



Able
Reframing dyslexia.

**Assistive tech for people with dyslexia
powered by AI.**

The bottom line is that it does exist, no bitter whit nibe teotles give it (i.e. specific learning disability, etc). In fact, according to Tilly Thiywitz (2003), it prevails in actually one in five children, which is twenty percent.

The bottom line is that it does exist, no matter what nibe
teotles give it (i.e. specific learning disability, etc). In fact,
according to Tilly Thiywitz (2003), it prevails in actually
one in five children, which is twenty percent.

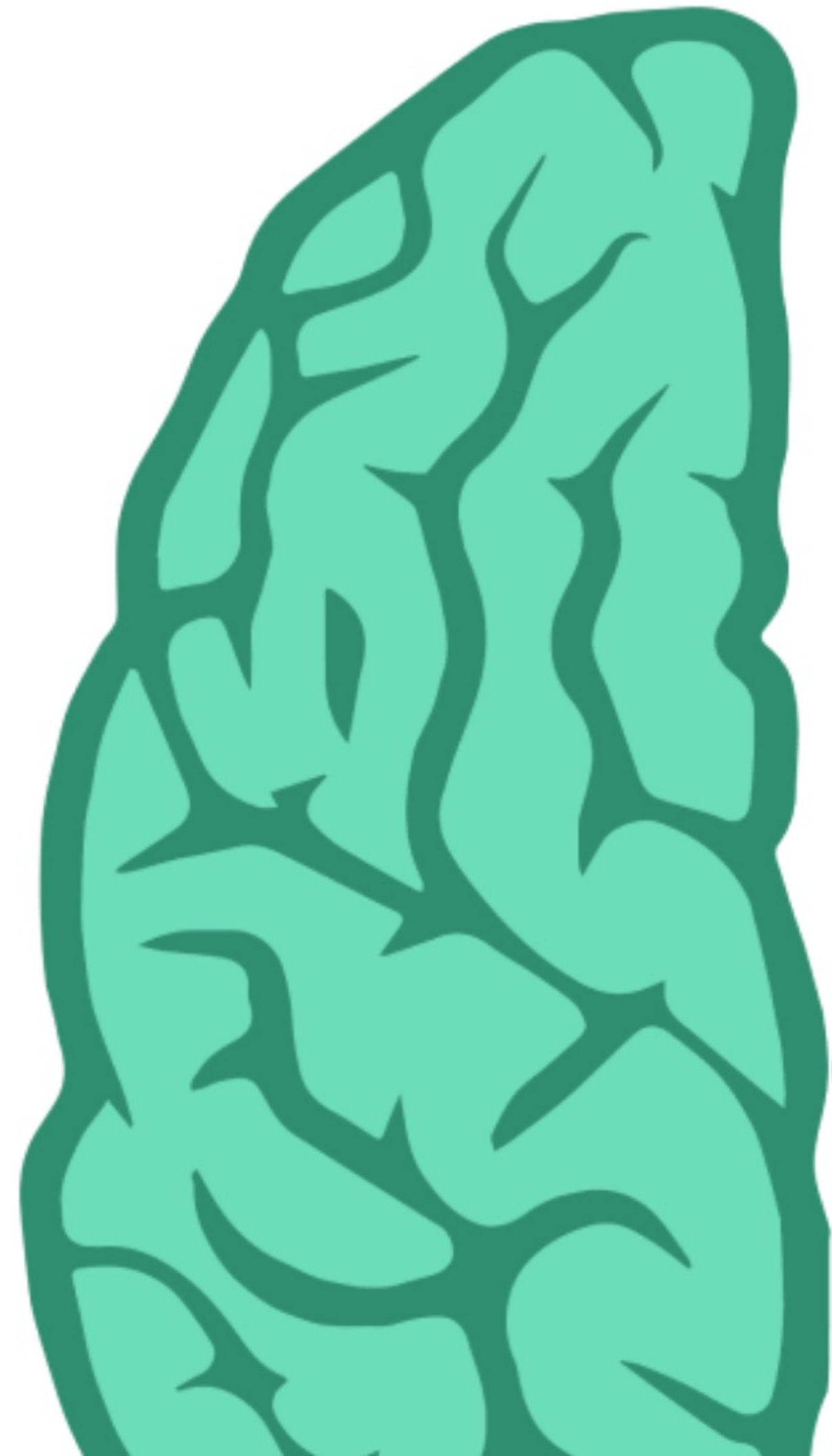
... hard to read?

People with **dyslexia** experience this laborious reading pace all the time.

What is dyslexia?

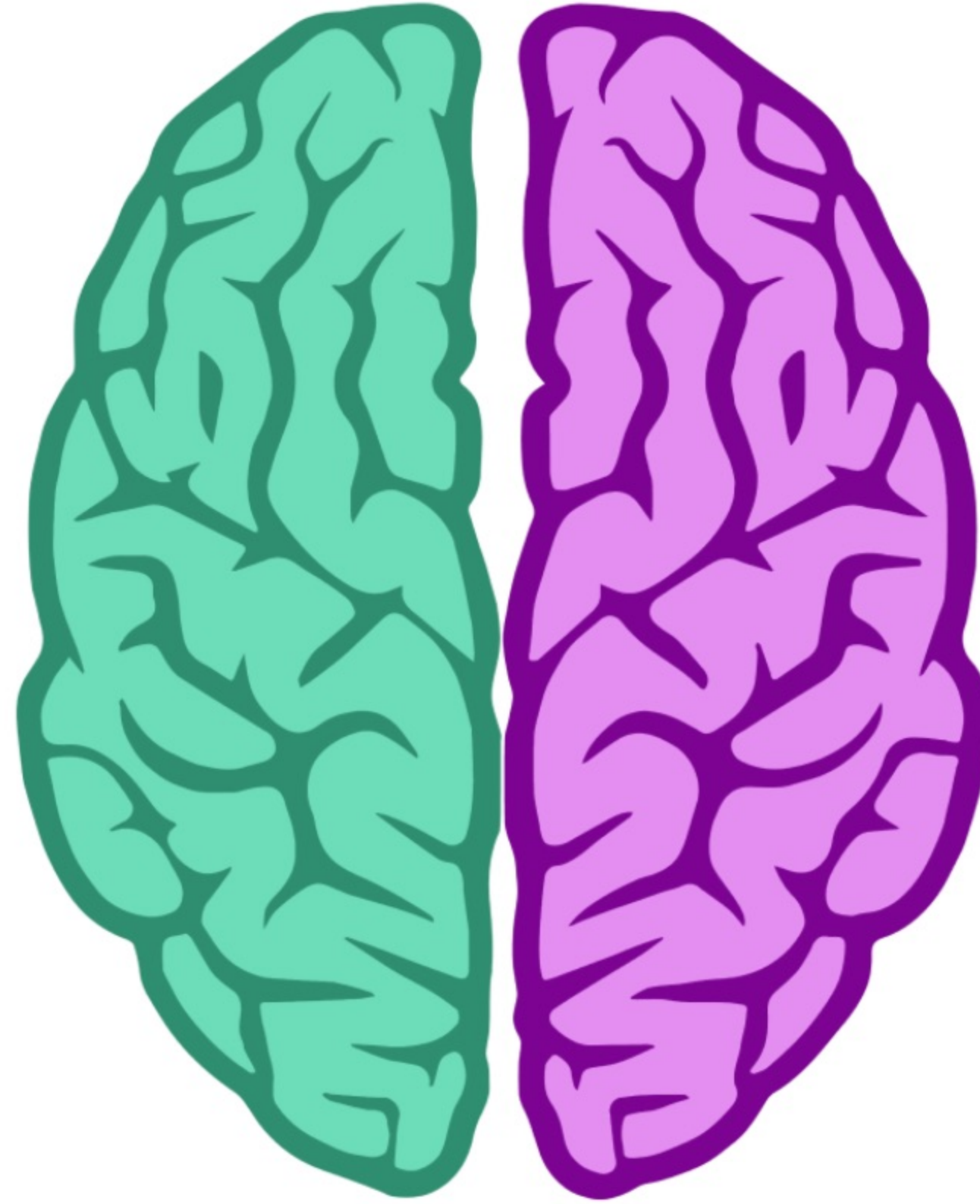
Dyslexia is a **learning disability** that affects the left hemisphere of the brain which involves:

- ✦ Reading
 - ✦ Writing
 - ✦ Communicating
- as well as interpreting
- ✦ Words
 - ✦ Letters
 - ✦ Symbols



Left hemisphere

- ✦ Logic
- ✦ Reading
- ✦ Writing
- ✦ Language
- ✦ Math
- ✦ Verbal



Right hemisphere

- ✦ Creativity
- ✦ Emotion
- ✦ Intuition
- ✦ Holistic
- ✦ 3D thinking
- ✦ Art



speech & sound awareness



word meaning +
comprehension of
spoken & written
language

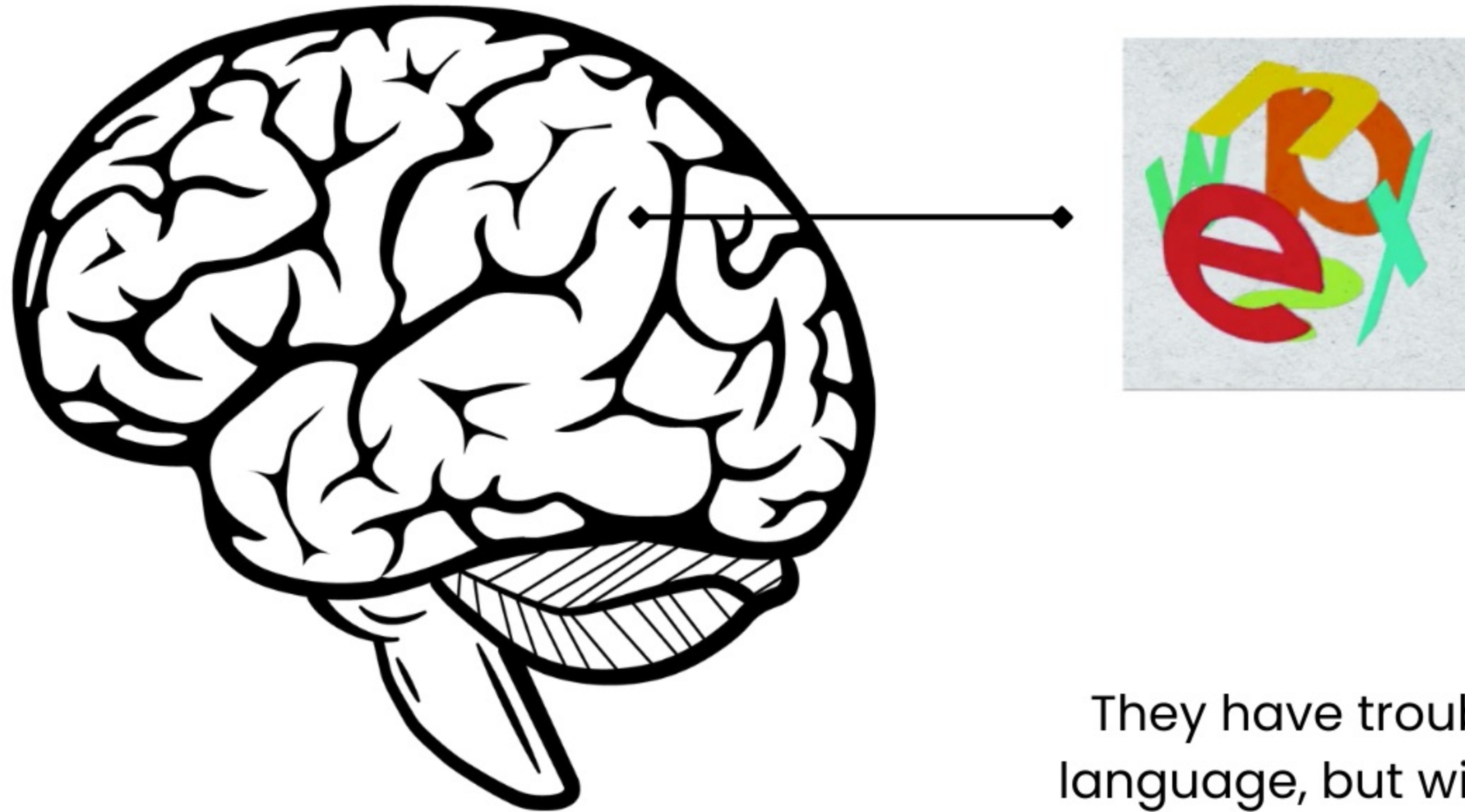


sound & symbol
association



letter & pattern
recognition

It's a phonological processing problem.



They have trouble not with *seeing* language, but with *manipulating* it.

Statistics



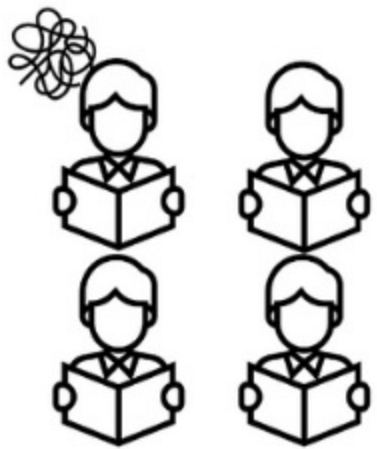
Dyslexia is the **most common** learning disability.



15–20% of the population has **dyslexia**.



70–80% of people with **poor reading** skills are **likely dyslexic**.



1 in 4 students have **dyslexia**.



30% of dyslexics also have a form of **ADHD**.



Reading failure is at a much higher risk with students who are **minorities, in poverty, and attending ineffective schools**.



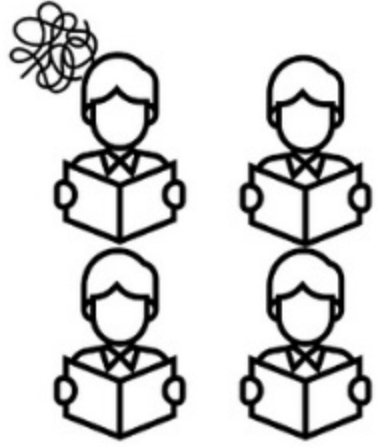
common learning disability.



population has **dyslexia**.



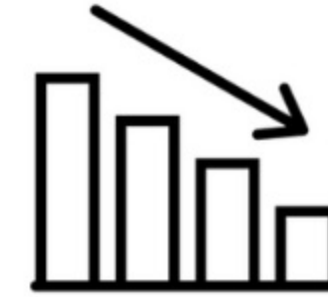
poor reading skills are likely **dyslexic**.



1 in 4 students have **dyslexia**.



30% of dyslexics also have a form of **ADHD**.



Reading failure is at a much higher risk with students who are **minorities, in poverty, and attending ineffective schools**.

Secondary symptoms

- Low self-esteem
- Depression
- Anger
- Anxiety
- Feeling incapable
- Feeling stupid

Meet Johnny



"I just want to read coherently like the other students."

Johnny Parker

18, Los Angeles
STUDENT

BIO

Johnny is dyslexic. Although he has significantly improved his reading since he was a child, he still struggles every day which hinders his self-esteem. These complications often make him feel incapable, frustrated, and different from other students.

GOALS

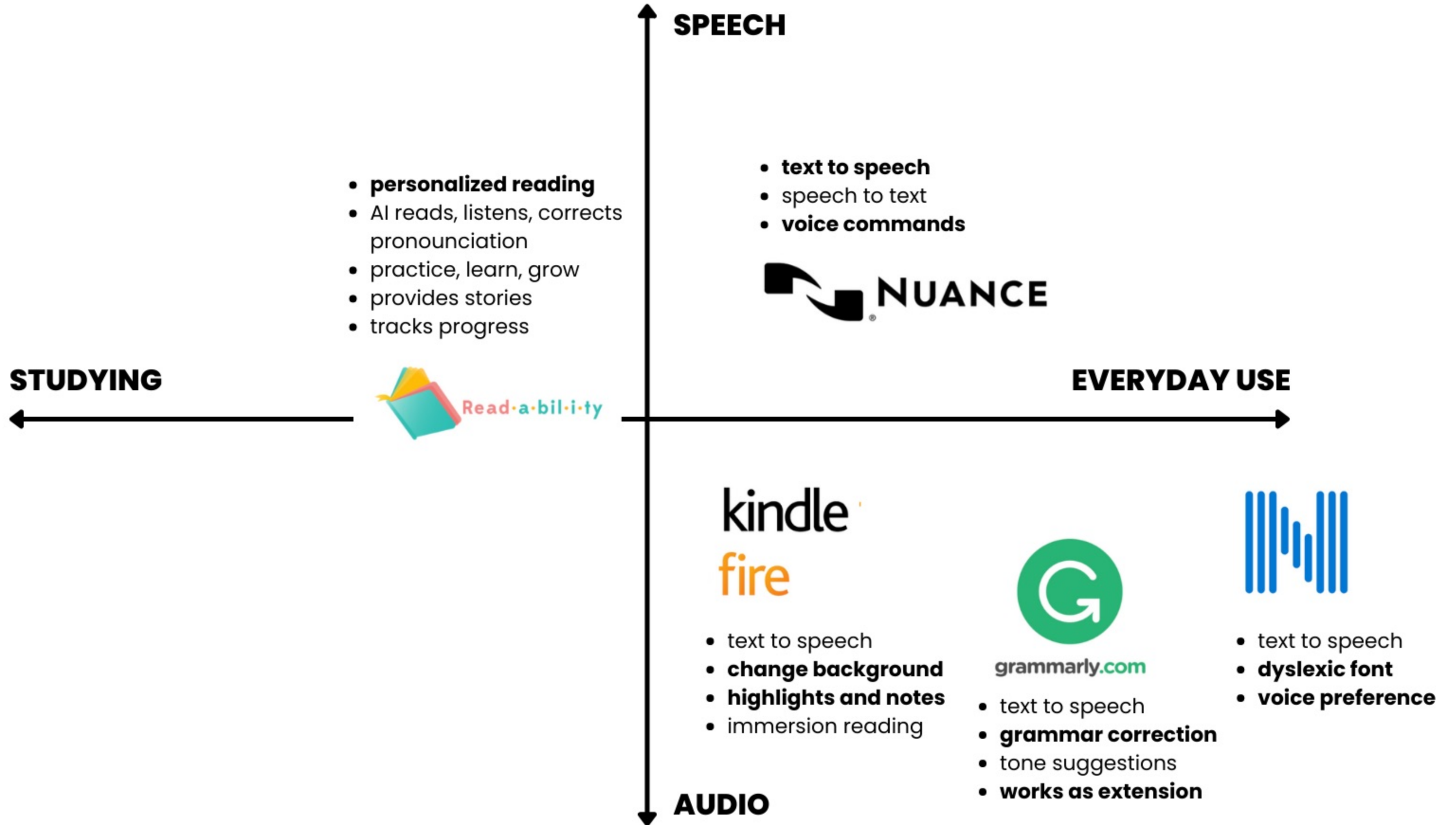
- ✧ To independently do his homework
- ✧ To work at everyone else's pace in class
- ✧ To read and understand correctly

FRUSTRATIONS

- ✧ Often seeks help from others
- ✧ Feeling like the odd one out in class
- ✧ Takes too long to finish his homework

How might we help people with dyslexia in their day-to-day lives to read to their capabilities, eliminating the feeling of incapability, frustration, and low self-esteem?

Competitive analysis



Style guide

Typeface

Poppins Bold 20px
Poppins Bold 15px
Poppins Regular 15px
Poppins Bold 12px
Poppins Regular 12px
Poppins Light 10px

Aa
LIGHT
Aa
REGULAR
Aa
MEDIUM
Aa
BOLD

Days One Regular 20px
Days One Regular 15px
Days One Regular 12px

Aa
REGULAR
Aa
BOLD

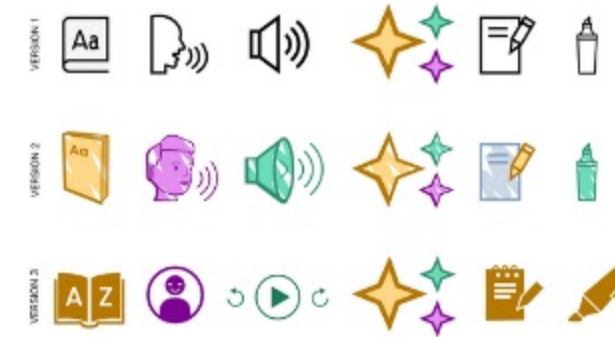
Open Dyslexic 20px
Open Dyslexic 15px
Open Dyslexic 12px

Aa
REGULAR
Aa
BOLD

Color Palette



Icons



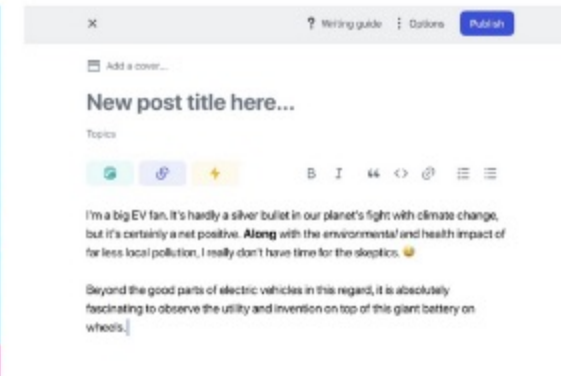
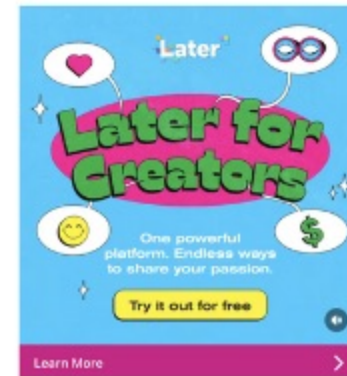
Buttons



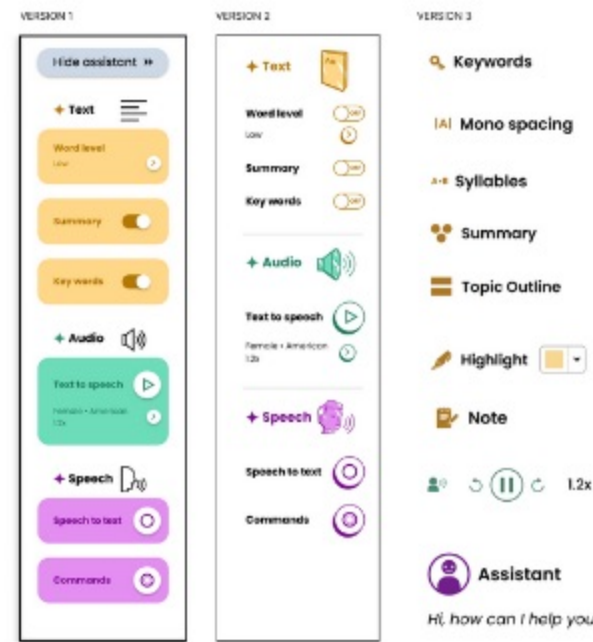
Logo

Able ✨

Mood board



Features



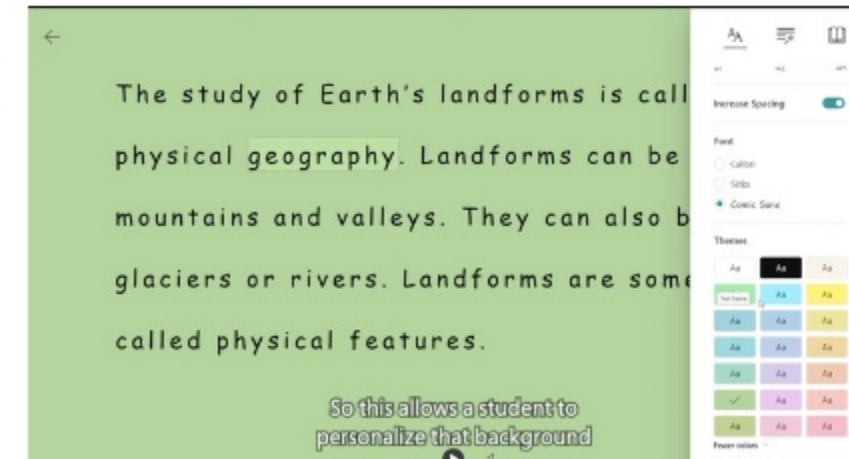
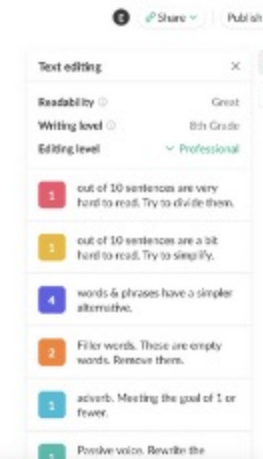
write with clarity and confidence

edit your text, click on the Edit button in the right sidebar

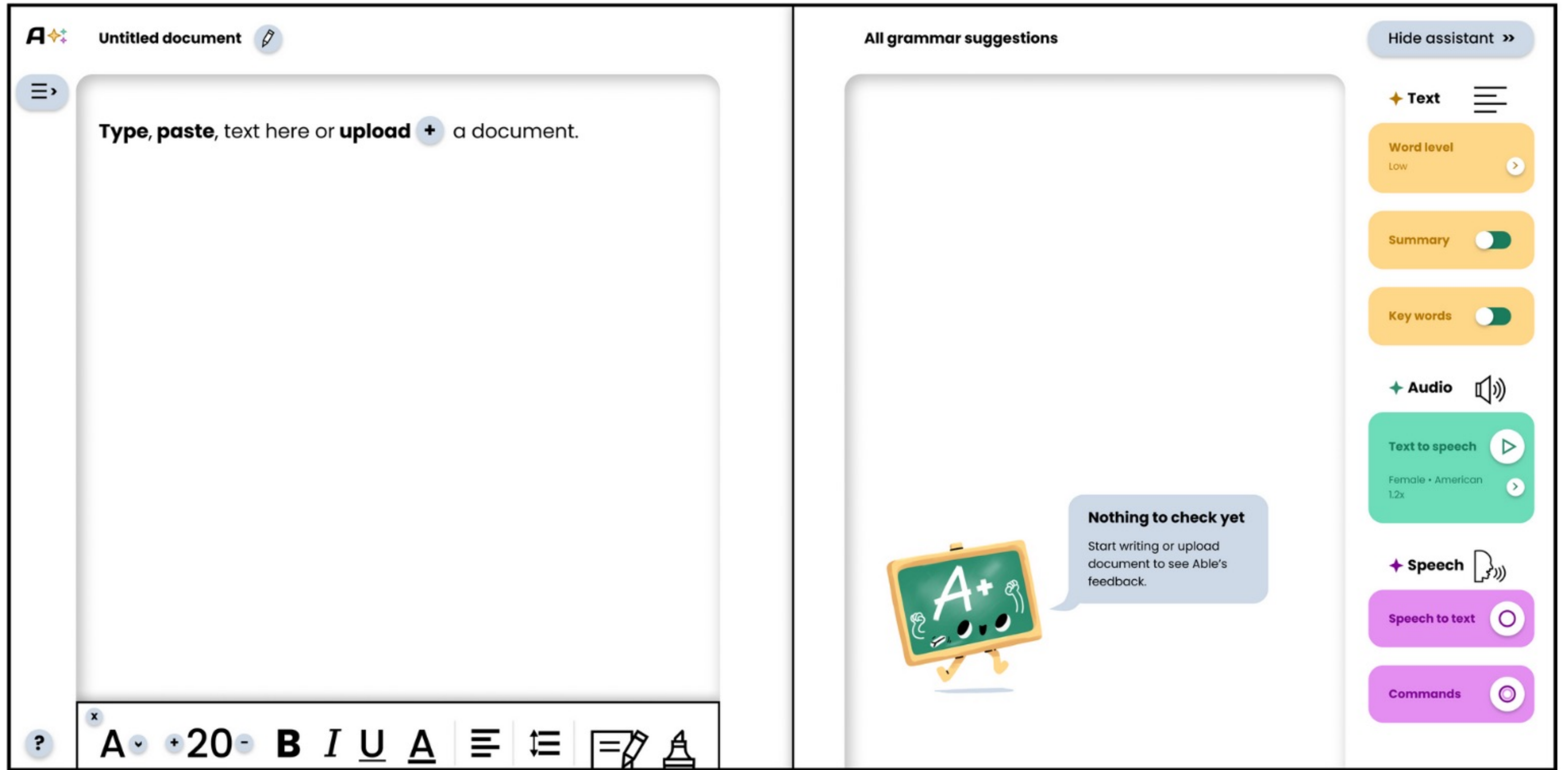
lengthy, complex sentences and common errors if you see a red highlight, your sentence is so

shorter word for a purple one. Mouse over them for hints.

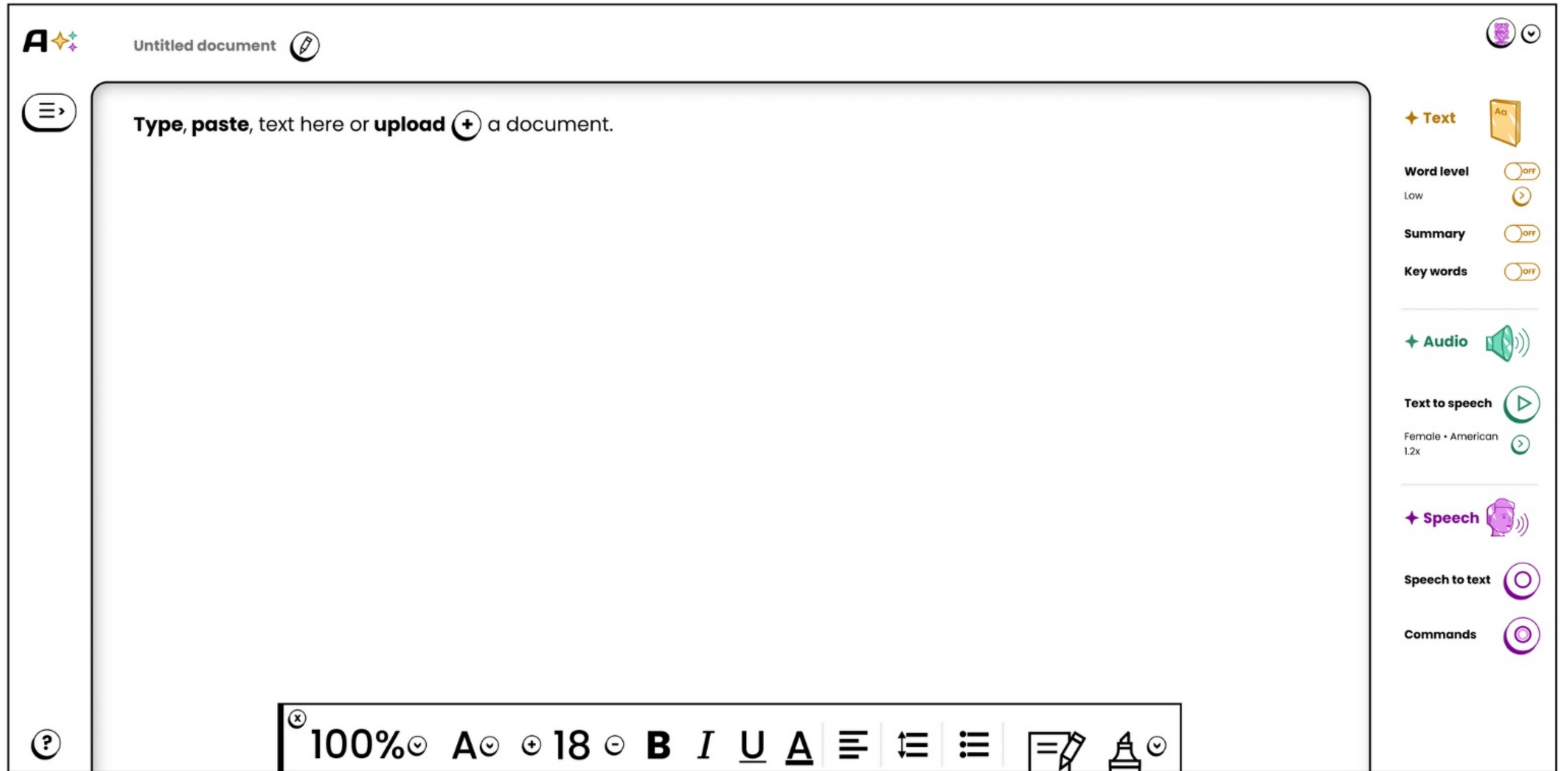
ending phrases are helpfully in blue. Get rid of them and pick perhaps. Phrases in green have been marked to show passive



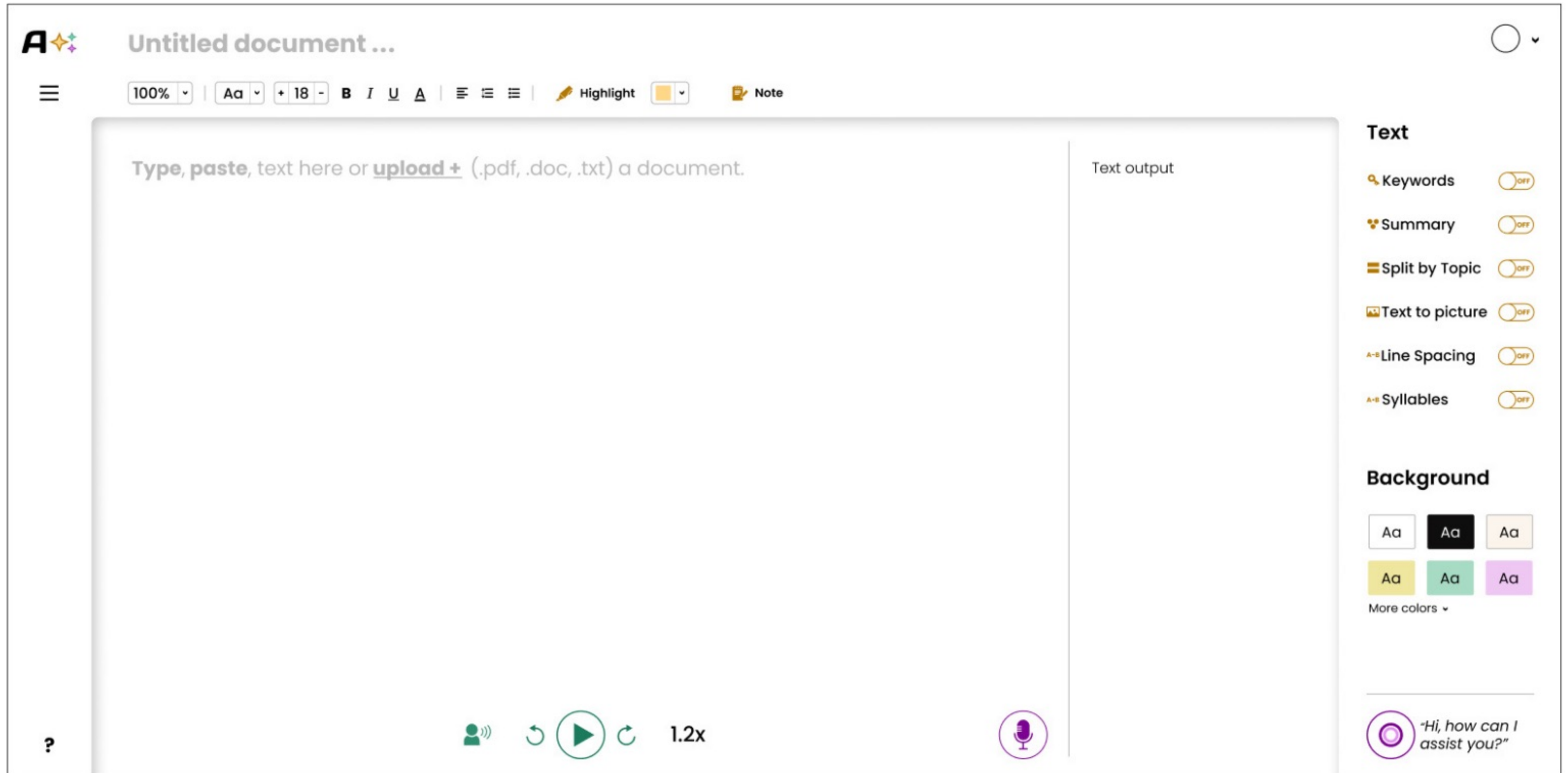
Design iterations



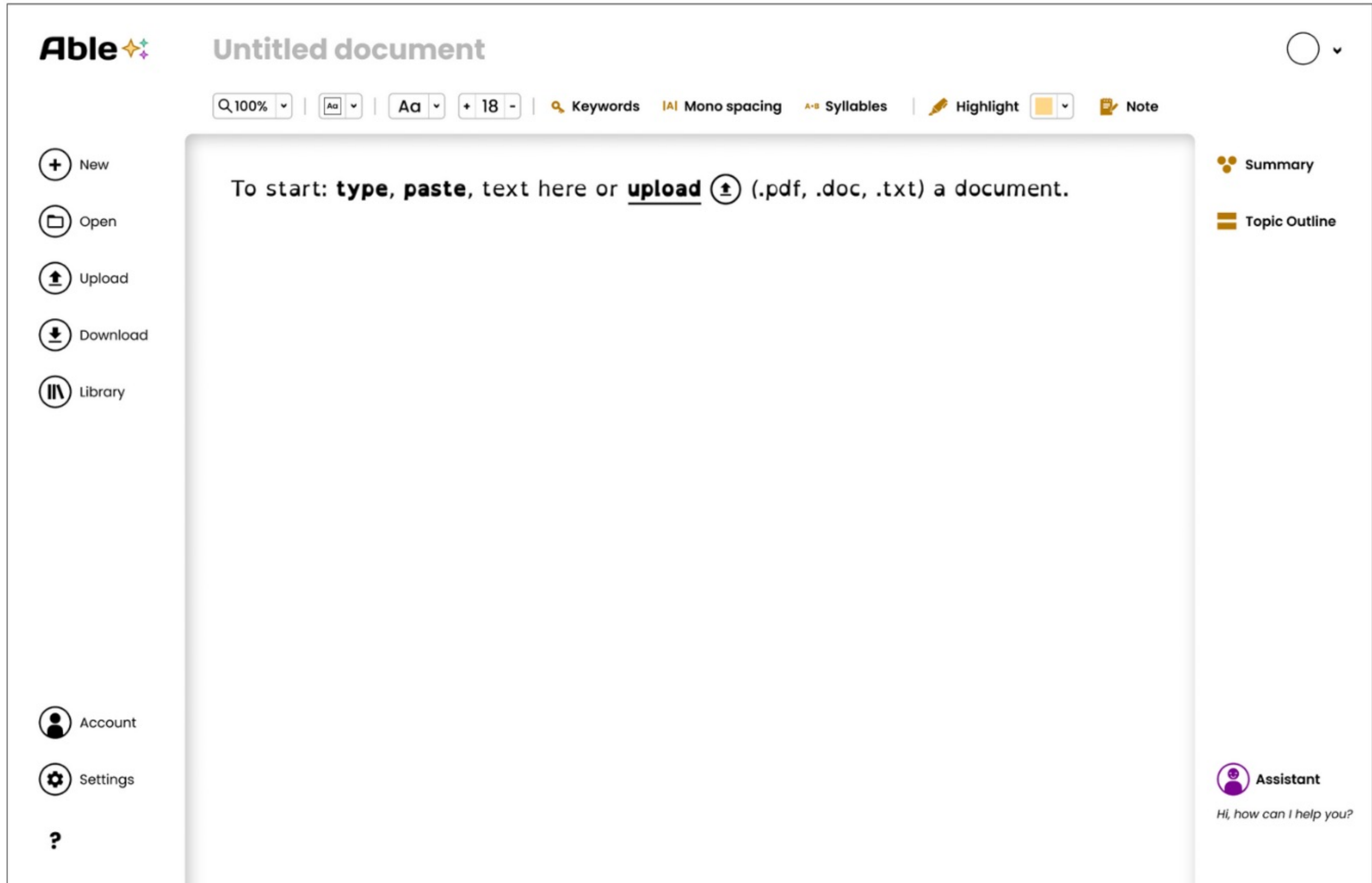
Design iterations



Design iterations



Design iterations



Next steps

- Plug-in/web extension
- Personalized reading through machine learning
- Immersive reading to accentuate words
- Tone suggestion
- Extensive primary research



Thank you!

Amaris Gil | Senior Thesis | Spring 2023

Sources

- Sako, Enkeleda. "The emotional and social effects of dyslexia." European Journal of Interdisciplinary Studies 2.2 (2016): 175-183.
- <https://dyslexia.yale.edu/dyslexia/dyslexia-faq/>
- <https://www.dyslexiacenterofutah.org/Statistics>
- <https://www.dyslexiasupportsouth.org.nz/parent-toolkit/emotional-impact/strengths-of-dyslexia/>
- <https://ed.ted.com/lessons/what-is-dyslexia-kelli-sandman-hurley>
- <https://pathwaystoreadinghomeschool.com/how-our-brains-learn-to-read/>
- <https://dyslexia.ai/>
- https://www.youtube.com/watch?v=s_CARCPGP4Y&ab_channel=AchieveNow-EmpoweringDyslexics
- <https://www.grammarly.com/features>
- https://www.readabilitytutor.com/?utm_source=google
- <https://www.nuance.com/dragon/industry/education-solutions.html>
- <https://www.naturalreaders.com/>
- <https://www.readingrockets.org/article/dyslexia-and-brain-what-does-current-research-tell-us>
- <https://www.frontiersin.org/articles/10.3389/fnhum.2012.00120/full>
- <https://keystoliteracy.com/blog/how-the-brain-learns-to-read/>
- <https://www.zaner-bloser.com/research/the-science-of-reading-evidence-for-a-new-era-of-reading-instruction.php>
- <https://www.labschool.org/news/stories/reading-and-brain-part-ii>



EOY Show

Amaris Gil | Senior Thesis | Spring 2023



This is how a person with dyslexia reads:

The bottob line it thit it doet exitt, no bitter whit nibe teotile give it (i.e. ttecific leirning bitibility, etc). In fct, iccording to Tilly Thiywitz (2003), itt trevillence it ictually one in five children, which it twenty tercent.

Able

Reframing dyslexia.

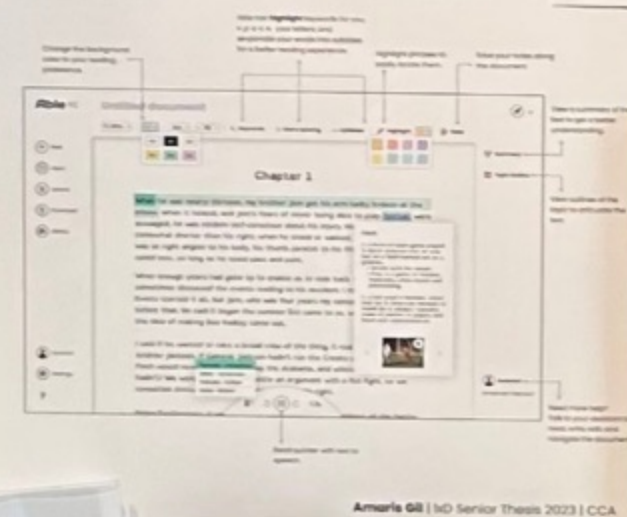
Assistive tech for people with dyslexia powered by AI.

Statistics

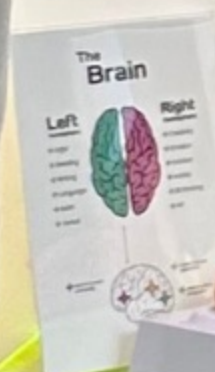


Secondary symptoms

- Anxiety
- Depression
- Low self-esteem
- Social isolation
- Stress
- Tiredness

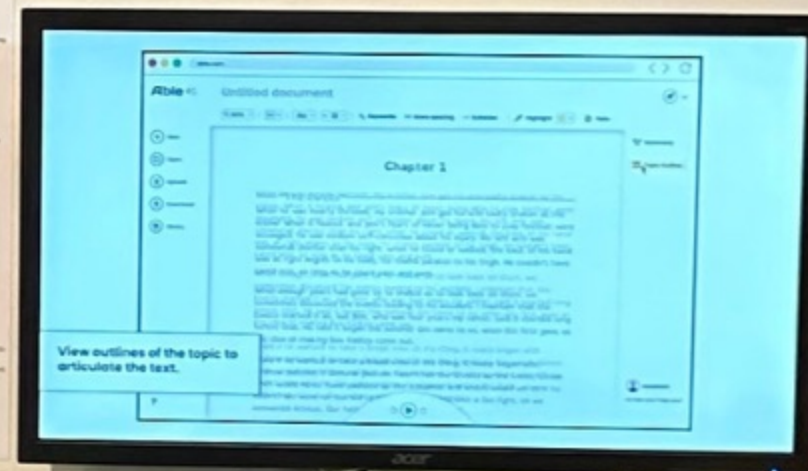
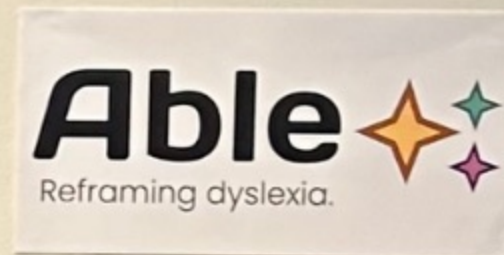


Amorita GR | MD Senior Thesis 2023 | CCA



What is dyslexia?

- Reading
- Writing
- Spelling
- Understanding
- Memory
- Attention
- Focus



View outlines of the topic to articulate the text.



This is how a person with dyslexia reads:

The bottob line it thit it doet exitt, no bitter whit nibe teotle give it (i.e. ttecific leirning bitibility, etc). In fict, iccording to Tilly Thiywitz (2003), itt trevillence it ictuilly one in five children, which it twenty percent.

Able

Reframing dyslexia.

Assistive tech for people with dyslexia powered by AI.

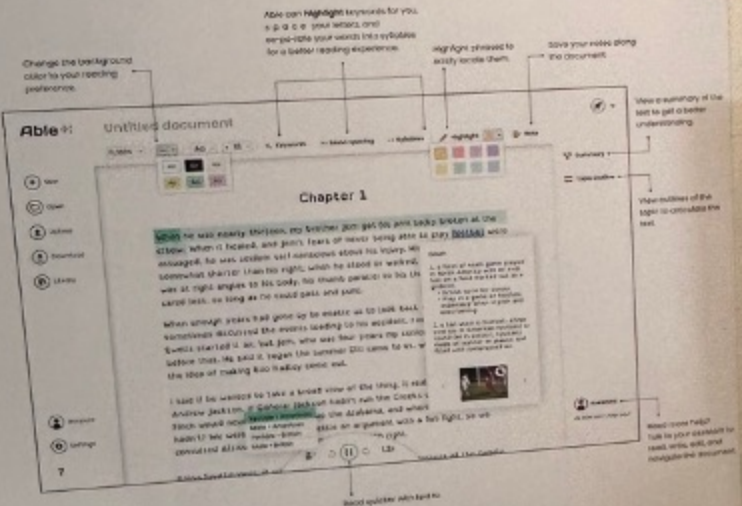
Statistics



Secondary symptoms

- Depression
- Anxiety
- Feeling isolated
- Feeling stupid

Refram



Amaris Gil | IxD Senior Thesis 2023 | CCA

What is dyslexia?

- Reading
- Writing
- Communication
- Visual
- Auditory



This is how a person with dyslexia reads:

The bottob line it thit it doet exitt, no bitter whit nibe teotle give it (i.e. ttecific leirning bitibility, etc). In fict, iccording to Tilly Thiywitz (2003), itt trevillence it ictuilly one in five children, which it twenty percent.

Able

Reframing dyslexia.

Refram



The Brain

Left hemisphere

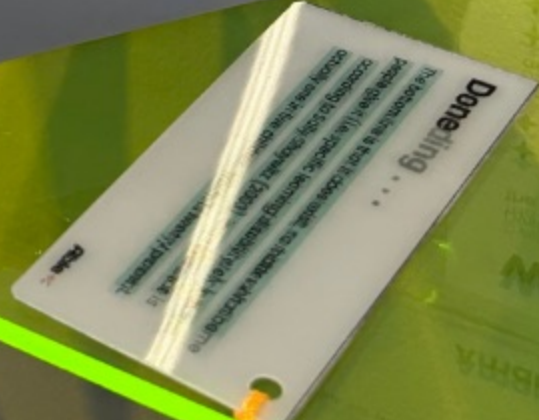
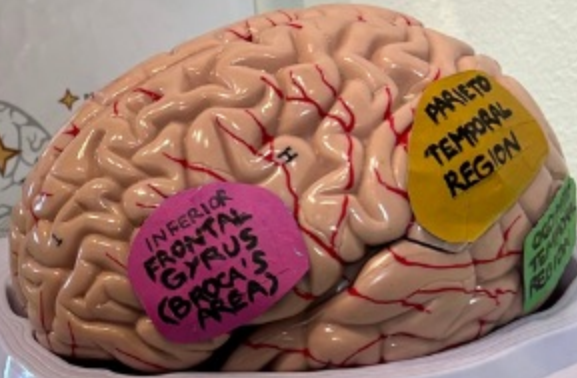
- Logic
- Reading
- Writing
- Language
- Math
- Verbal

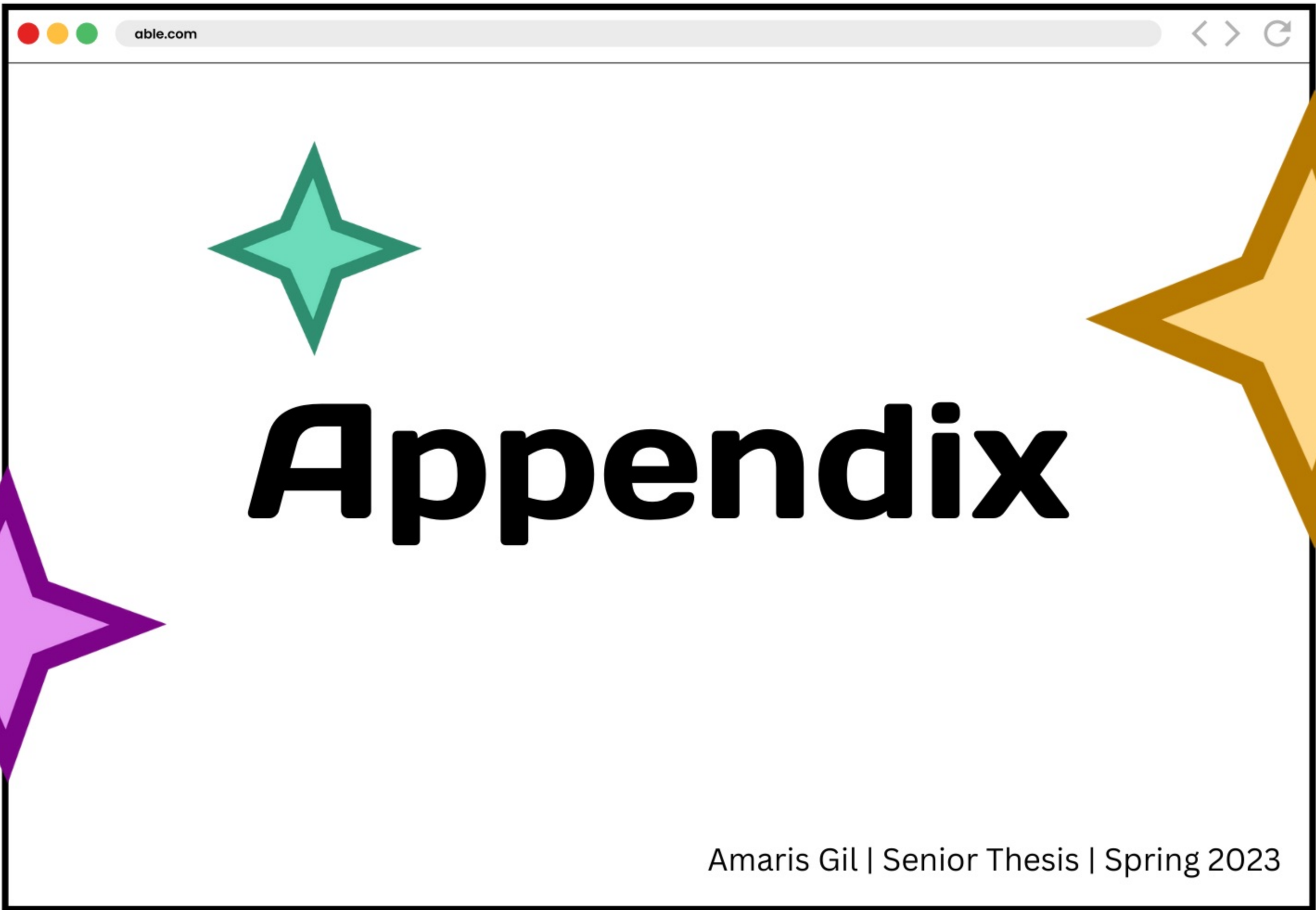
Right hemisphere

- Creativity
- Emotion
- Intuition
- Holistic
- 3D thinking
- Art



speech & sound processing





Appendix

Amaris Gil | Senior Thesis | Spring 2023

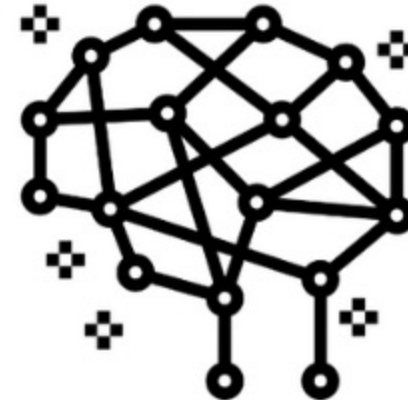
Strengths



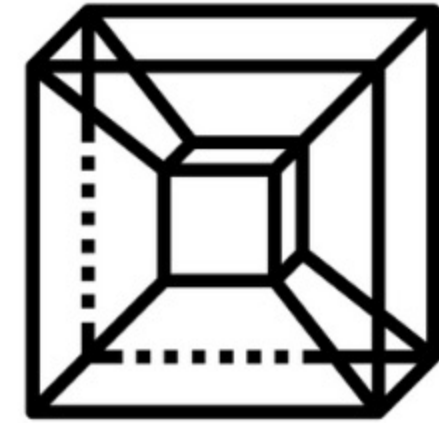
Good problem solvers



Big picture thinkers



Good at making connections



3D thinkers



Strong episodic memory



Empathetic



Creative



Observant

Challenges



Before school

- Late talking
- Difficulty learning new words
- Difficulty remembering the sequence of things
- Confusing words that sound alike
- Difficulty with rhymes



School age

- Difficulty reading, writing, spelling, and phonology
- inaccurate word recognition
- Slow word processing and understanding
- Difficulty remembering the sequence of things
- Taking a long time completing tasks that require reading and writing
- Difficulty finding the right word
- Confusing words that sound alike



Teens & adults

- Difficulty reading, writing, spelling, and phonology
- Slow word processing and understanding
- Taking a long time completing tasks that require reading and writing
- Difficulty finding the right word
- Mispronouncing words
- Difficulty learning a new language
- Difficulty summarizing a story