add your thoughts on the **book** or on **characters**

You might use the notes to tell someone else about the book

# Everyday Reading on your iPad

Some people use their iPads for Everyday Reading

- These may include reading:

- **News Articles**

- **Social Media** like **emails**, **Facebook** posts, **blogs**, etc.

- **Recipes**, **cooking instructions**, etc.

- **Internet Browsing** for general **information** on **places to visit**, **holidays**, etc.