LectureAId

Group 10

Our Team


Jonthan Silk


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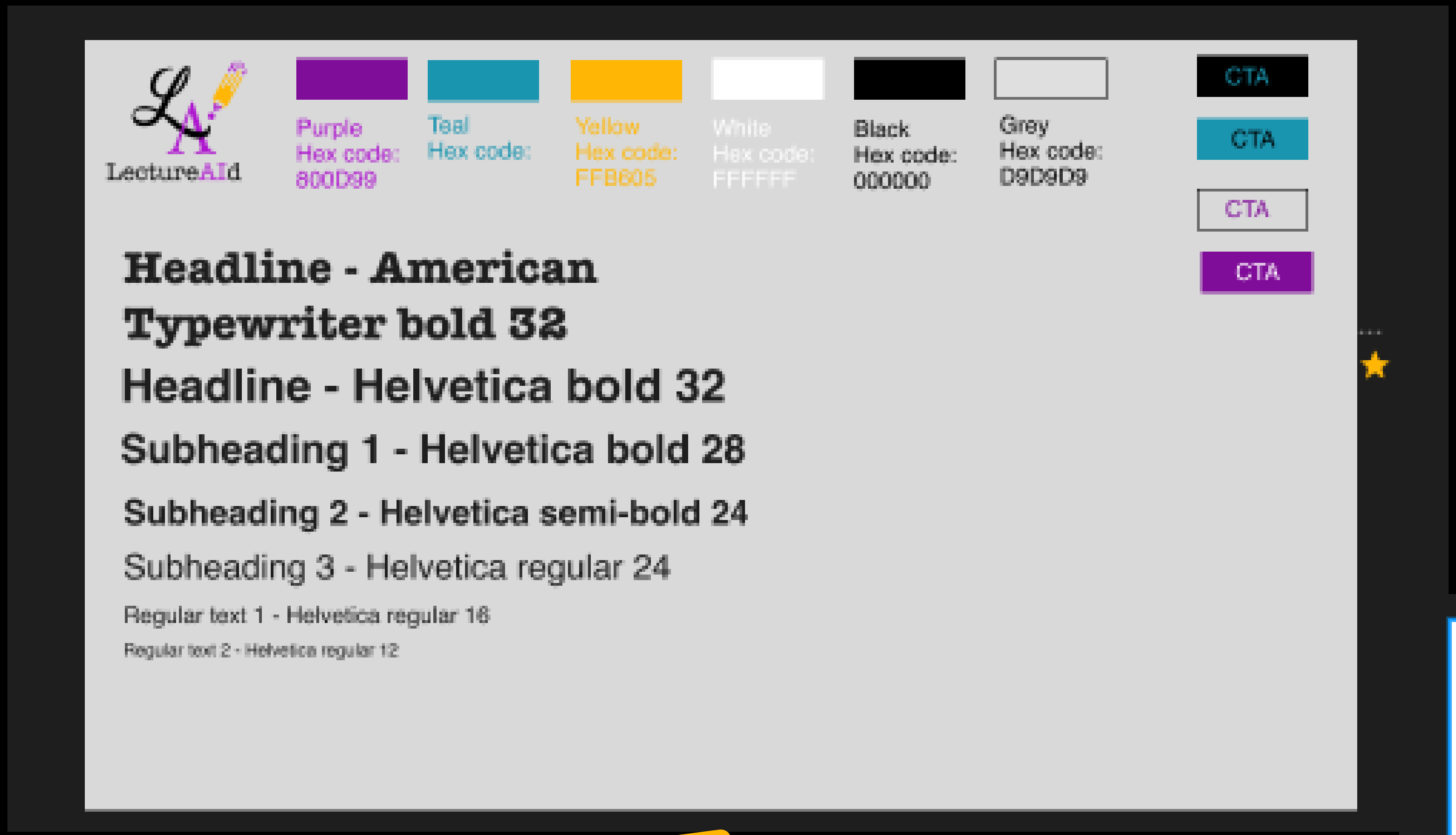
Part ONE

Hi-Fidelity Wireframes

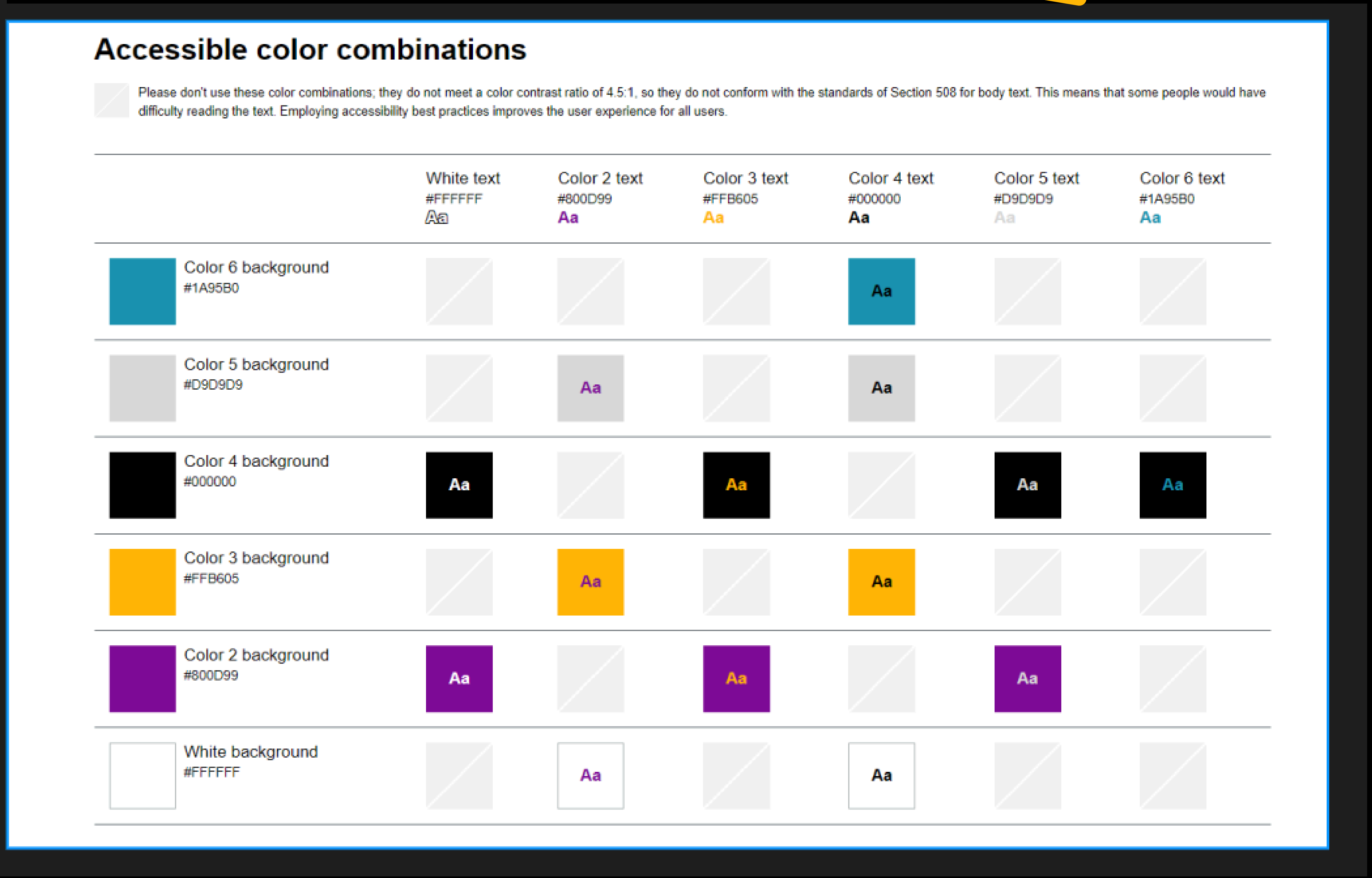
Key Design Considerations:

- Accessibility- font and coloring
- Using the same components throughout the Hi-Fi
- Used grey background for binders and notes and then white for all the AIds
- Gradient shaded buttons for AI features, purple for all other buttons
- Changed our logo to match the colors needed for variety and accessibility- also matches our product better
- Easy choices for AI options, using a slider button in the MVP- but will do A/B testing in the future
- It is sized for an iPad tablet application- this was decided based on user research



We picked Helvetica because it is one of the best fonts for accessibility. With this being an education app, accessibility will be critical.

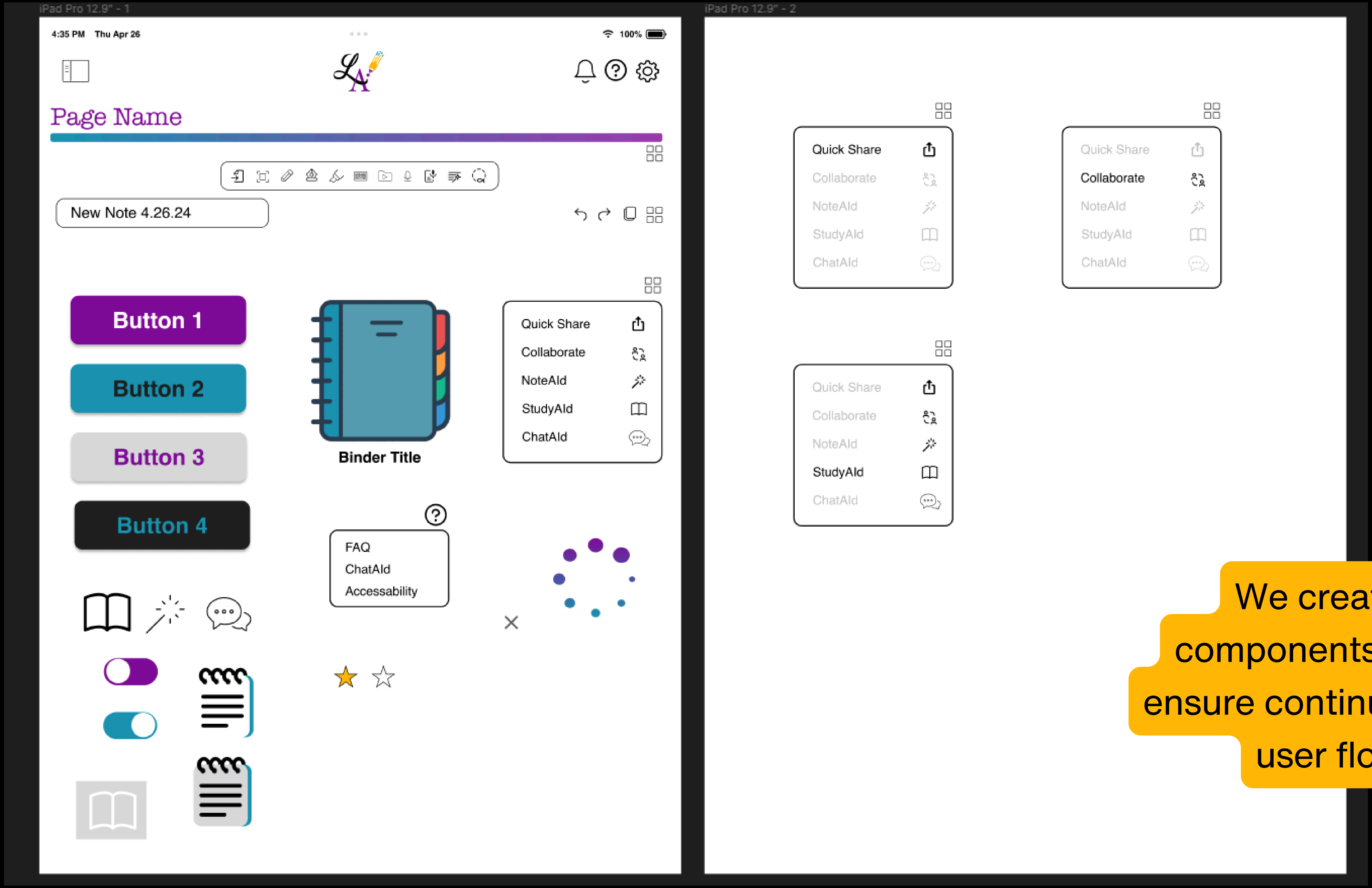
We used an accessibility chart to ensure our color combination would meet accessibility standards.



Accessible color combinations

Please don't use these color combinations; they do not meet a color contrast ratio of 4.5:1, so they do not conform with the standards of Section 508 for body text. This means that some people would have difficulty reading the text. Employing accessibility best practices improves the user experience for all users.

	White text #FFFFFF Aa	Color 2 text #800D99 Aa	Color 3 text #FFB605 Aa	Color 4 text #000000 Aa	Color 5 text #D9D9D9 Aa	Color 6 text #1A95B0 Aa
Color 6 background #1A95B0				Aa		
Color 5 background #D9D9D9		Aa		Aa		
Color 4 background #000000	Aa		Aa		Aa	Aa
Color 3 background #FFB605		Aa		Aa		
Color 2 background #800D99	Aa		Aa		Aa	
White background #FFFFFF		Aa		Aa		

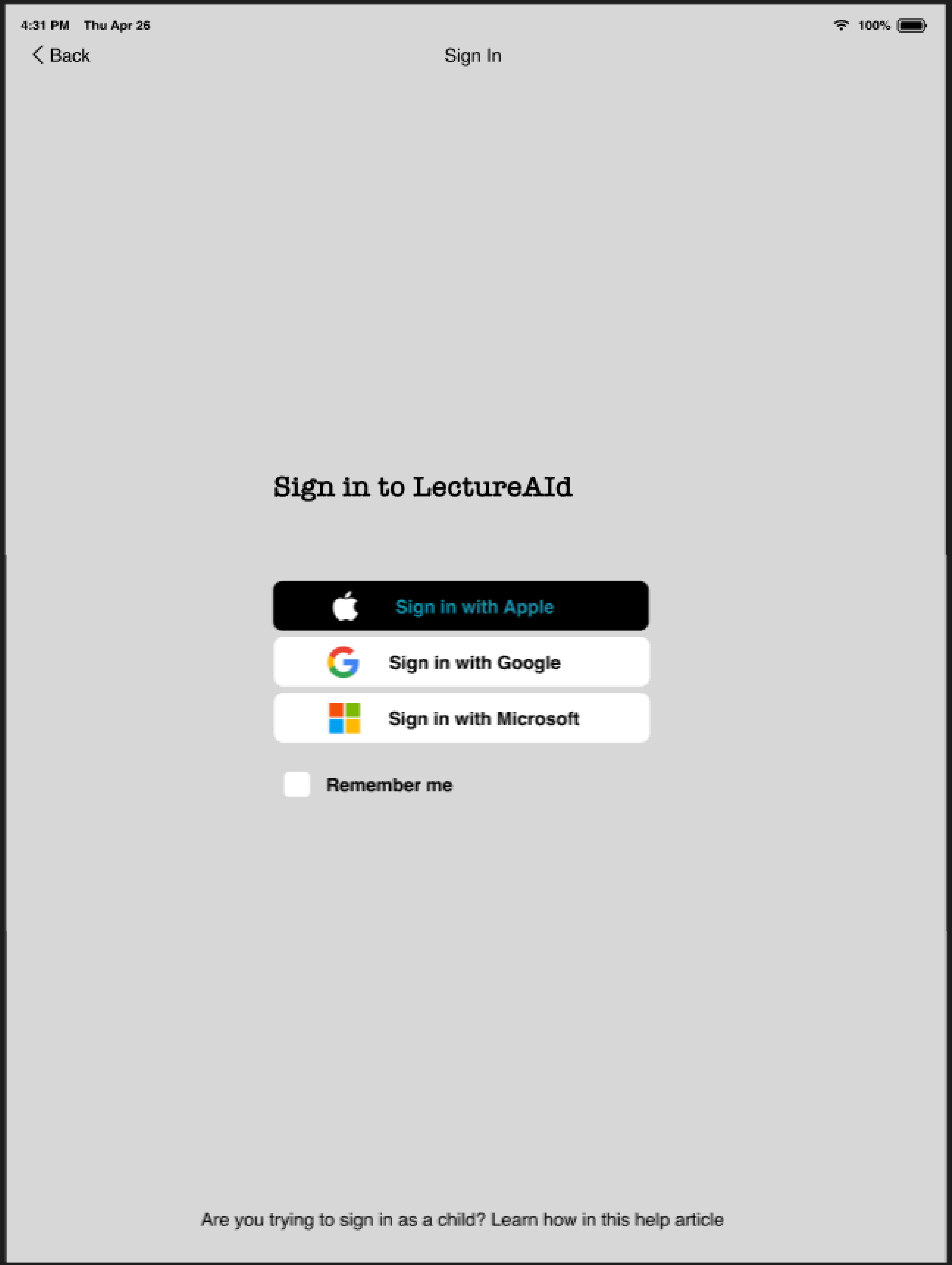


We created a components page to ensure continuity across user flows.

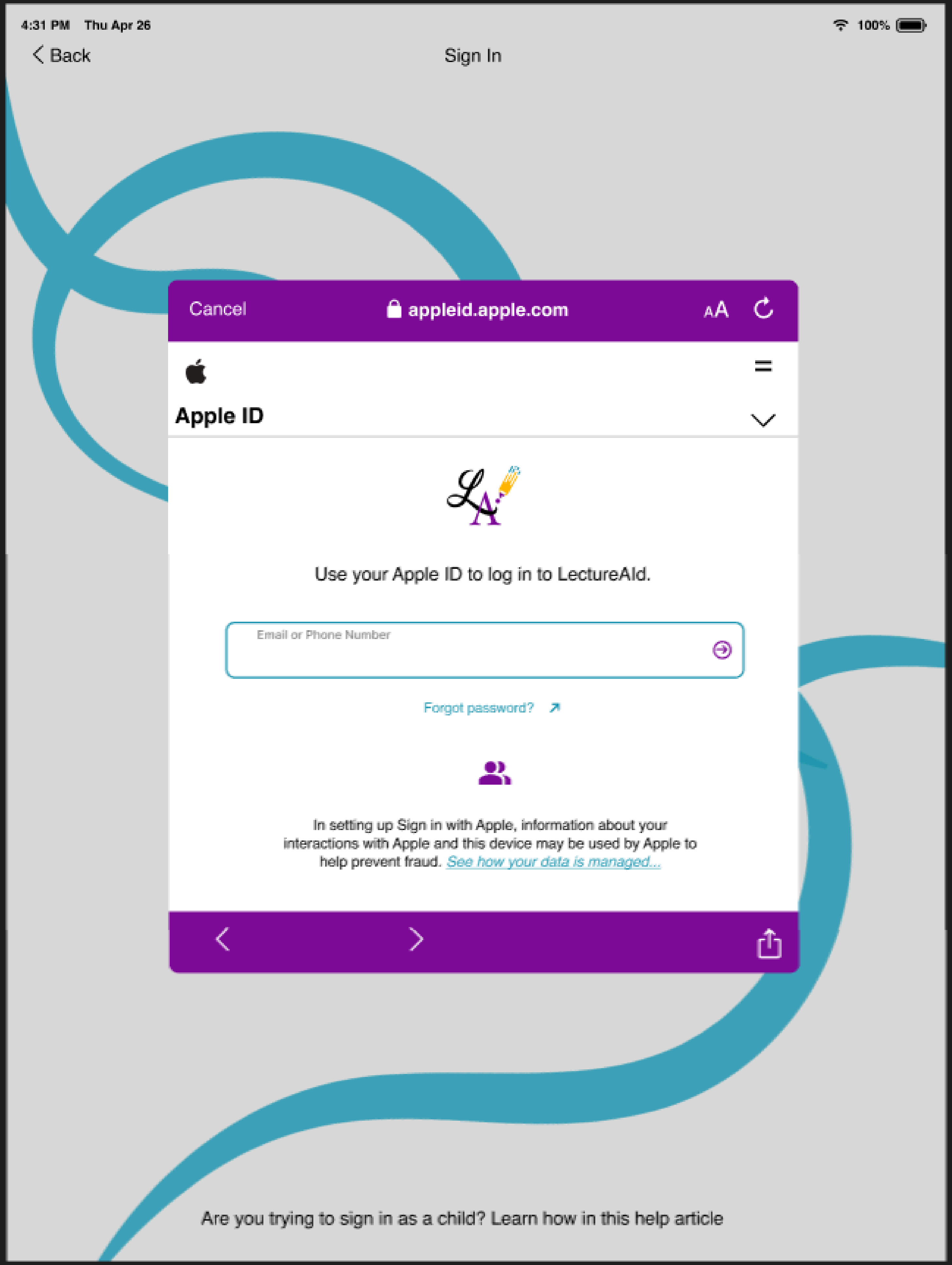
Hi-Fidelity

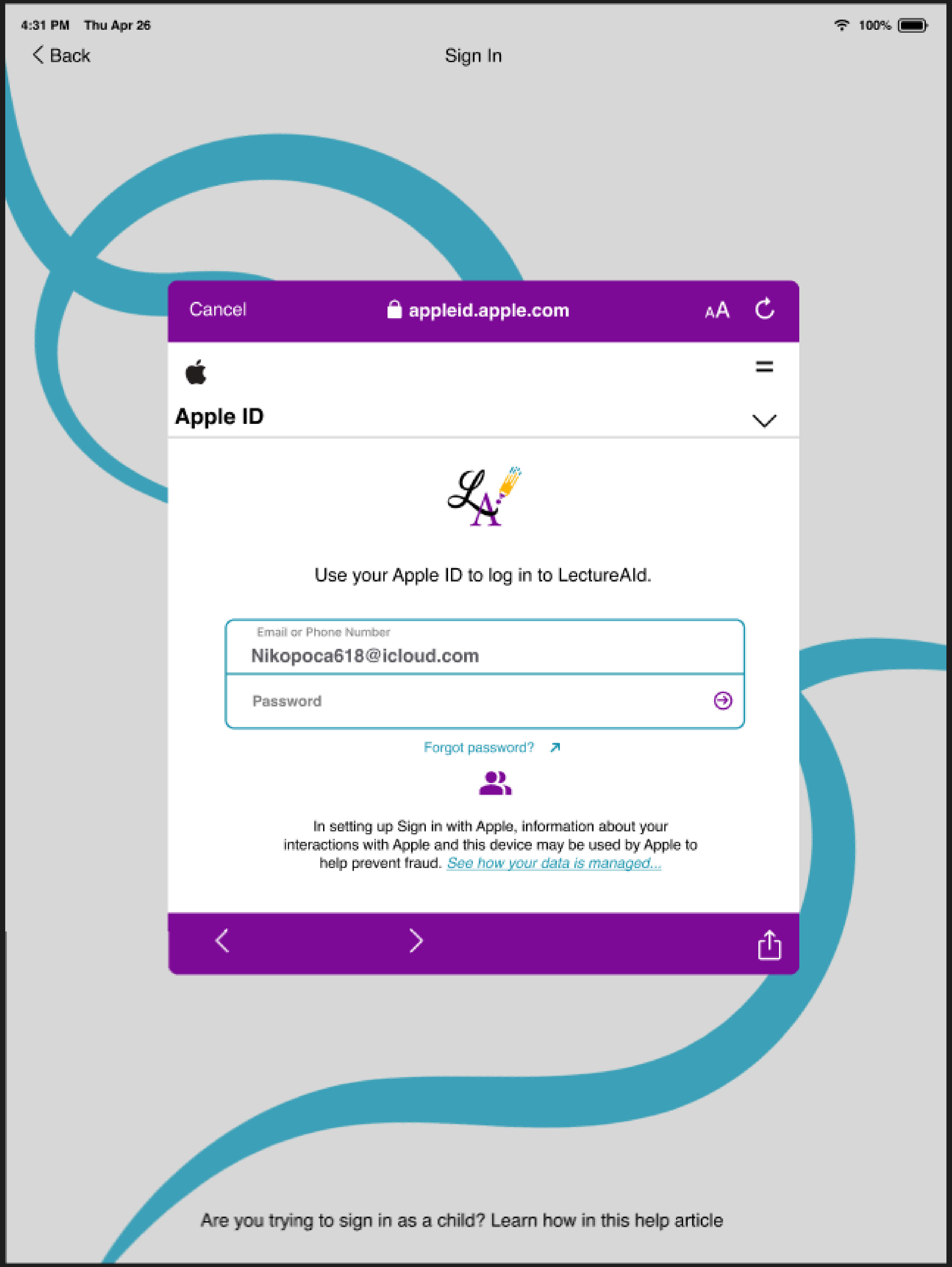
SIGNING UP

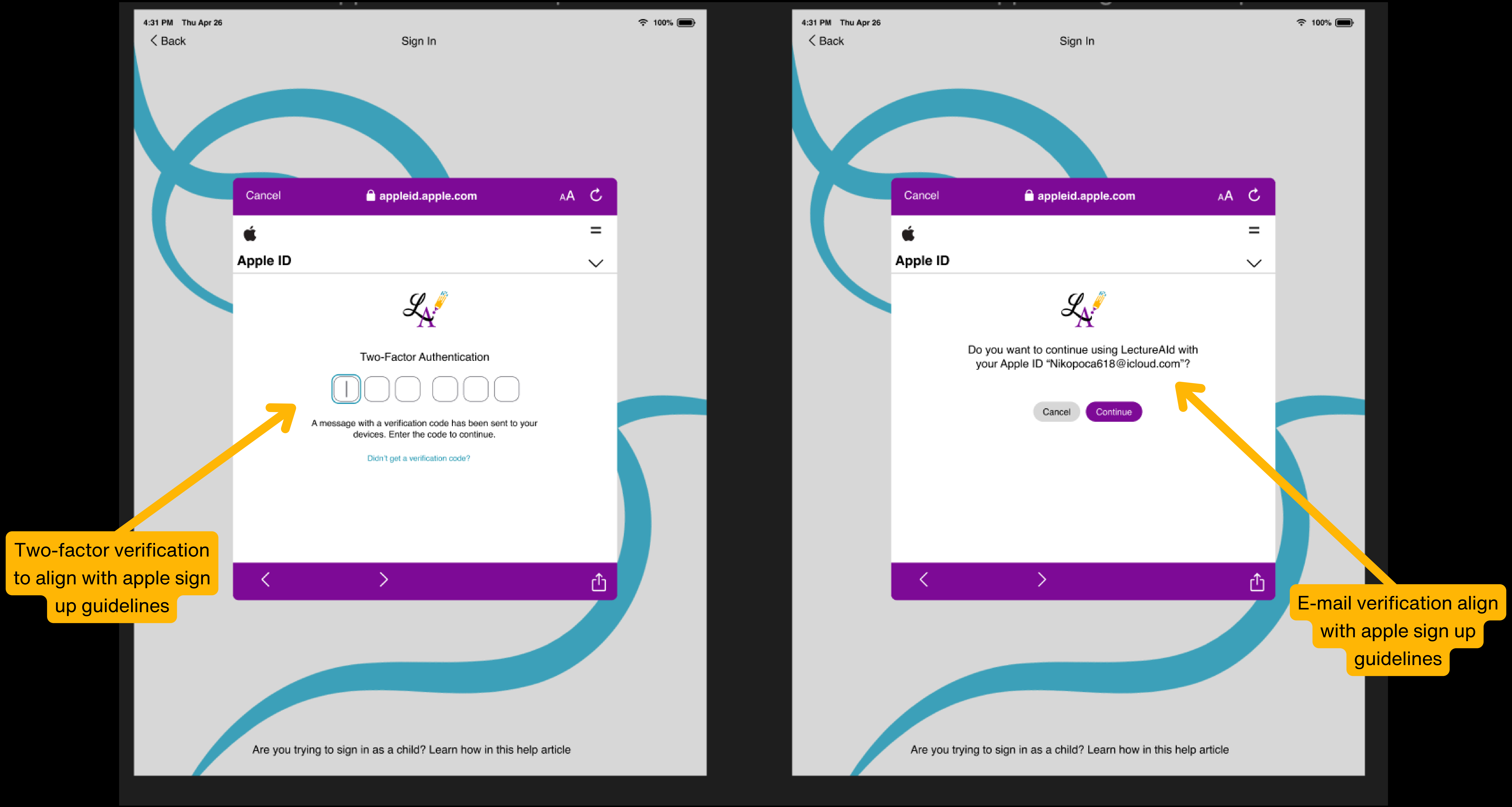
4:31 PM Thu Apr 26
100%
Back
Sign In
LectureAId
LectureAId
LectureAId
Next



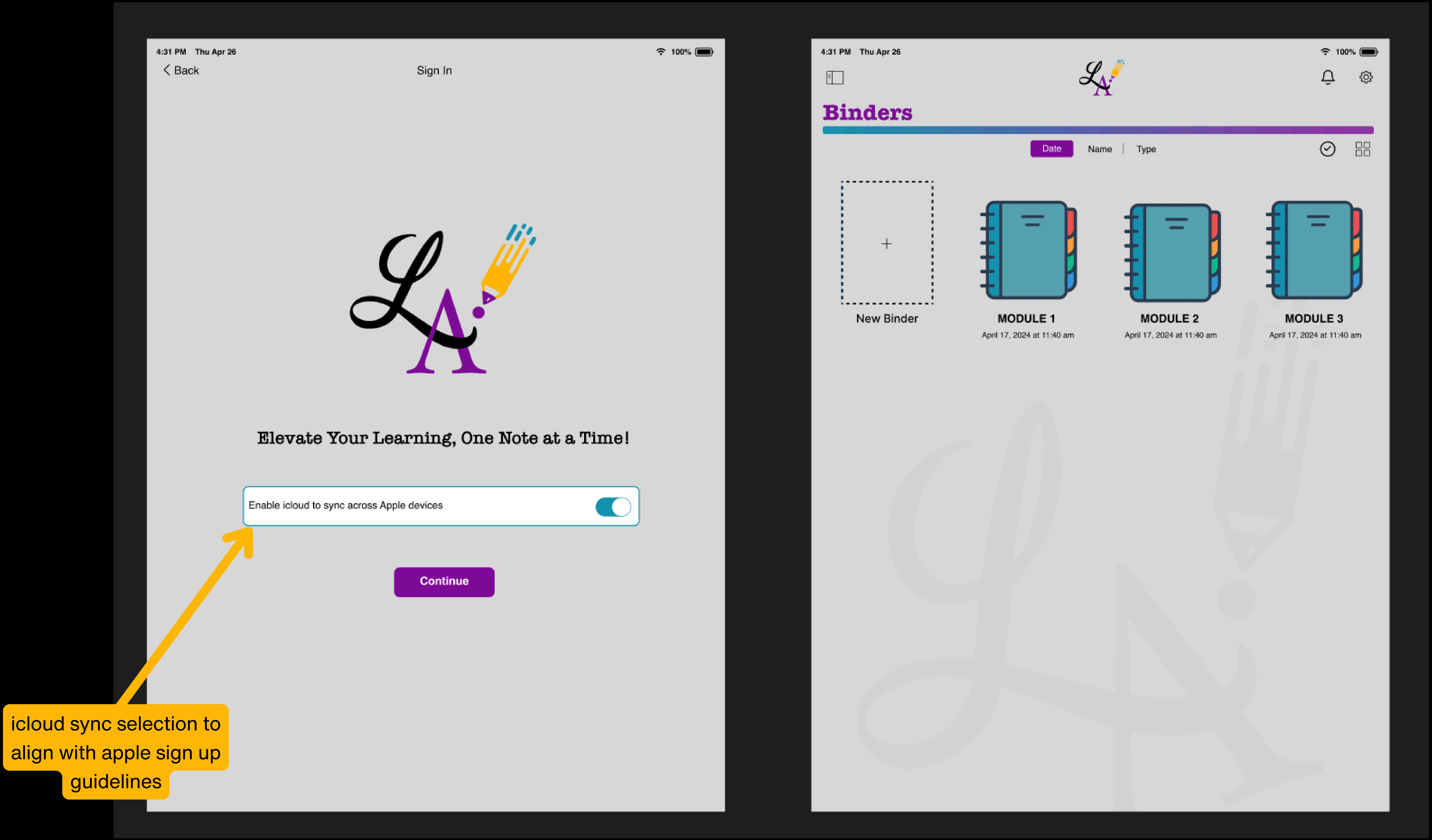
4:31 PM Thu Apr 26
100%
Back
Sign In
Sign in to LectureAId
Sign in with Apple
Sign in with Google
Sign in with Microsoft
Remember me
Are you trying to sign in as a child? Learn how in this help article


4:31 PM Thu Apr 26
100%
Back
Sign In
Cancel
appleid.apple.com
AA
Apple ID
Use your Apple ID to log in to LectureAId.
Email or Phone Number
Forgot password?
In setting up Sign in with Apple, information about your interactions with Apple and this device may be used by Apple to help prevent fraud. See how your data is managed...
Are you trying to sign in as a child? Learn how in this help article


4:31 PM Thu Apr 26
100%
Back
Sign In
Cancel
appleid.apple.com
AA
Apple ID
Use your Apple ID to log in to LectureAId.
Email or Phone Number
Nikopoca618@icloud.com
Password
Forgot password?
In setting up Sign in with Apple, information about your interactions with Apple and this device may be used by Apple to help prevent fraud. See how your data is managed...
Are you trying to sign in as a child? Learn how in this help article

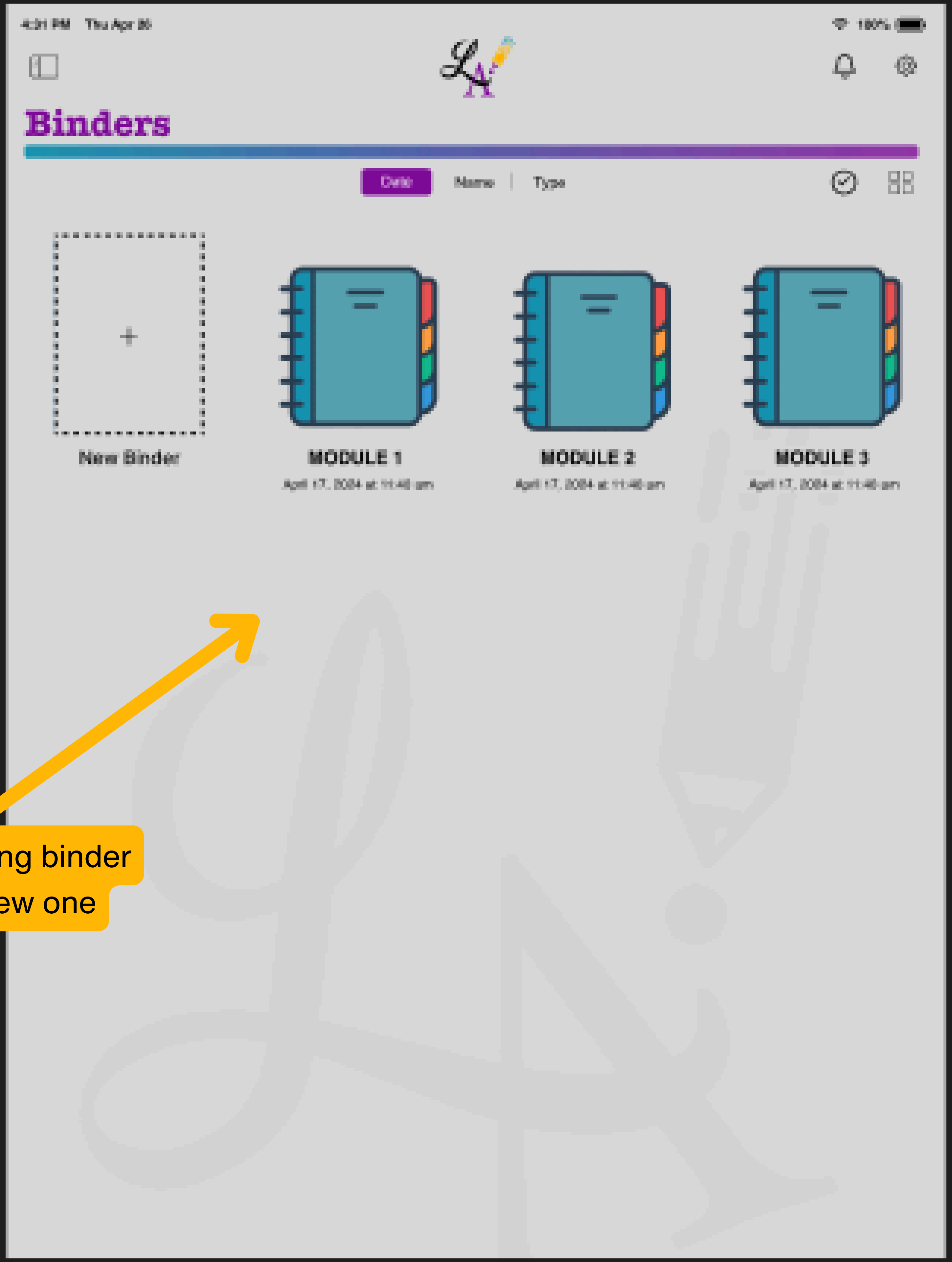


4:31 PM Thu Apr 26
100%
Back
Sign In
Cancel
appleid.apple.com
AA
Apple ID
Two-Factor Authentication
A message with a verification code has been sent to your devices. Enter the code to continue.
Didn't get a verification code?
Are you trying to sign in as a child? Learn how in this help article
Two-factor verification to align with apple sign up guidelines
4:31 PM Thu Apr 26
100%
Back
Sign In
Cancel
appleid.apple.com
AA
Apple ID
Do you want to continue using LectureAId with your Apple ID "Nikopoca618@icloud.com"?
Cancel
Continue
Are you trying to sign in as a child? Learn how in this help article
E-mail verification align with apple sign up guidelines

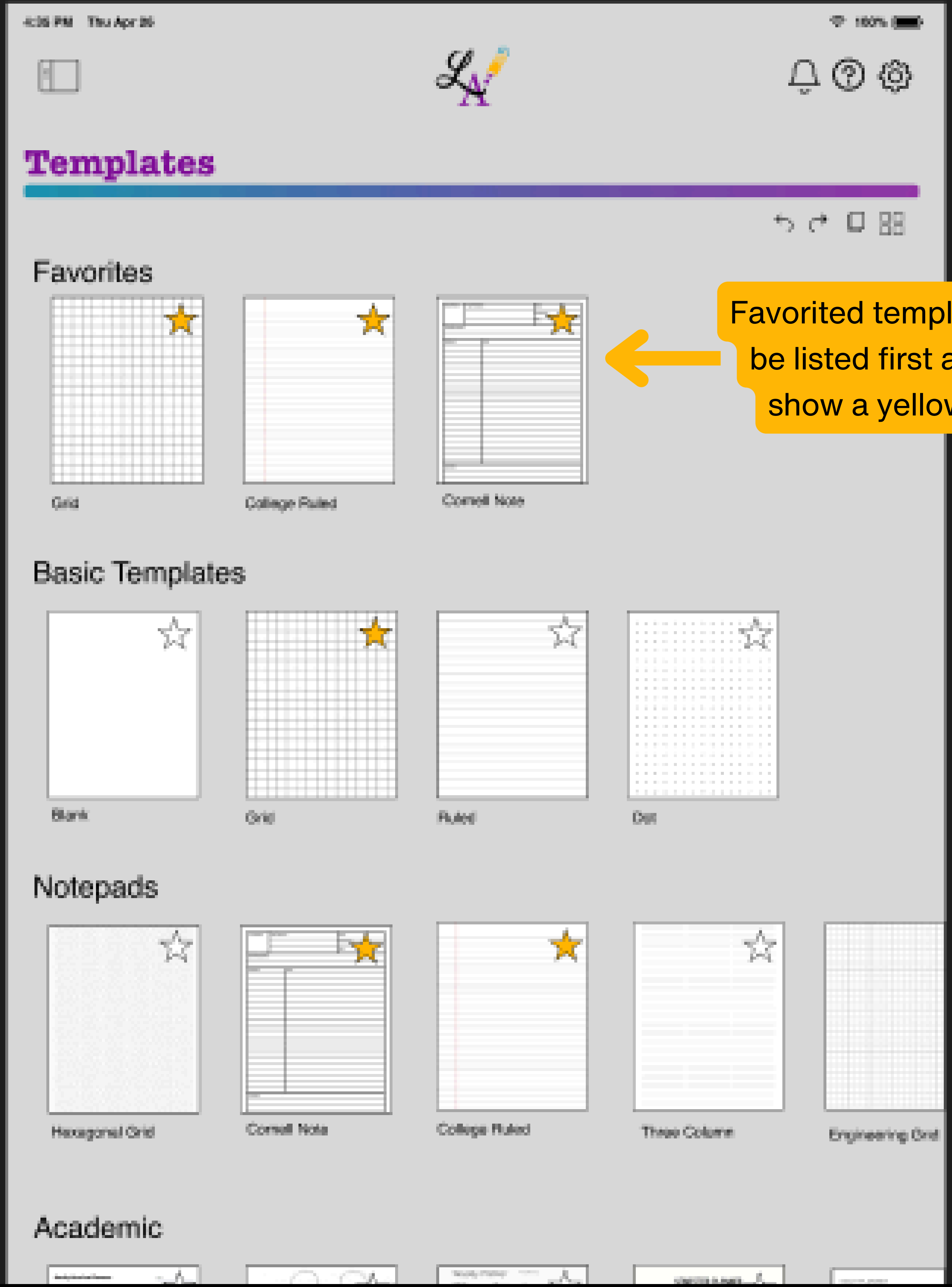

4:31 PM Thu Apr 26
100%
Back
Sign In
Elevate Your Learning, One Note at a Time!
Enable icloud to sync across Apple devices
Continue
icloud sync selection to align with apple sign up guidelines
4:31 PM Thu Apr 26
100%
Binders
Date
Name
Type
New Binder
MODULE 1
April 17, 2024 at 11:40 am
MODULE 2
April 17, 2024 at 11:40 am
MODULE 3
April 17, 2024 at 11:40 am

Hi-Fidelity

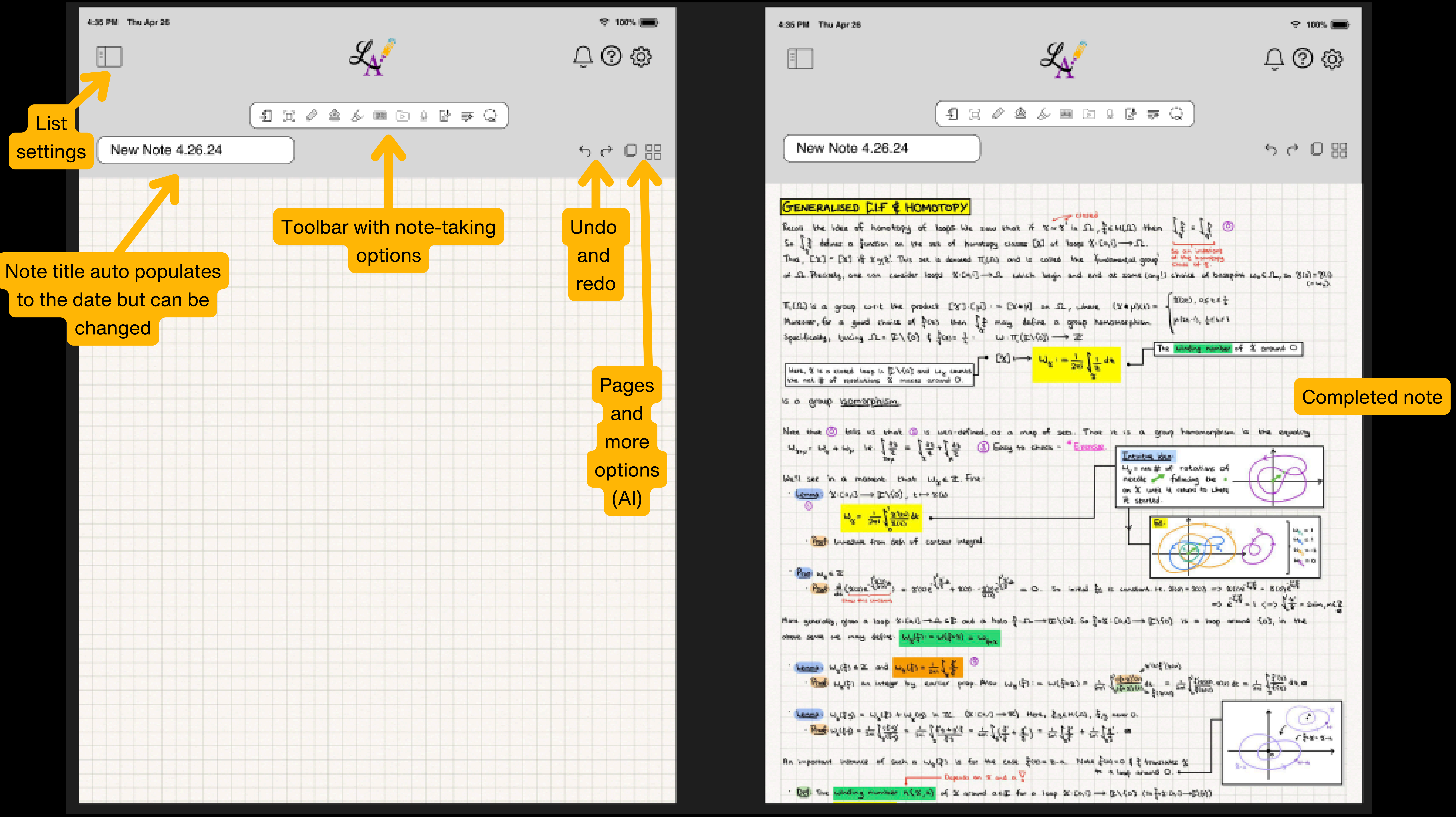
TAKING NOTES



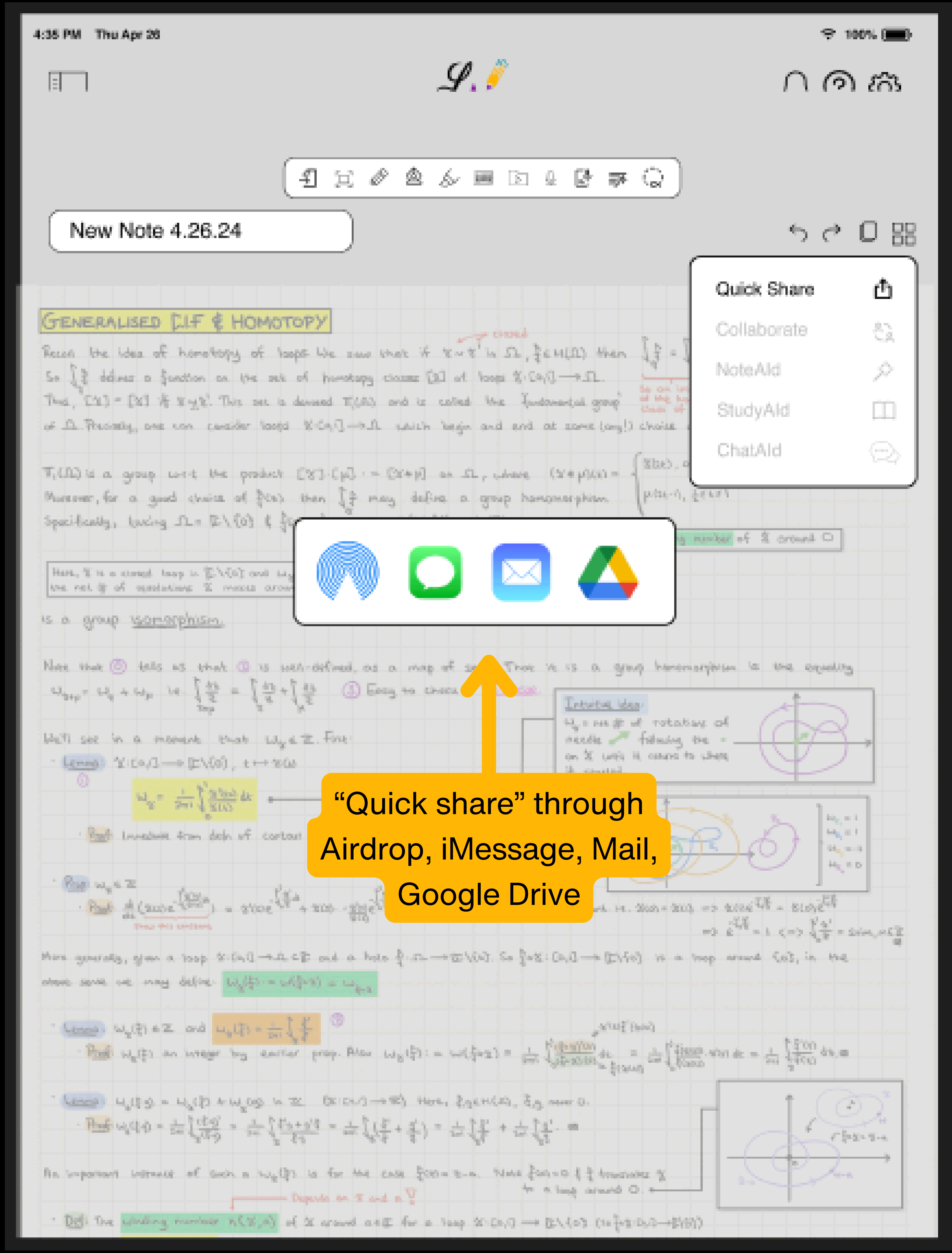
Select an existing binder or create a new one

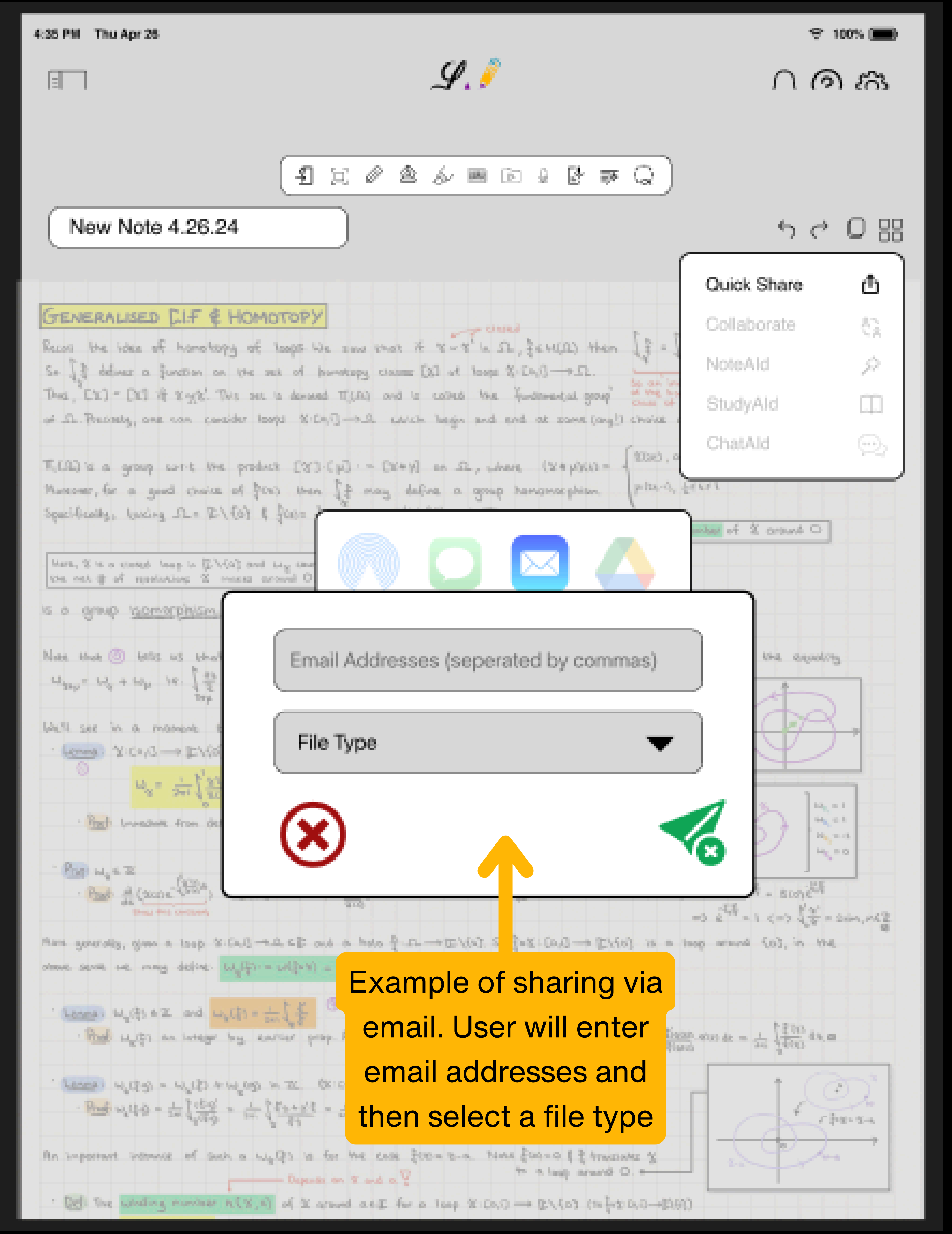


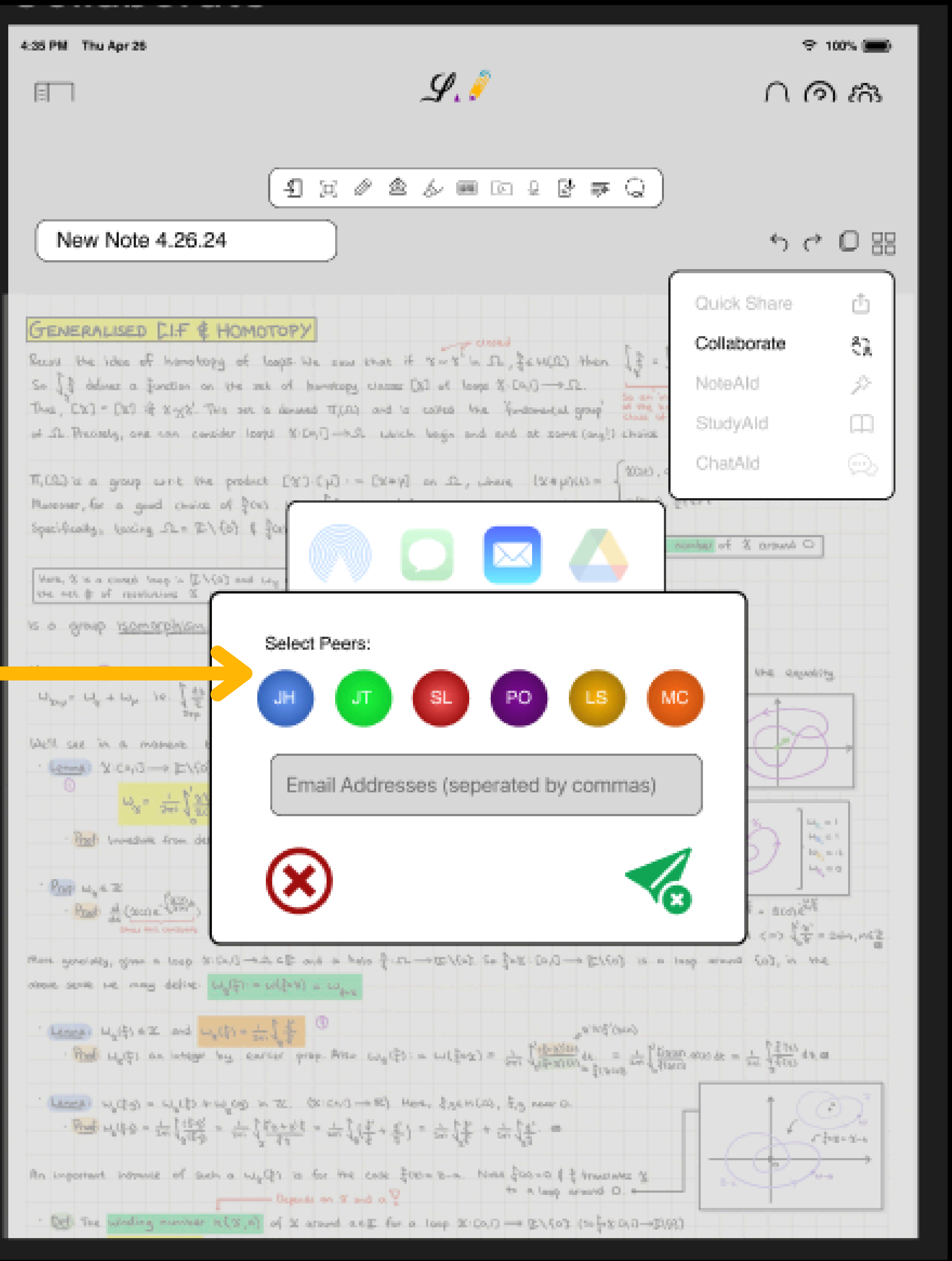
Favorited templates will be listed first and will show a yellow star



List settings
New Note 4.26.24
Note title auto populates to the date but can be changed
Toolbar with note-taking options
Undo and redo
Pages and more options (AI)
Completed note
GENERALISED CIF & HOMOTOPY


4:35 PM Thu Apr 26
100%
New Note 4.26.24
Quick Share
Collaborate
NoteAId
StudyAId
ChatAId
“Quick share” through Airdrop, iMessage, Mail, Google Drive


4:35 PM Thu Apr 26
100%
New Note 4.26.24
Quick Share
Collaborate
NoteAId
StudyAId
ChatAId
Email Addresses (seperated by commas)
File Type
Example of sharing via email. User will enter email addresses and then select a file type

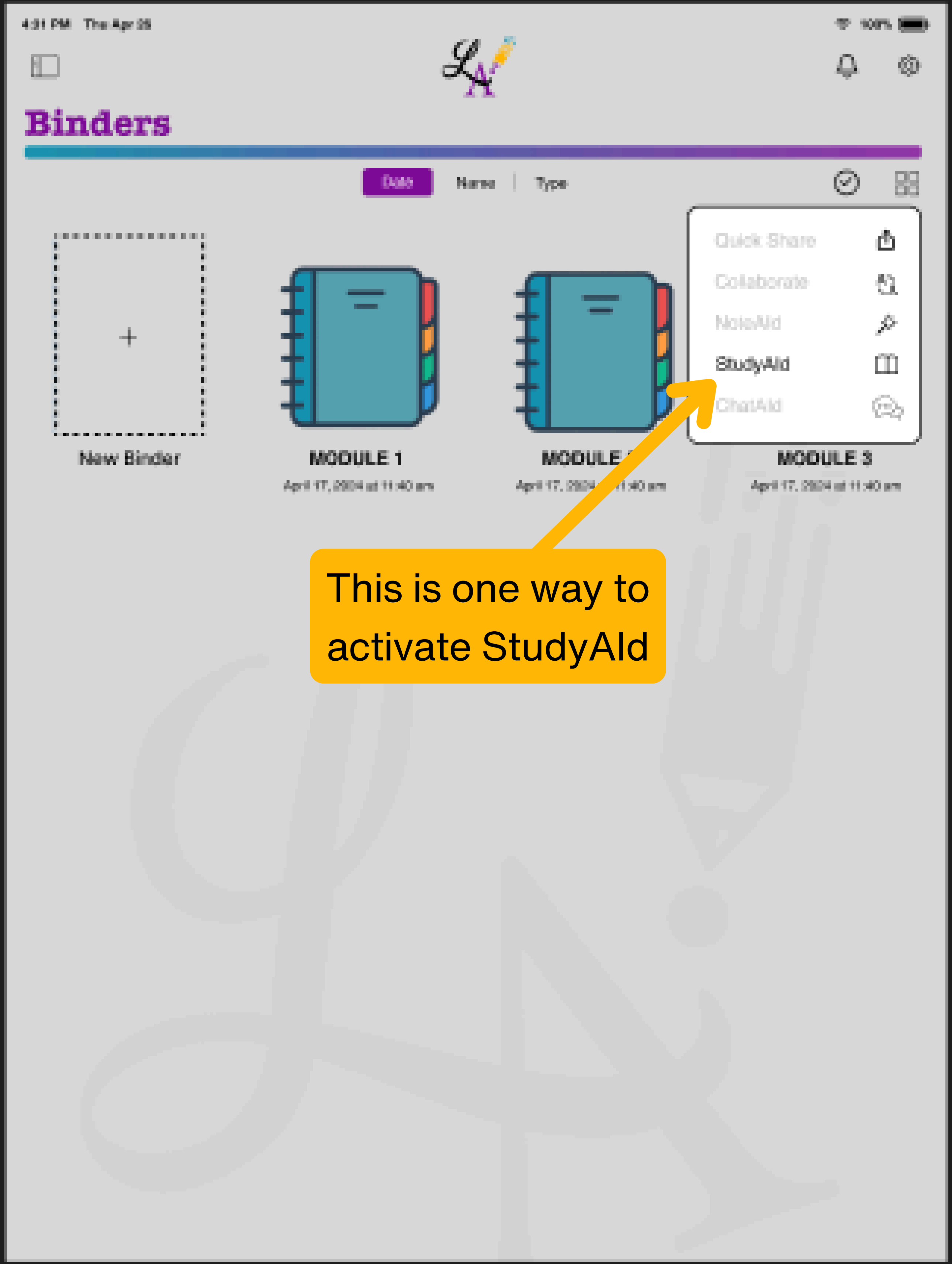


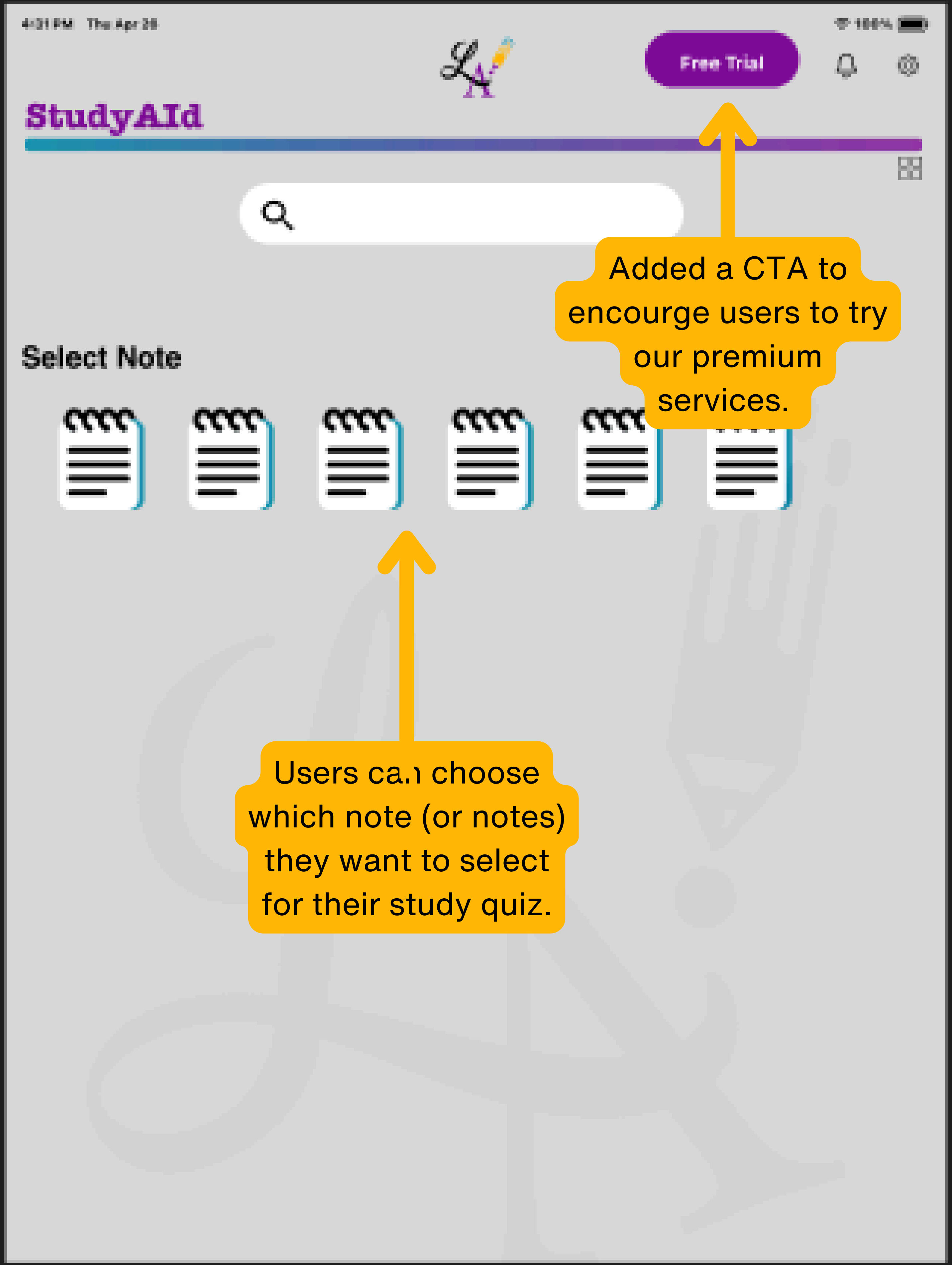
"Invite other users to collaborate on a note. Peers" are other students using LectureAId that the user has connected with. The most frequented peers shared with will be listed here for efficiency.

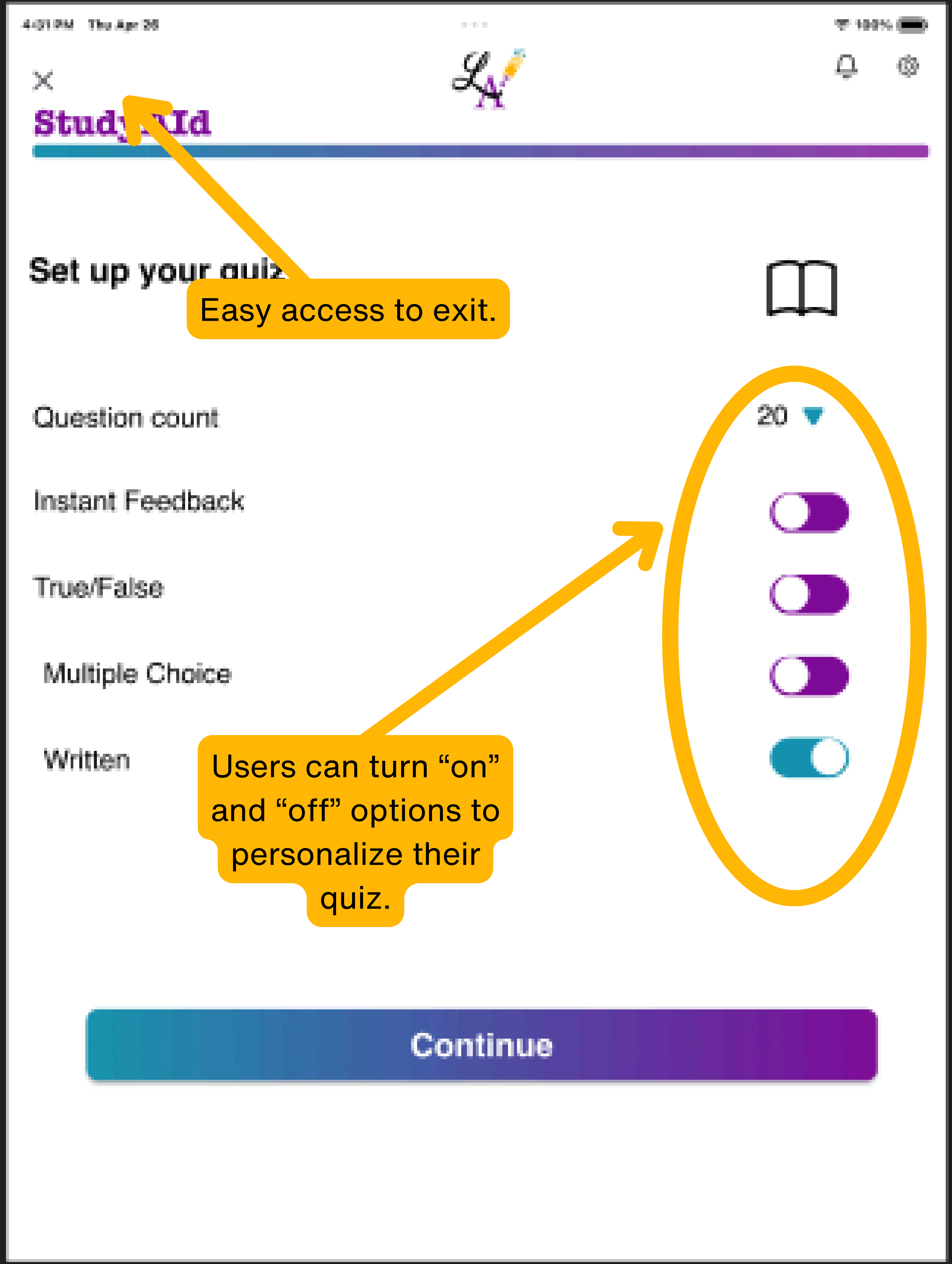
Hi-Fidelity

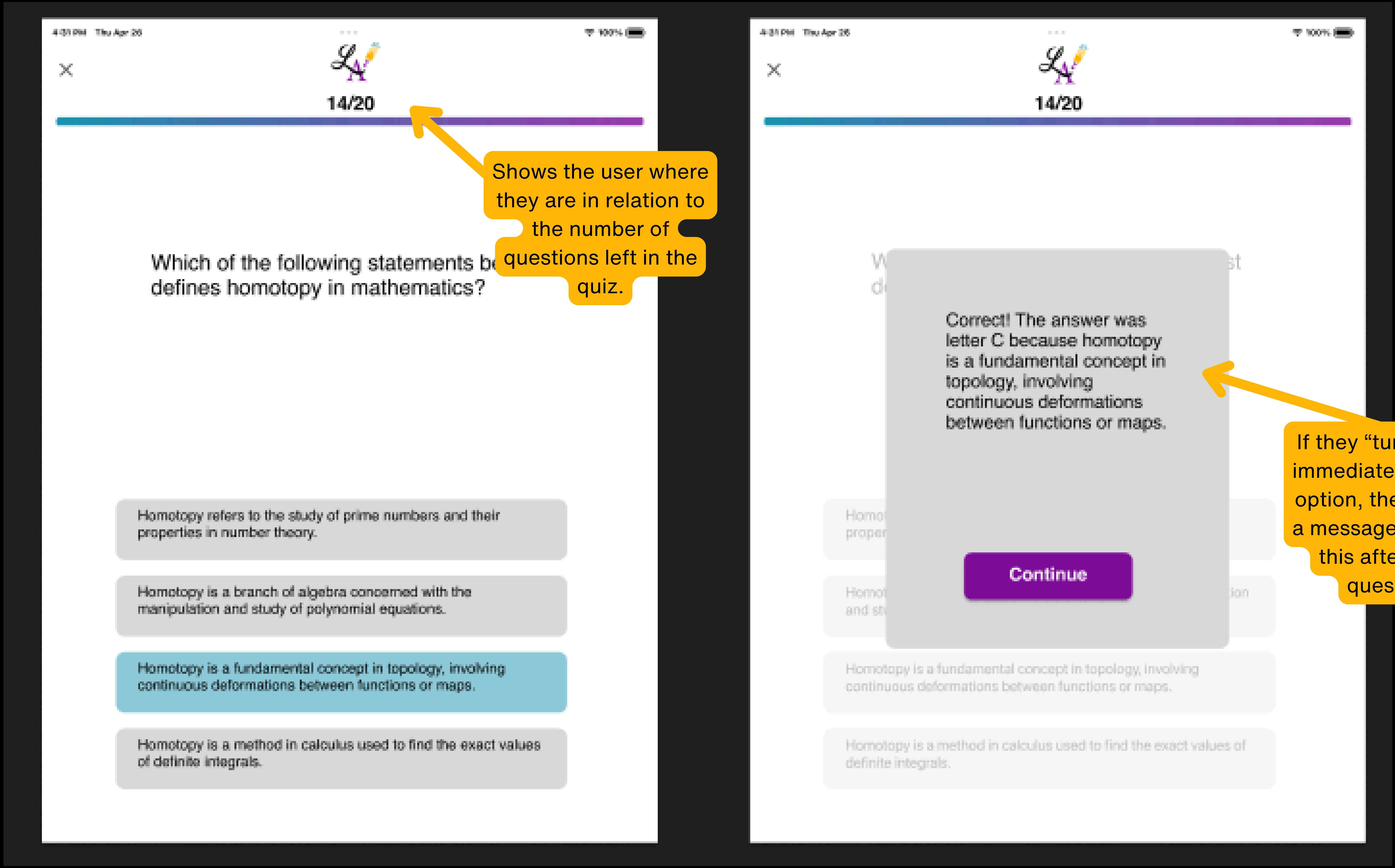
STUDY AID

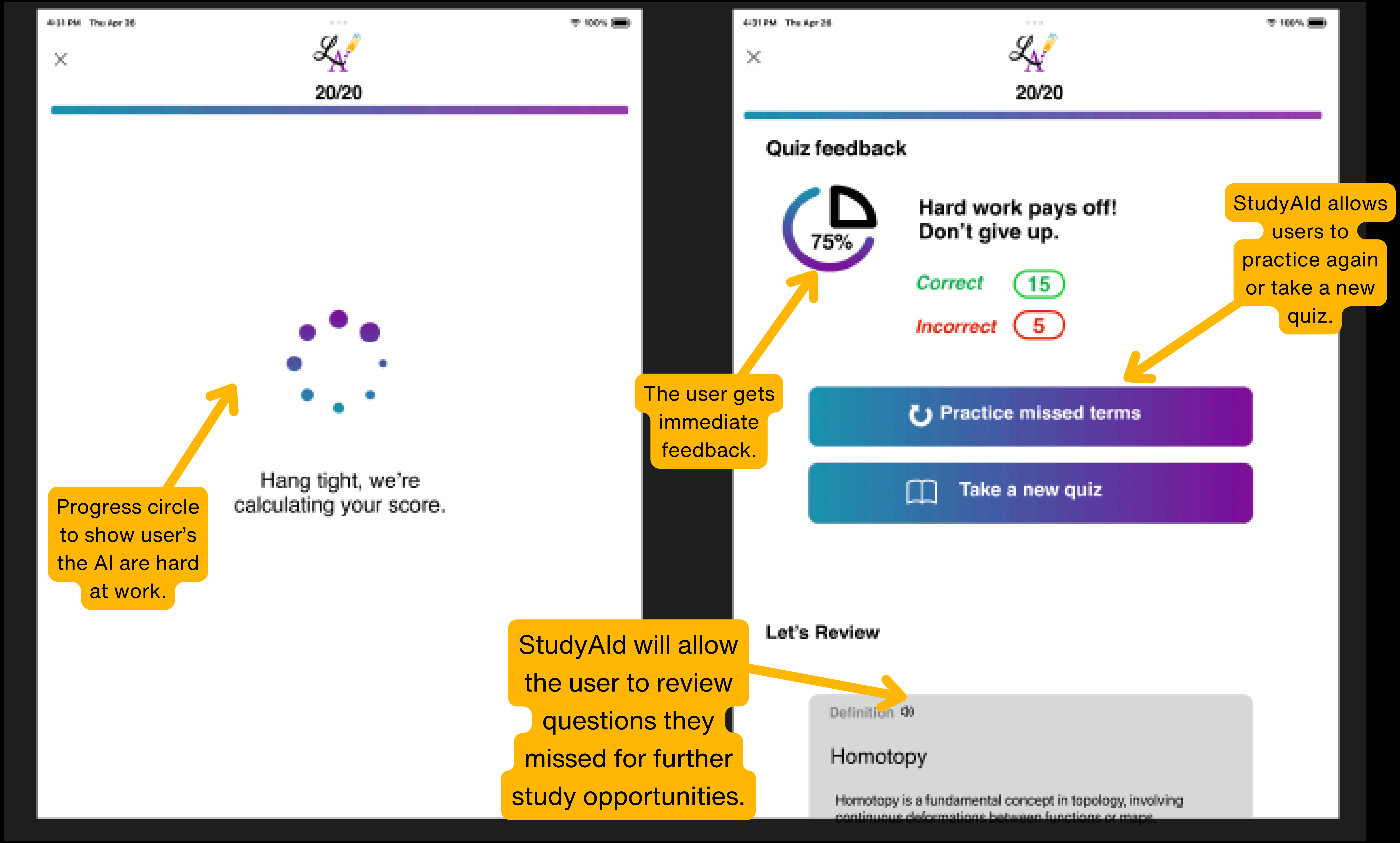

Binders
Date
Name
Type
New Binder
MODULE 1
MODULE 2
MODULE 3


Binders
Date
Name
Type
Quick Share
Collaborate
NoteAId
StudyAId
ChatAId
New Binder
MODULE 1
MODULE 3
This is one way to activate StudyAId


Free Trial
StudyAId
Added a CTA to encourge users to try our premium services.
Select Note
Users can choose which note (or notes) they want to select for their study quiz.

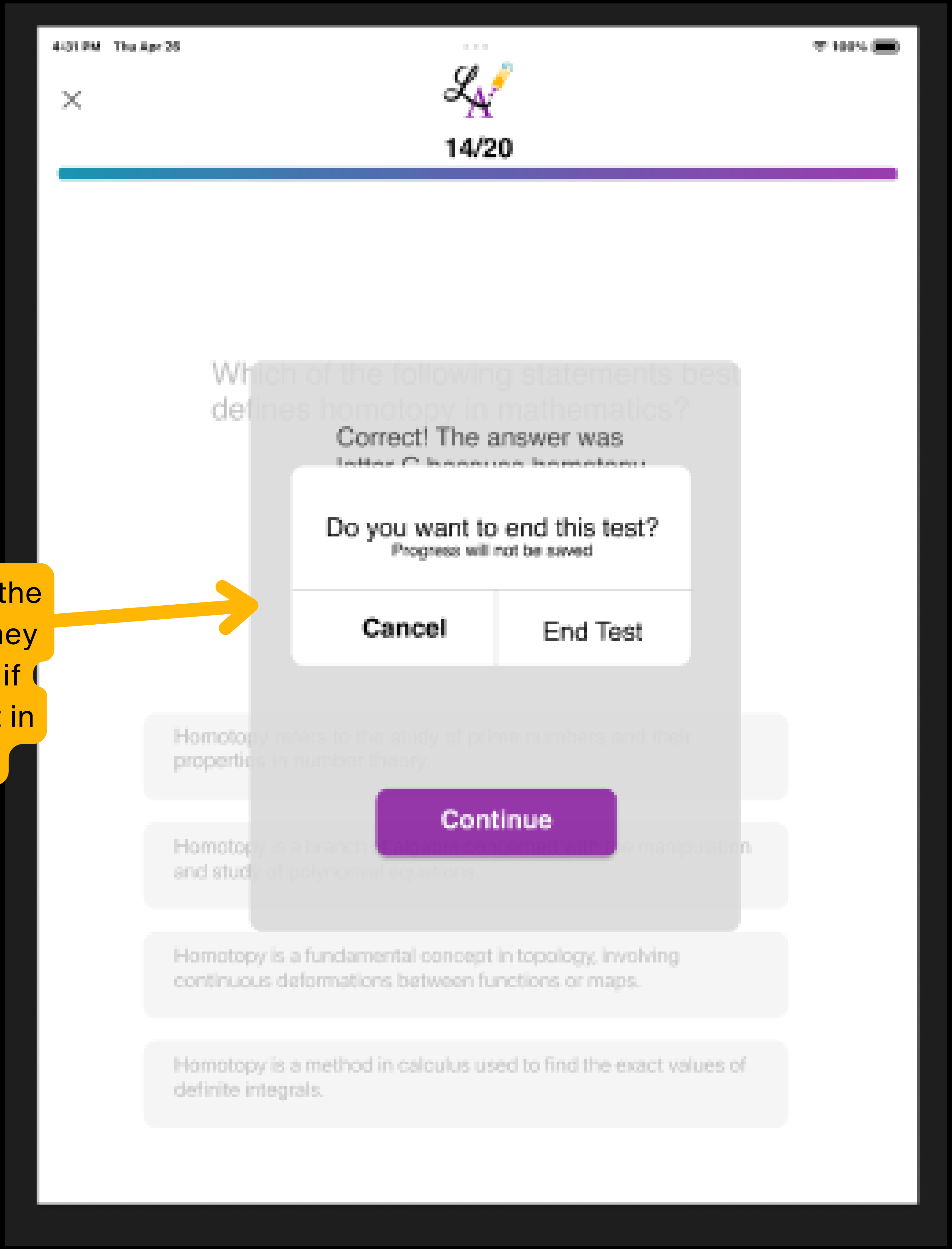

StudyAId
Set up your quiz
Easy access to exit.
Question count
20
Instant Feedback
True/False
Multiple Choice
Written
Users can turn “on” and “off” options to personalize their quiz.
Continue


14/20
Which of the following statements best defines homotopy in mathematics?
Homotopy refers to the study of prime numbers and their properties in number theory.
Homotopy is a branch of algebra concerned with the manipulation and study of polynomial equations.
Homotopy is a fundamental concept in topology, involving continuous deformations between functions or maps.
Homotopy is a method in calculus used to find the exact values of definite integrals.
Shows the user where they are in relation to the number of questions left in the quiz.
14/20
Correct! The answer was letter C because homotopy is a fundamental concept in topology, involving continuous deformations between functions or maps.
Continue
Homotopy is a fundamental concept in topology, involving continuous deformations between functions or maps.
Homotopy is a method in calculus used to find the exact values of definite integrals.
If they “turn on” the immediate feedback option, they will see a message similar to this after every question.

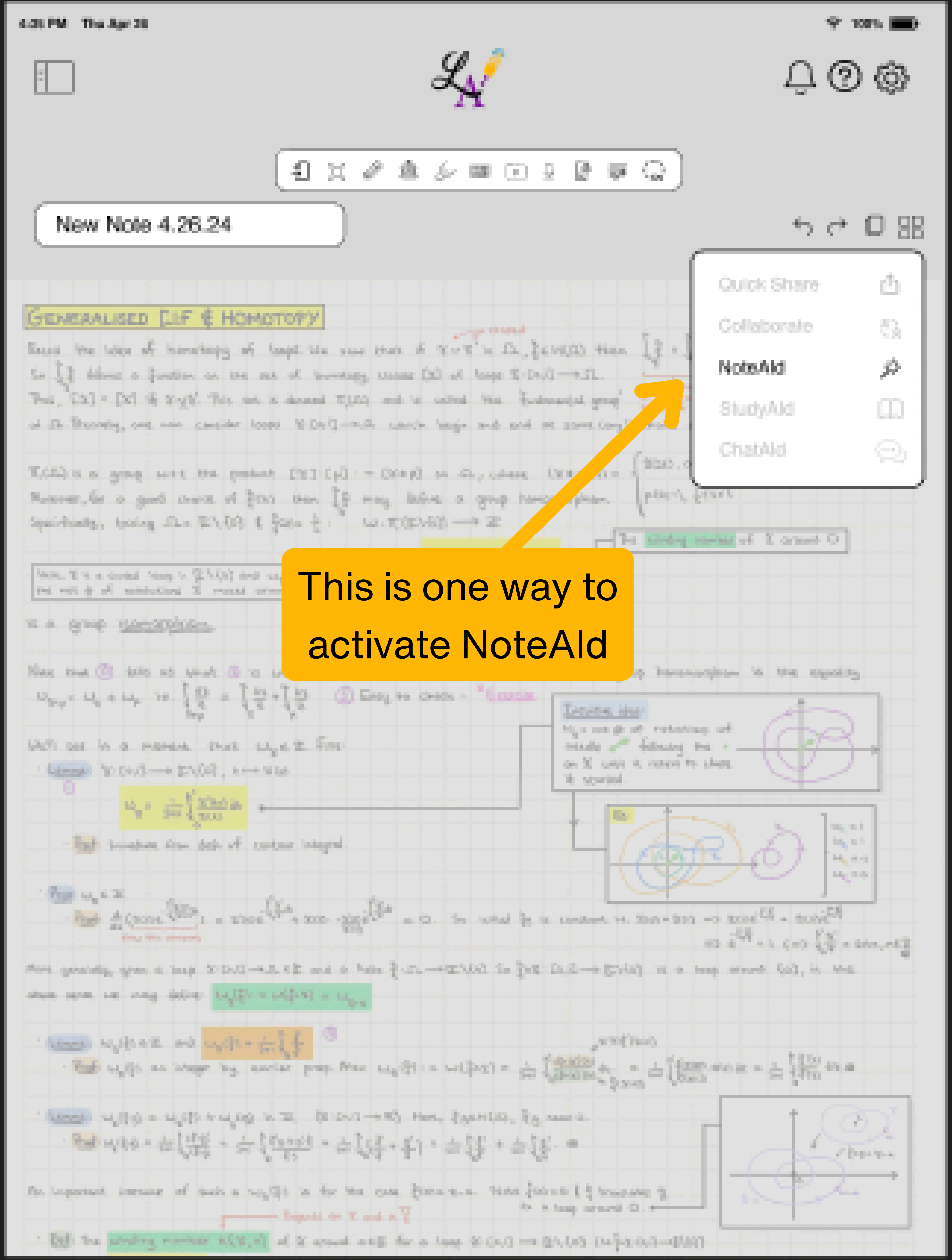


20/20
Hang tight, we're calculating your score.
Progress circle to show user's the AI are hard at work.
20/20
Quiz feedback
75%
Hard work pays off!
Don't give up.
Correct 15
Incorrect 5
The user gets immediate feedback.
StudyAId allows users to practice again or take a new quiz.
Practice missed terms
Take a new quiz
Let's Review
StudyAId will allow the user to review questions they missed for further study opportunities.
Definition
Homotopy
Homotopy is a fundamental concept in topology, involving

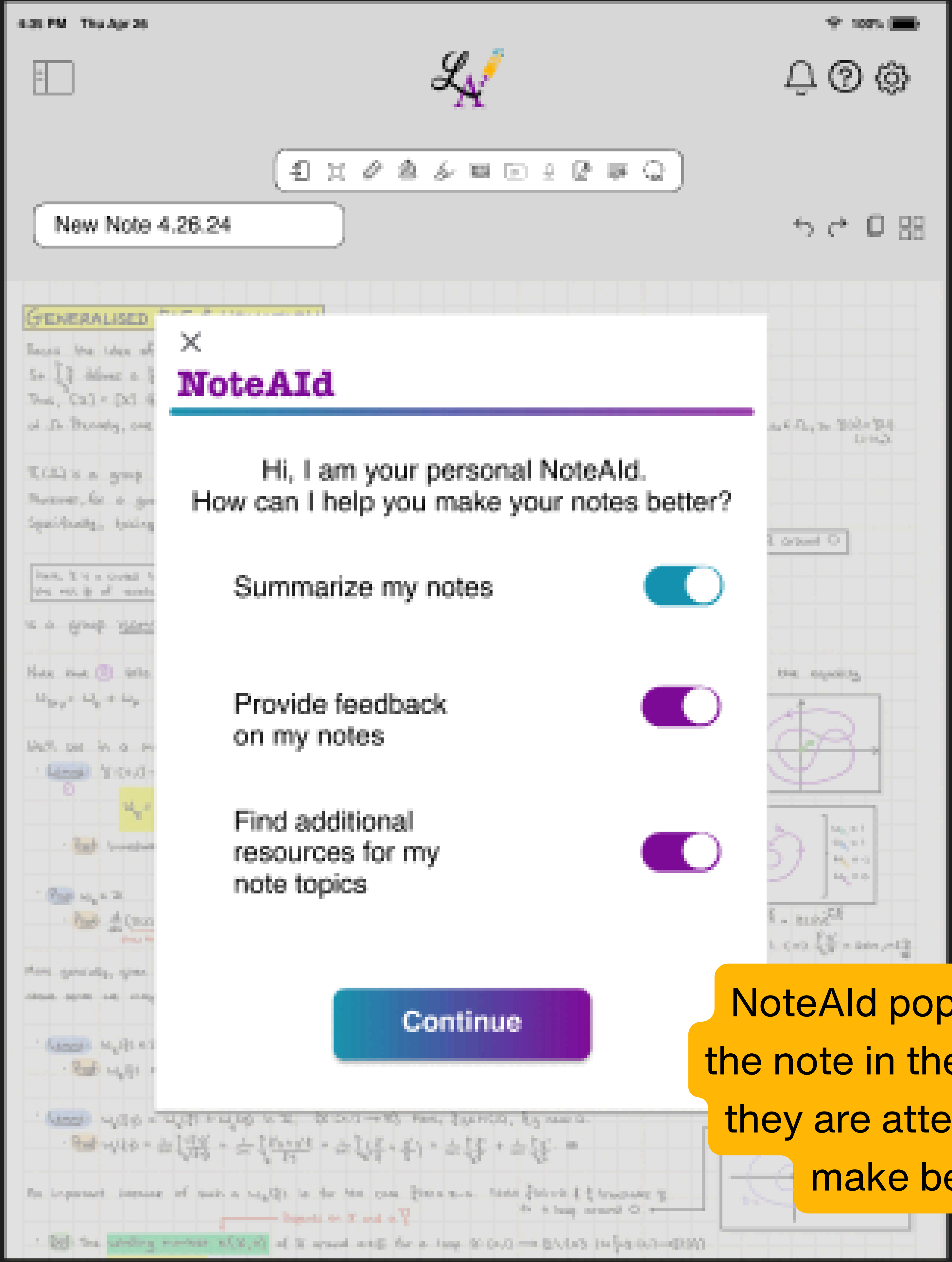
If the user clicks the X at the upper left hand corner, they will be asked to confirm if they actually want to exit in case it was a misclick.



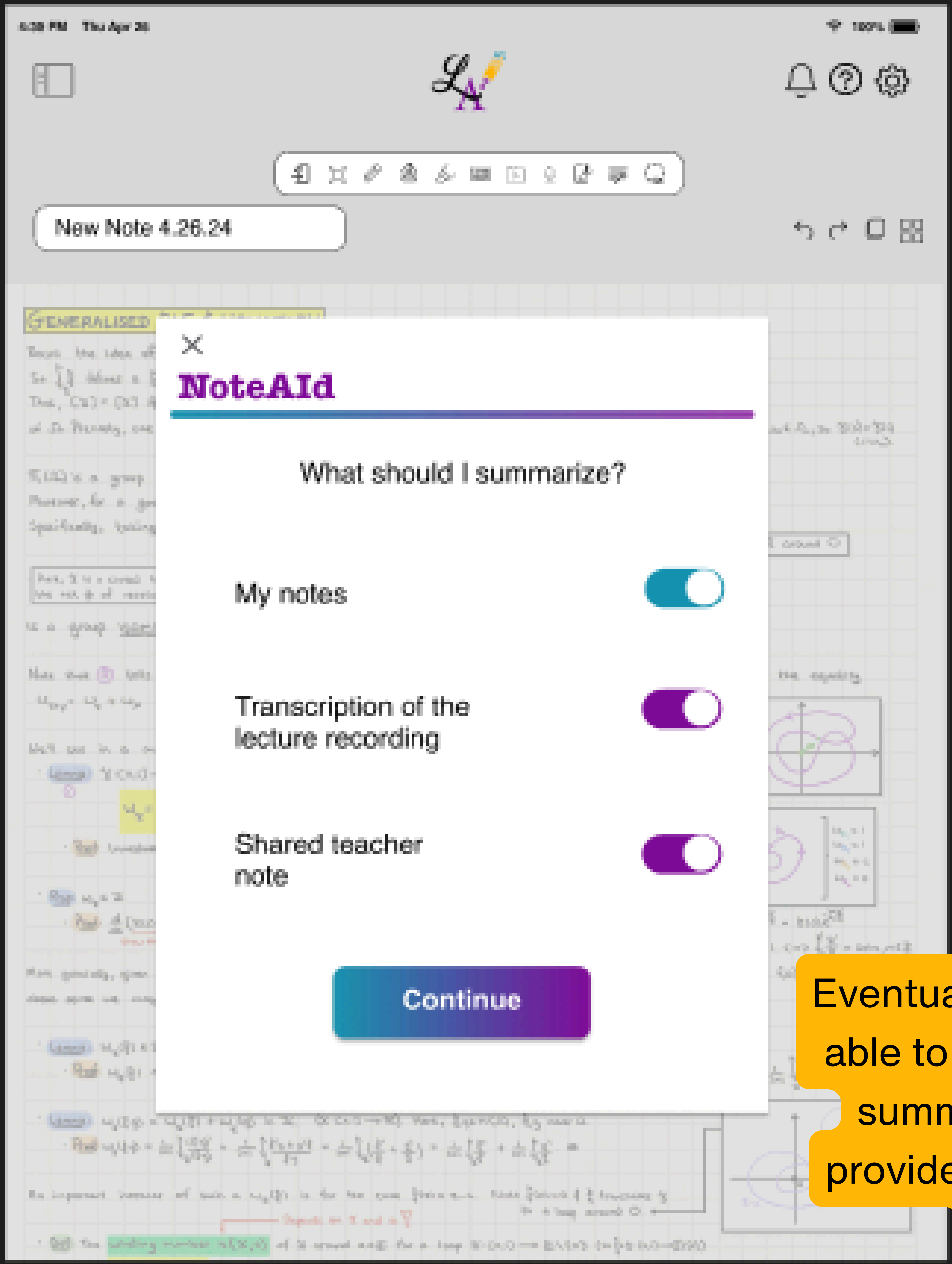
Hi-Fidelity NOTE AID

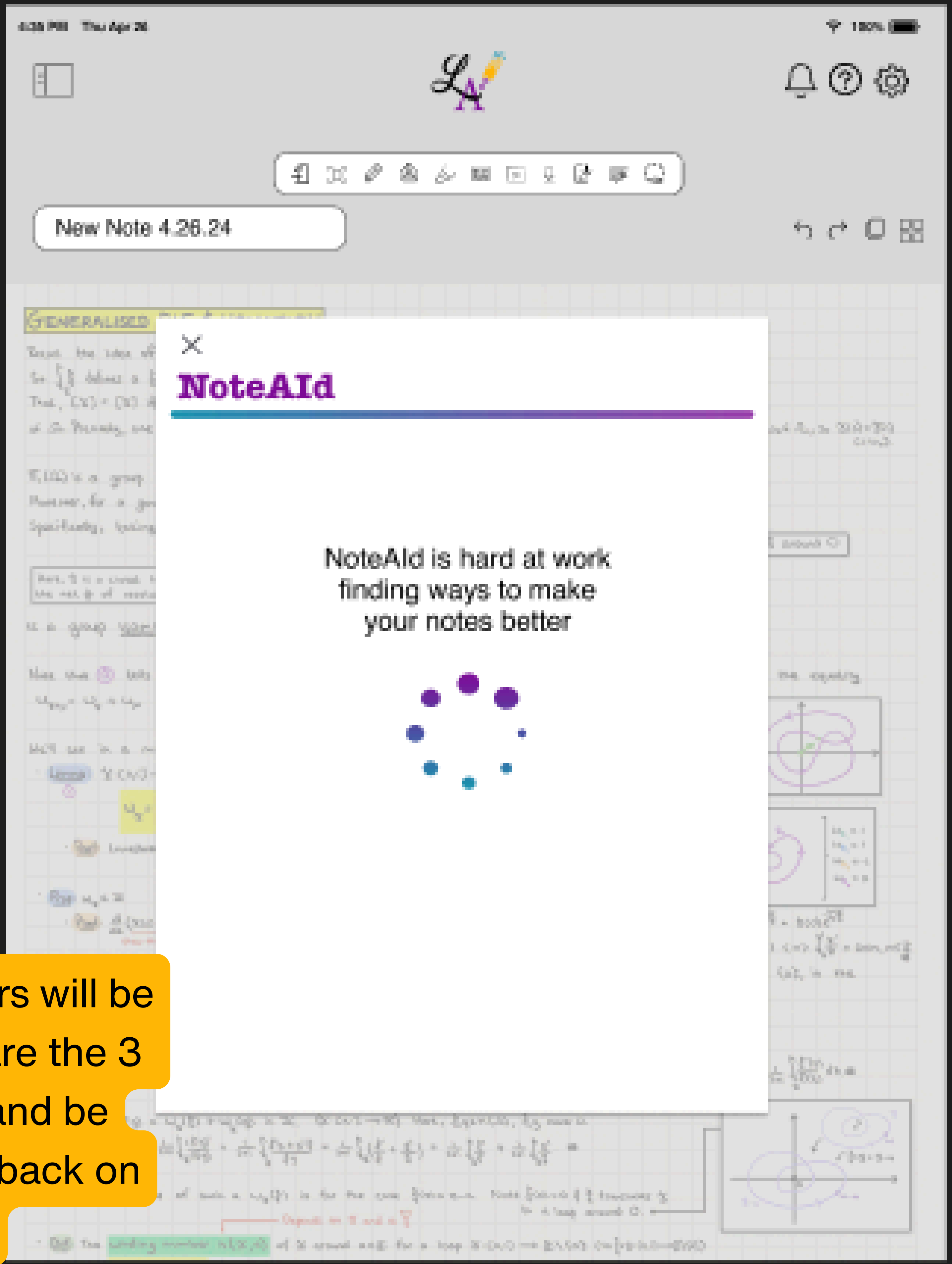


This is one way to activate NoteAId

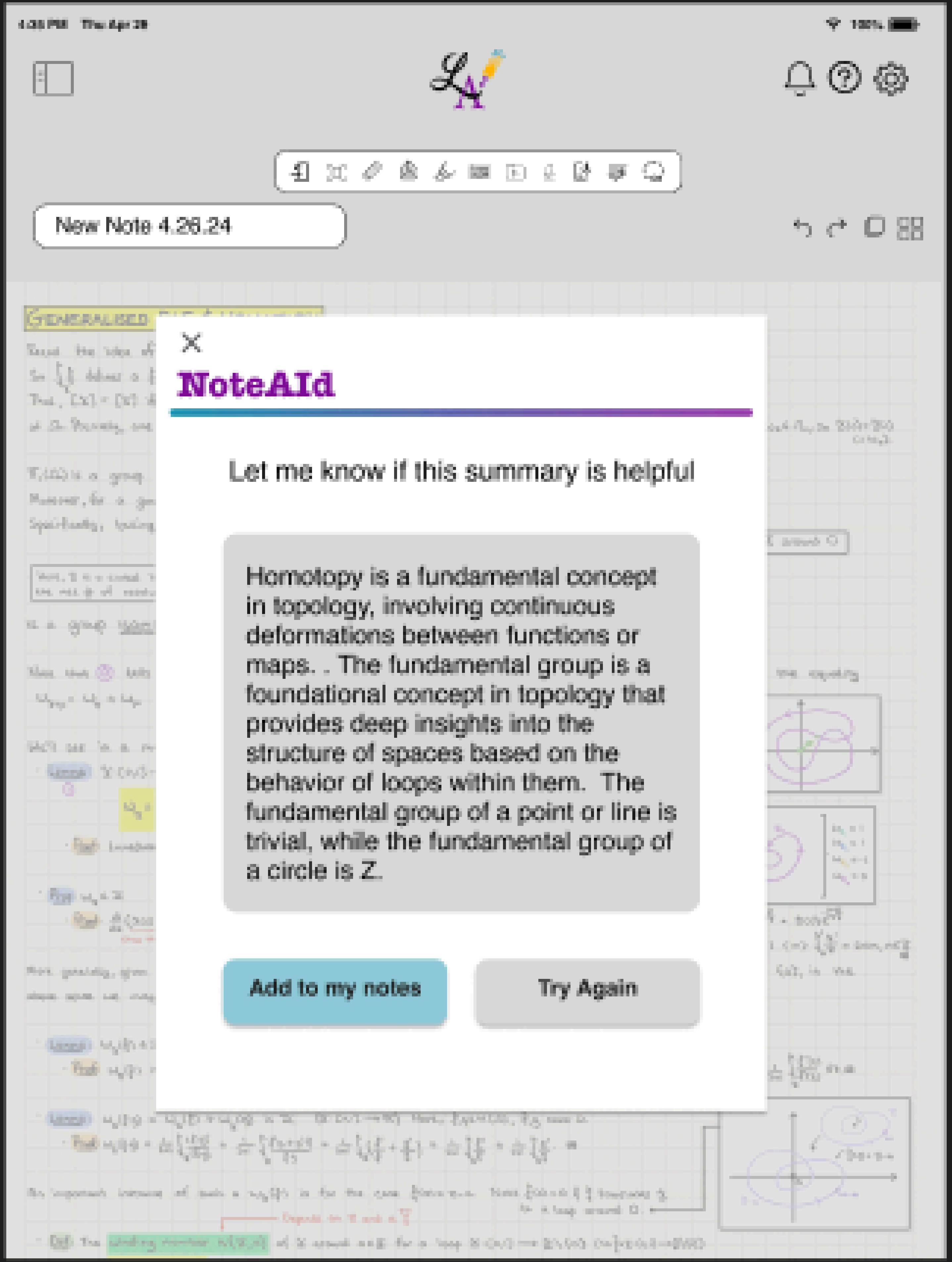


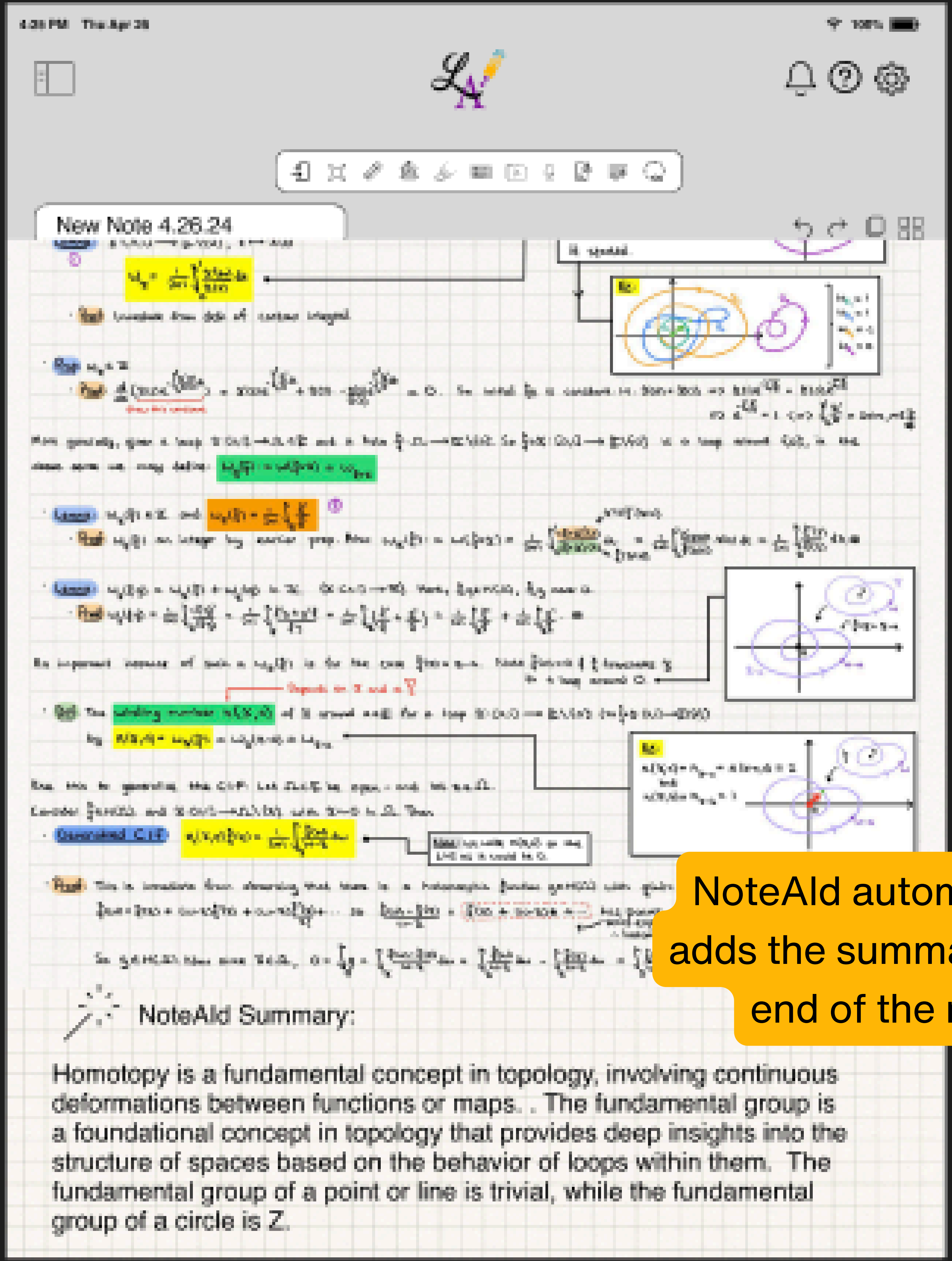
NoteAId pops up with the note in the back that they are attempting to make better.





Eventually users will be able to compare the 3 summaries and be provided feedback on gaps.

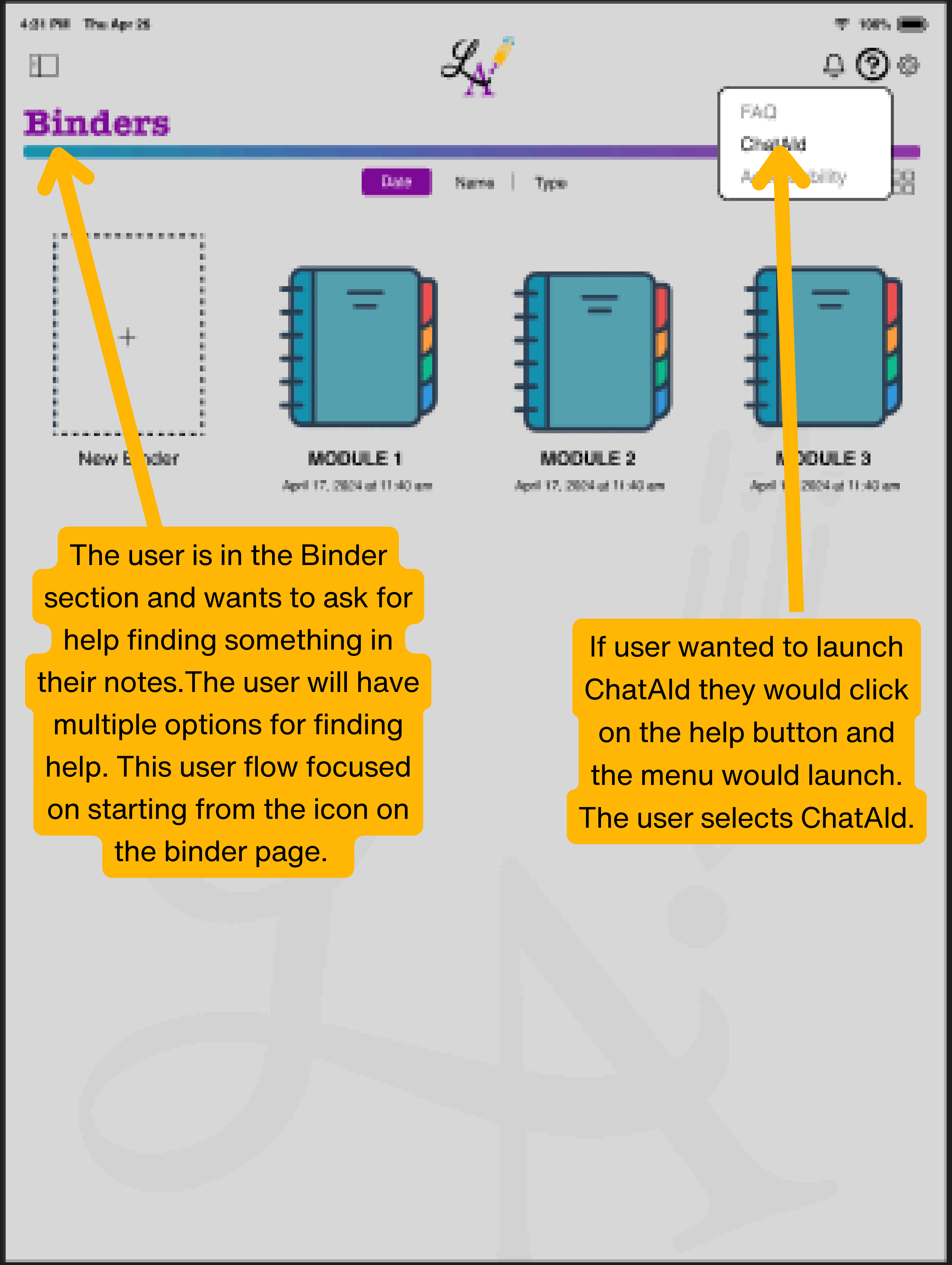




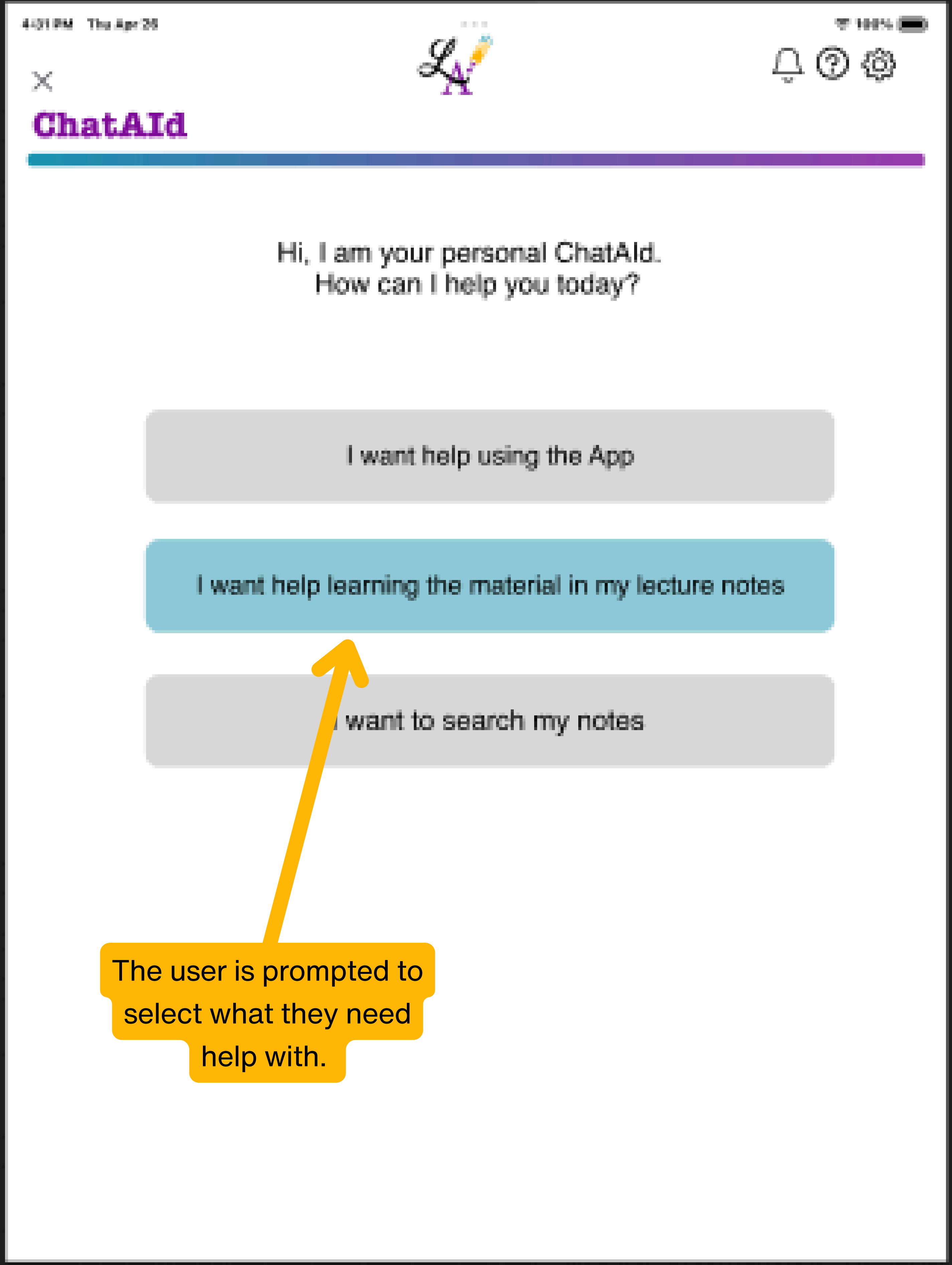
NoteAId automatically adds the summary to the end of the note.

Hi-Fidelity

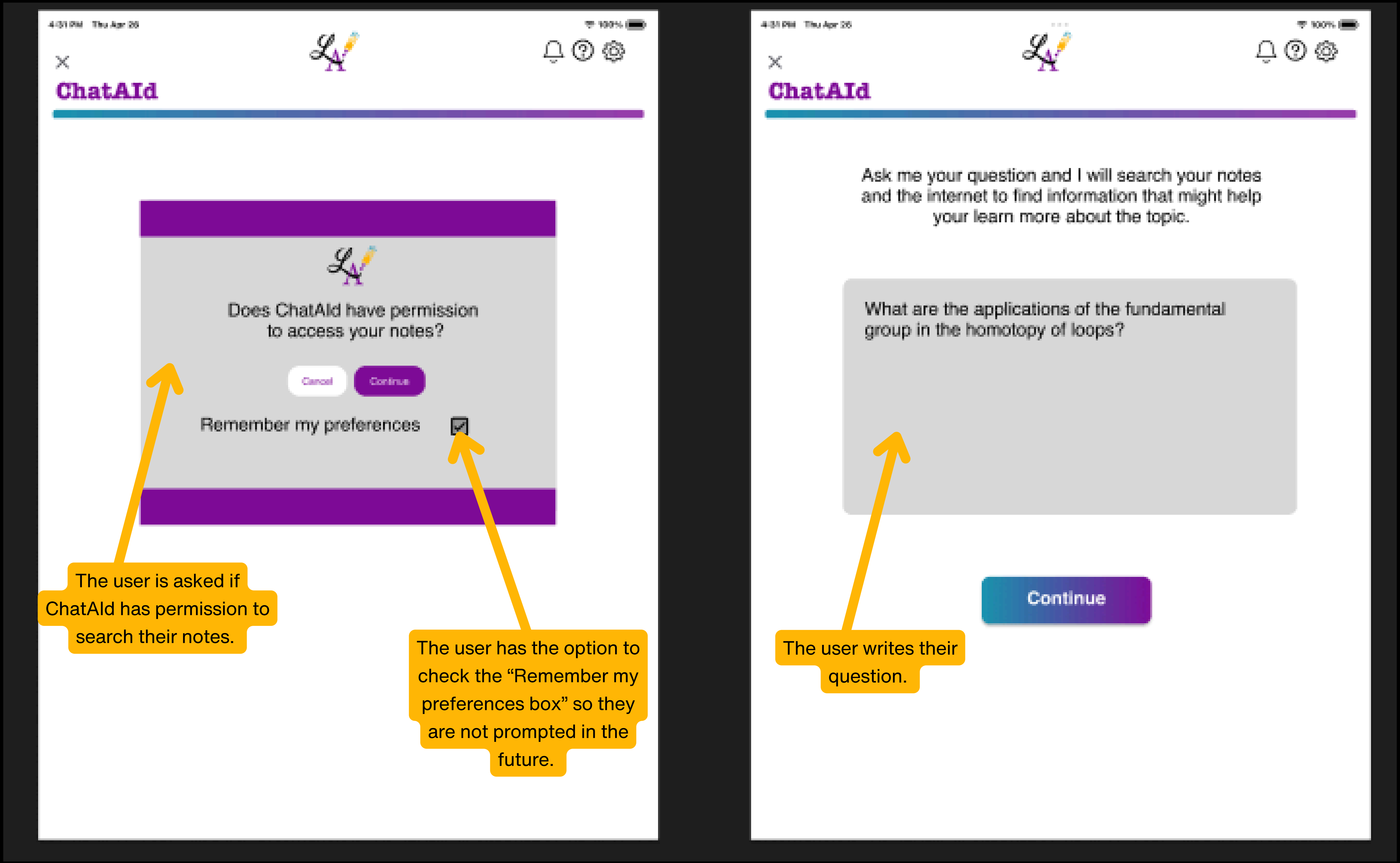
CHAT AID

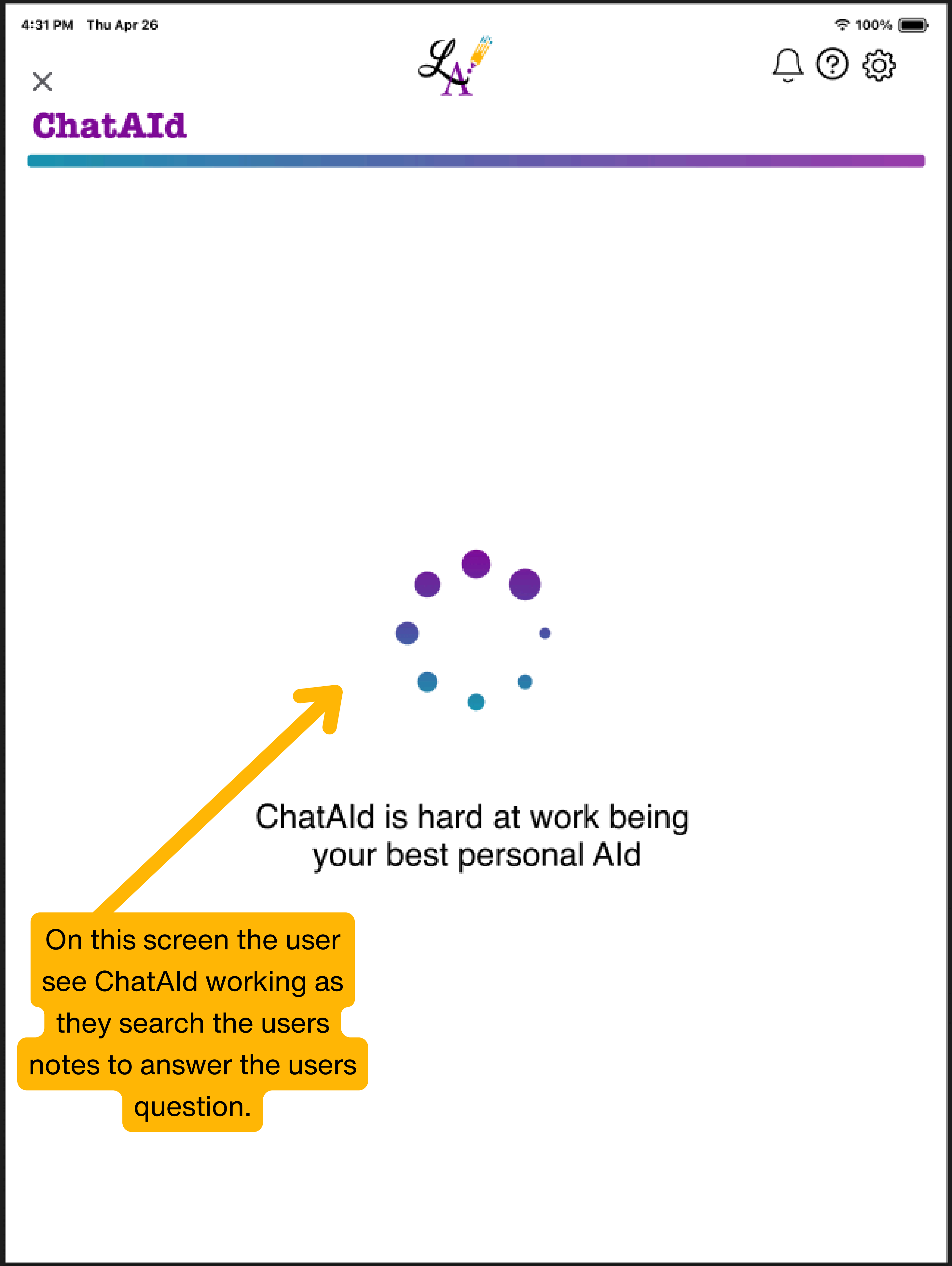


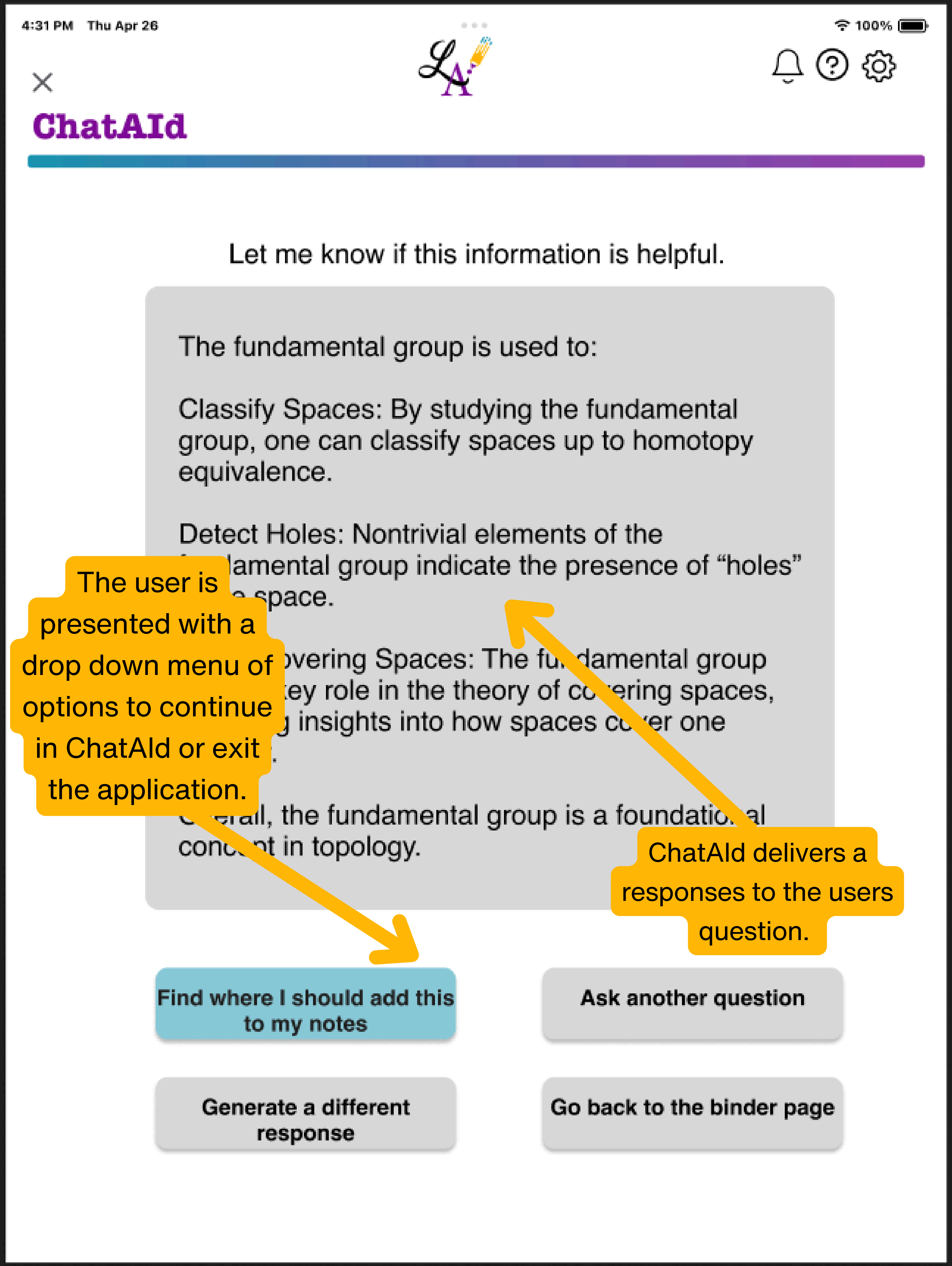
Binders
FAQ
ChatAId
Date
Name
Type
MODULE 1
MODULE 2
The user is in the Binder section and wants to ask for help finding something in their notes.The user will have multiple options for finding help. This user flow focused on starting from the icon on the binder page.
If user wanted to launch ChatAId they would click on the help button and the menu would launch. The user selects ChatAId.

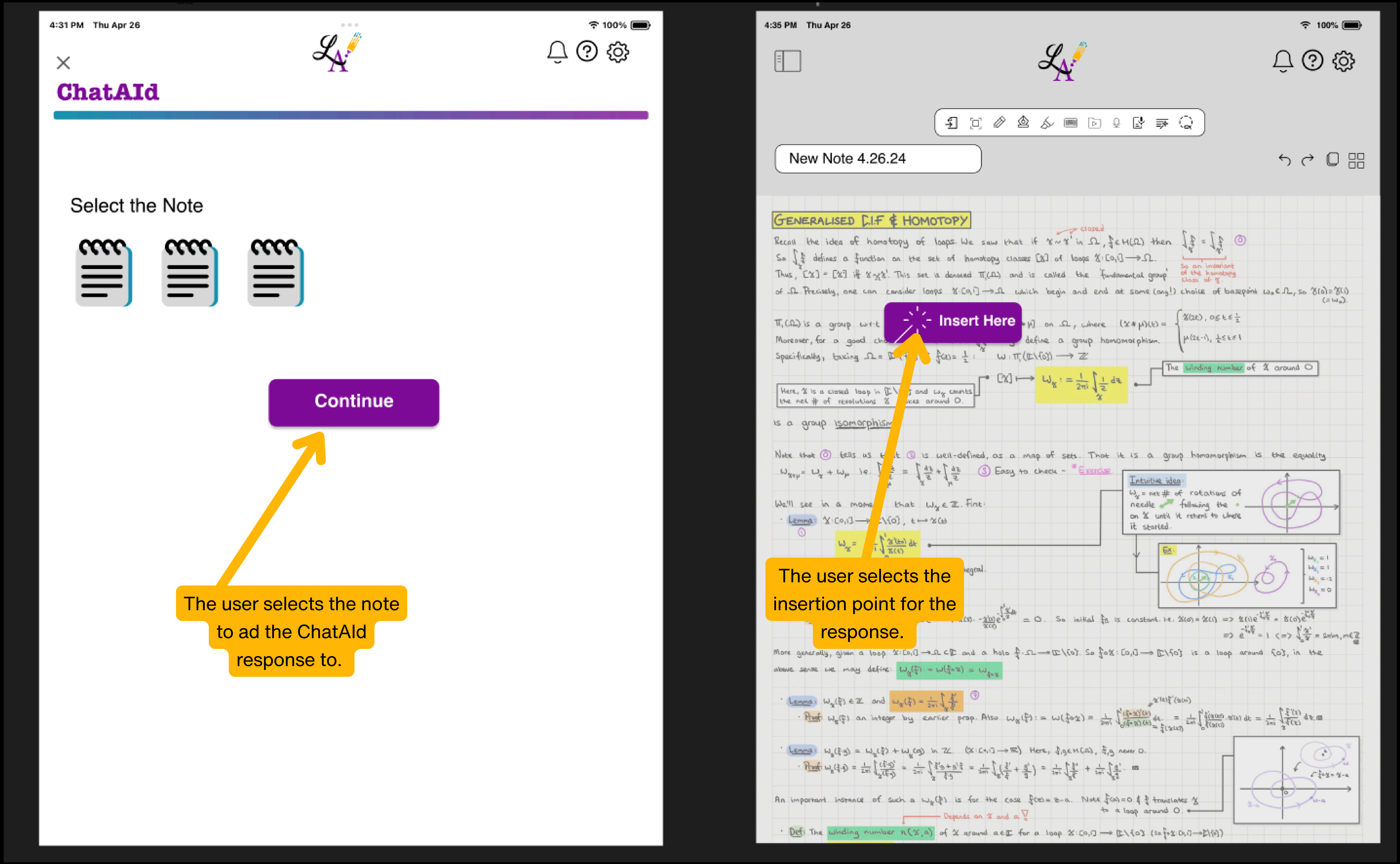


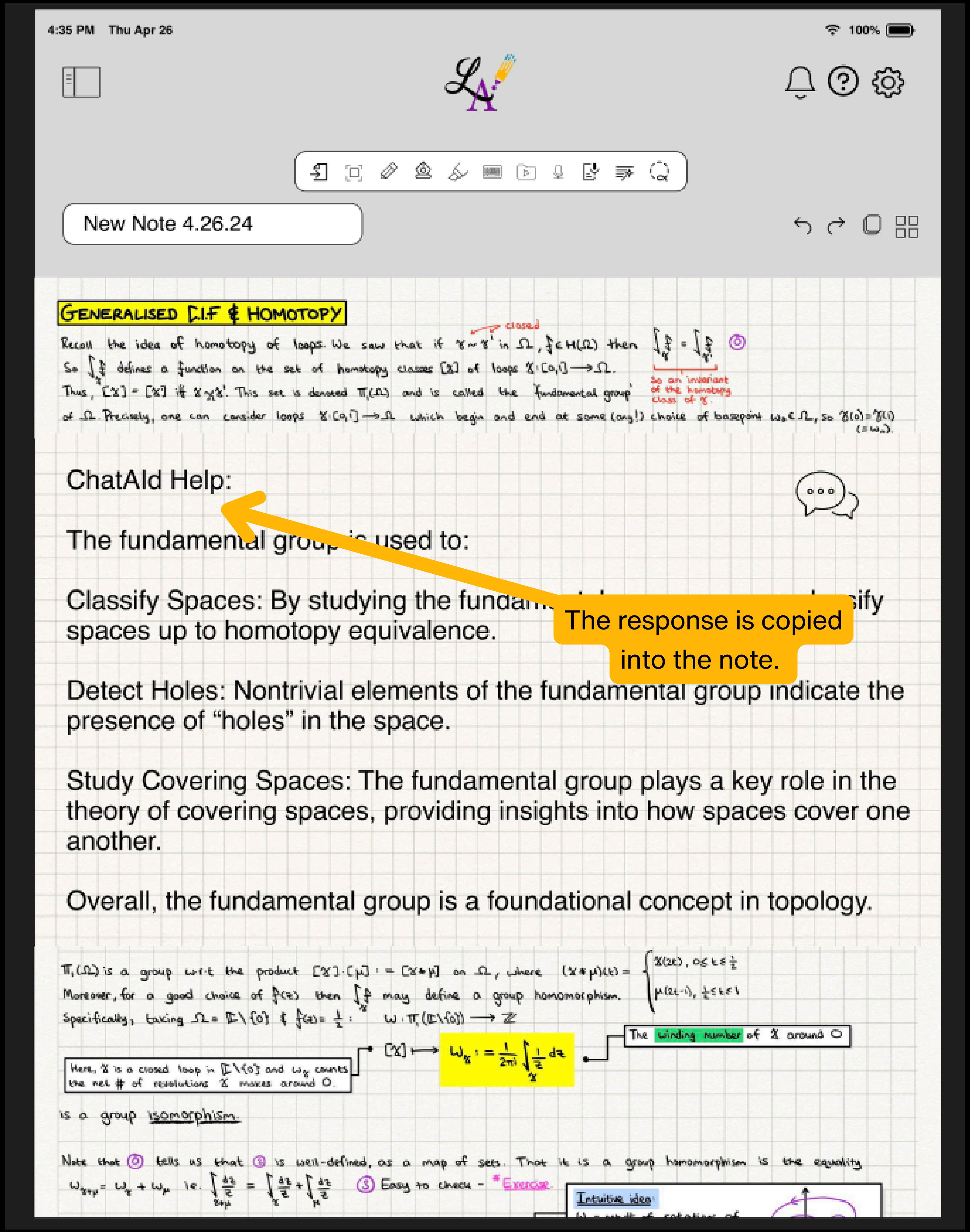
ChatAId
Hi, I am your personal ChatAId.
How can I help you today?
I want help using the App
I want help learning the material in my lecture notes
want to search my notes
The user is prompted to select what they need help with.


4:31 PM Thu Apr 26
100%
ChatAId
Does ChatAId have permission to access your notes?
Cancel
Continue
Remember my preferences
The user is asked if ChatAId has permission to search their notes.
The user has the option to check the “Remember my preferences box” so they are not prompted in the future.
4:31 PM Thu Apr 26
100%
ChatAId
Ask me your question and I will search your notes and the internet to find information that might help your learn more about the topic.
What are the applications of the fundamental group in the homotopy of loops?
Continue
The user writes their question.


4:31 PM Thu Apr 26
100%
ChatAId
ChatAId is hard at work being your best personal AId
On this screen the user see ChatAId working as they search the users notes to answer the users question.


4:31 PM Thu Apr 26
100%
ChatAId
Let me know if this information is helpful.
The fundamental group is used to:
Classify Spaces: By studying the fundamental group, one can classify spaces up to homotopy equivalence.
Detect Holes: Nontrivial elements of the
The user is presented with a drop down menu of options to continue in ChatAId or exit the application.
ChatAId delivers a responses to the users question.
Find where I should add this to my notes
Ask another question
Generate a different response
Go back to the binder page


4:31 PM Thu Apr 26
100%
ChatAId
Select the Note
Continue
The user selects the note to ad the ChatAId response to.
4:35 PM Thu Apr 26
100%
New Note 4.26.24
GENERALISED C.I.F & HOMOTOPY
Insert Here
The user selects the insertion point for the response.


4:35 PM Thu Apr 26
100%
New Note 4.26.24
GENERALISED C.I.F & HOMOTOPY
ChatAId Help:
The fundamental group is used to:
Classify Spaces: By studying the fundamental group, one can classify spaces up to homotopy equivalence.
Detect Holes: Nontrivial elements of the fundamental group indicate the presence of "holes" in the space.
Study Covering Spaces: The fundamental group plays a key role in the theory of covering spaces, providing insights into how spaces cover one another.
Overall, the fundamental group is a foundational concept in topology.
The response is copied into the note.
is a group isomorphism.
Intuitive idea

Part TWO

LectureAId

Design Pitch

Group 10

Imagine

take better
notes

learn material
faster

improve your
performance

Our Team

We all have been educators in K-12 or higher education settings. We all believe in solutions that help teachers teach better and students learn better. We also believe in tools that make it easier for teachers and students to navigate all the complexities they face daily.

Jonthan Silk

Michele Norton Silk

Sarah Hartman

Brian Chavez

Christina Ramirez

Design Challenge

How might we improve teaching and learning by combining a note-taking application with AI features?

Problem

Problem 1

Effective note-taking is critical to success in most secondary and higher education environments, but little time is spent developing learner capabilities in note-taking us learning from the notes.

Problem 2

Students recall more lecture material if they record it in their notes. Students fail to record up to 40% of the important points.

Research on Student Note Taking: Implications for Faculty and Graduate Student Instructors

Problem 3

Research from Stanford found that the existing method for personalized feedback requires significant resources (time, money, etc.)

Stanford

Target Market

Institutions

Higher Education Institutions invest in educational technology that supports both faculty and students

School Districts

K-12 School districts could purchase this to help both teachers and students build note taking and study capabilities.

Teachers

Teachers could purchase classroom-level subscriptions to help with lectures, note-taking, and studying for their students.

Individual

Learners could purchase subscriptions to help them organize notes, take more effective notes and use their notes to study

User Research

The purpose of our user research was to understand how users (teachers and learners) utilize note-taking applications in the educational context, while also exploring how note taking applications could improve the teaching and learning experience and performance on learning outcomes.

1 Objective 1

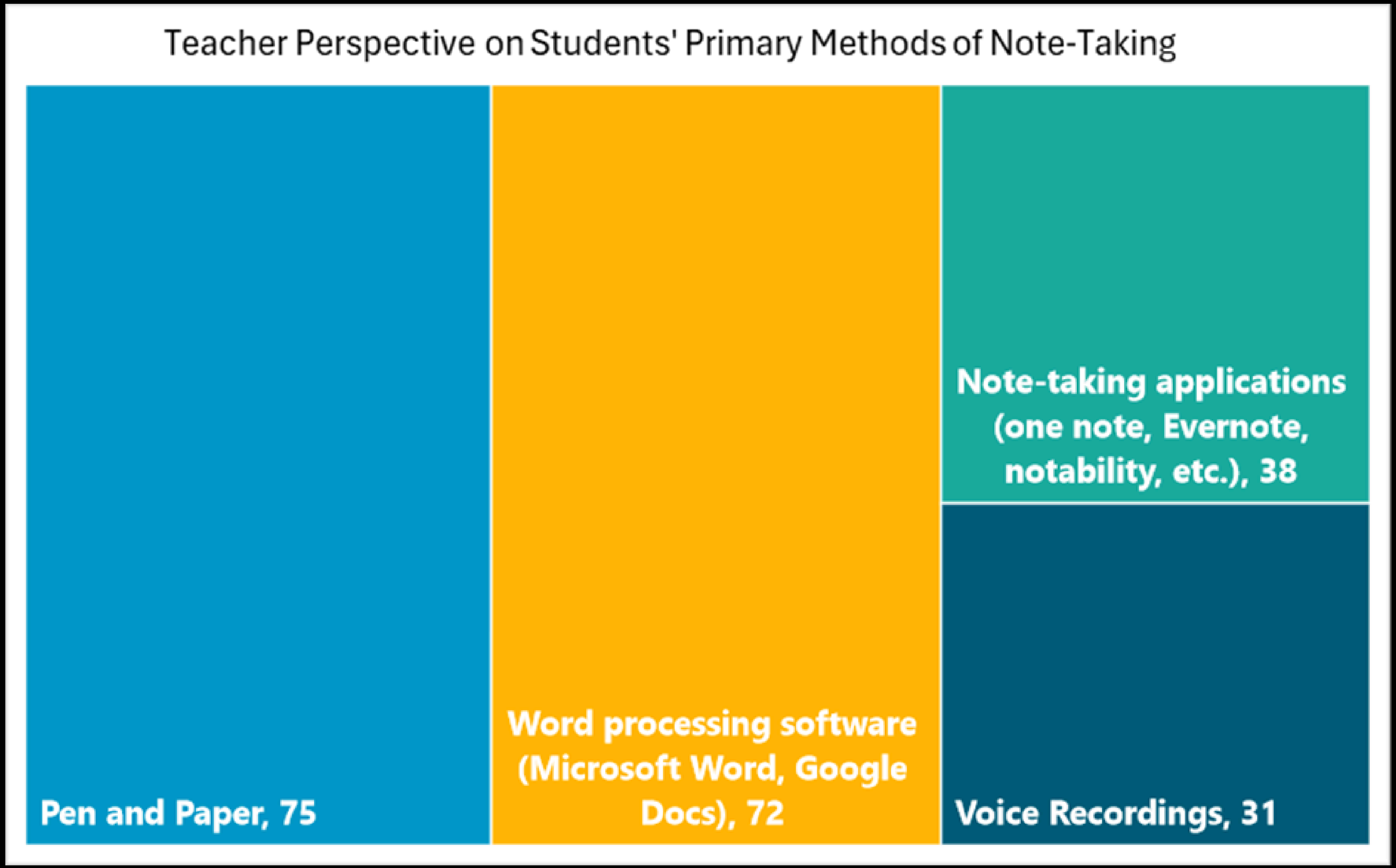
Uncover current note-taking applications and benefits of them

2 Objective 2

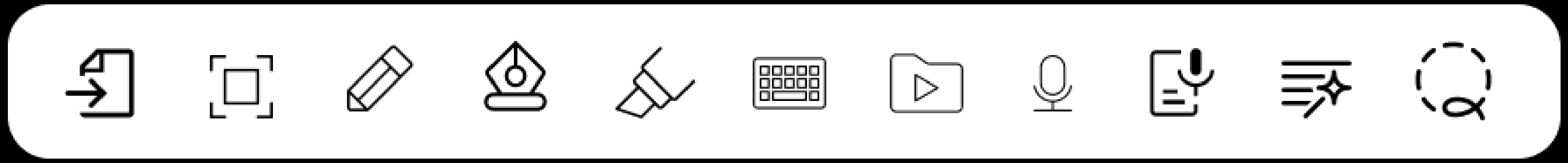
Understand how users could better utilize note-taking apps to increase learning and performance

3 Objective 3

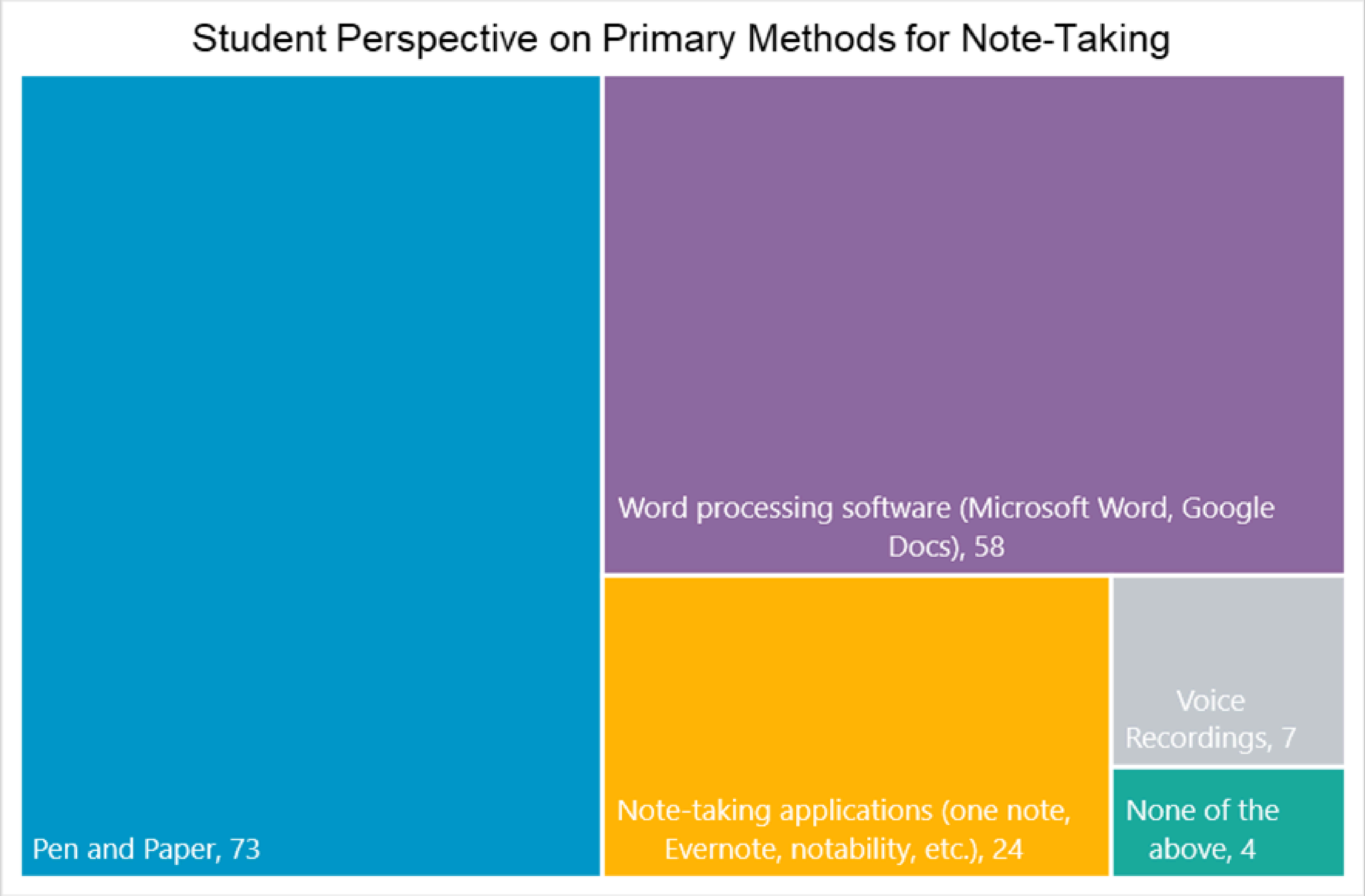
Understand perceptions on potential AI interactions with notes that could improve learning



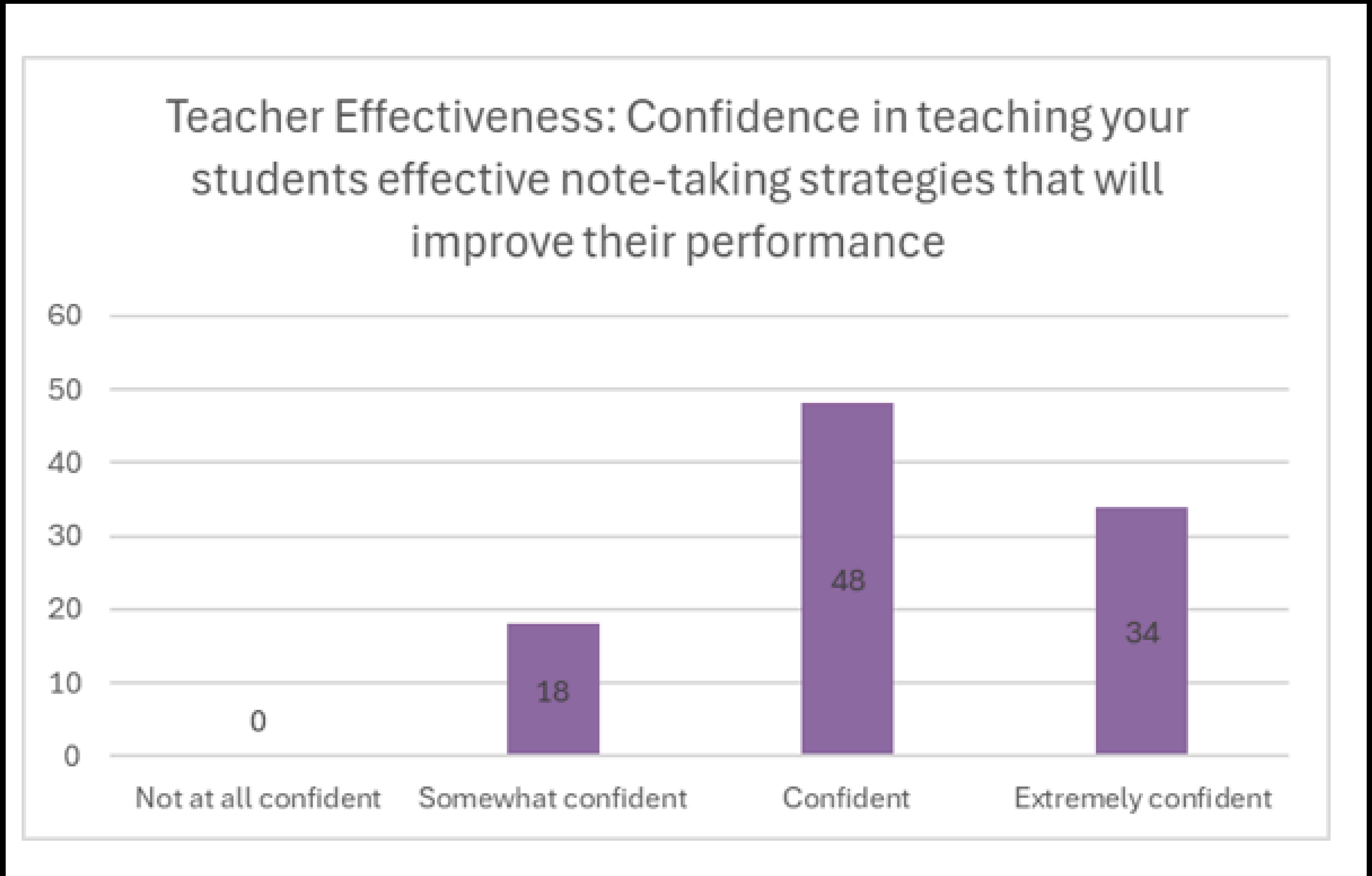
Handwriting, Typing and Recording

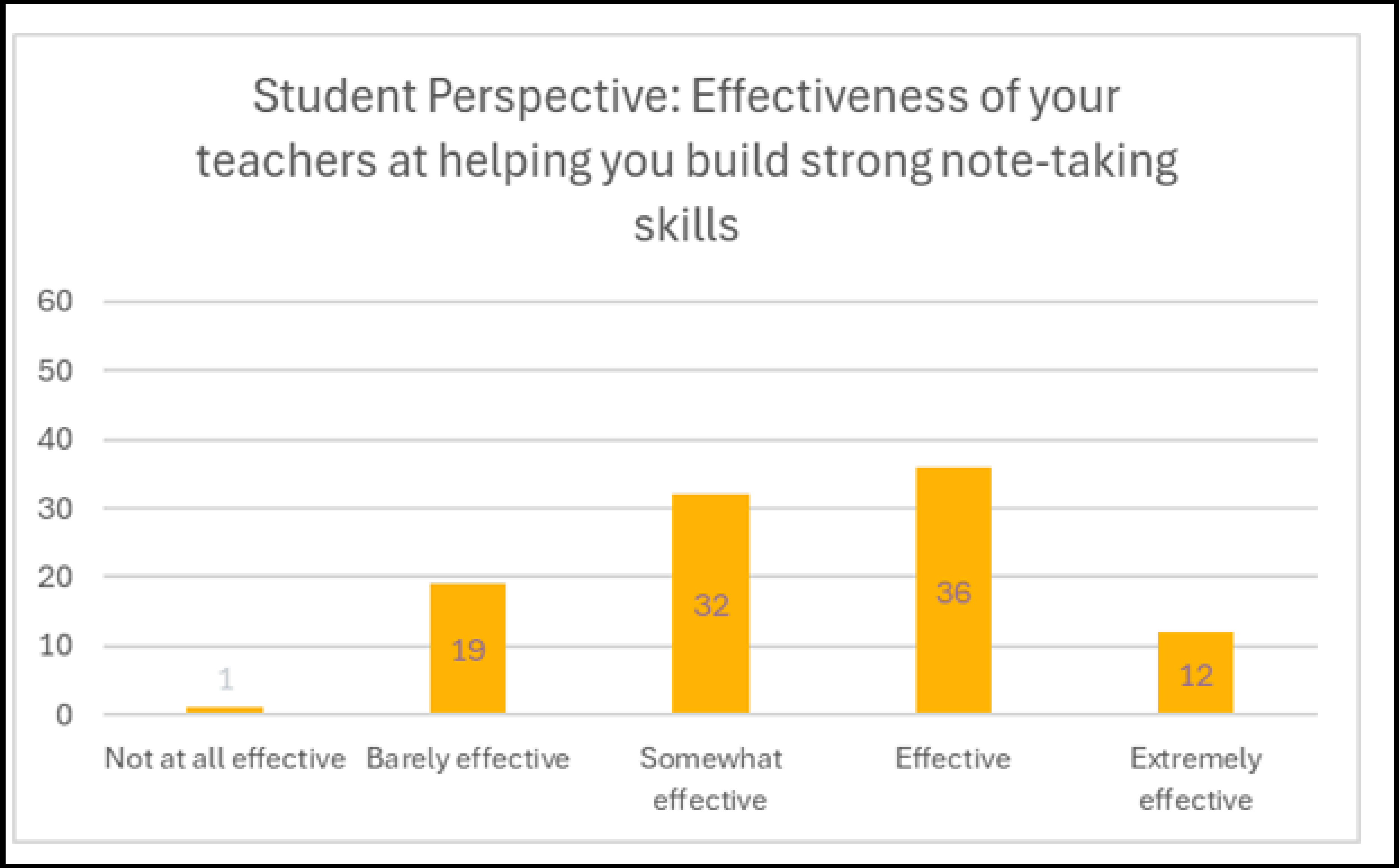


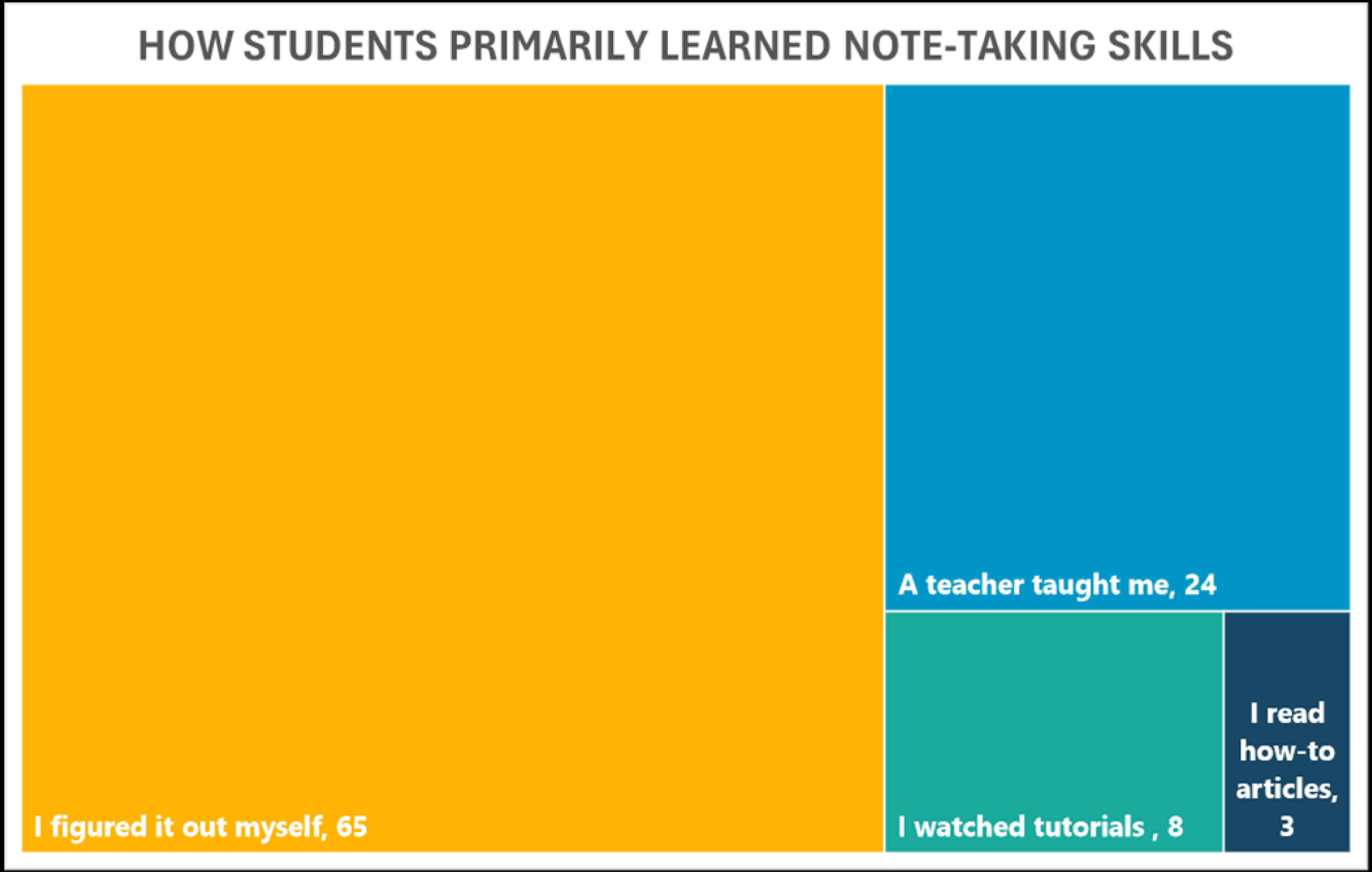
Research shows that tablet applications for note-taking reduces distractions. This and other data influence our decision for doing a tablet version for the MVP



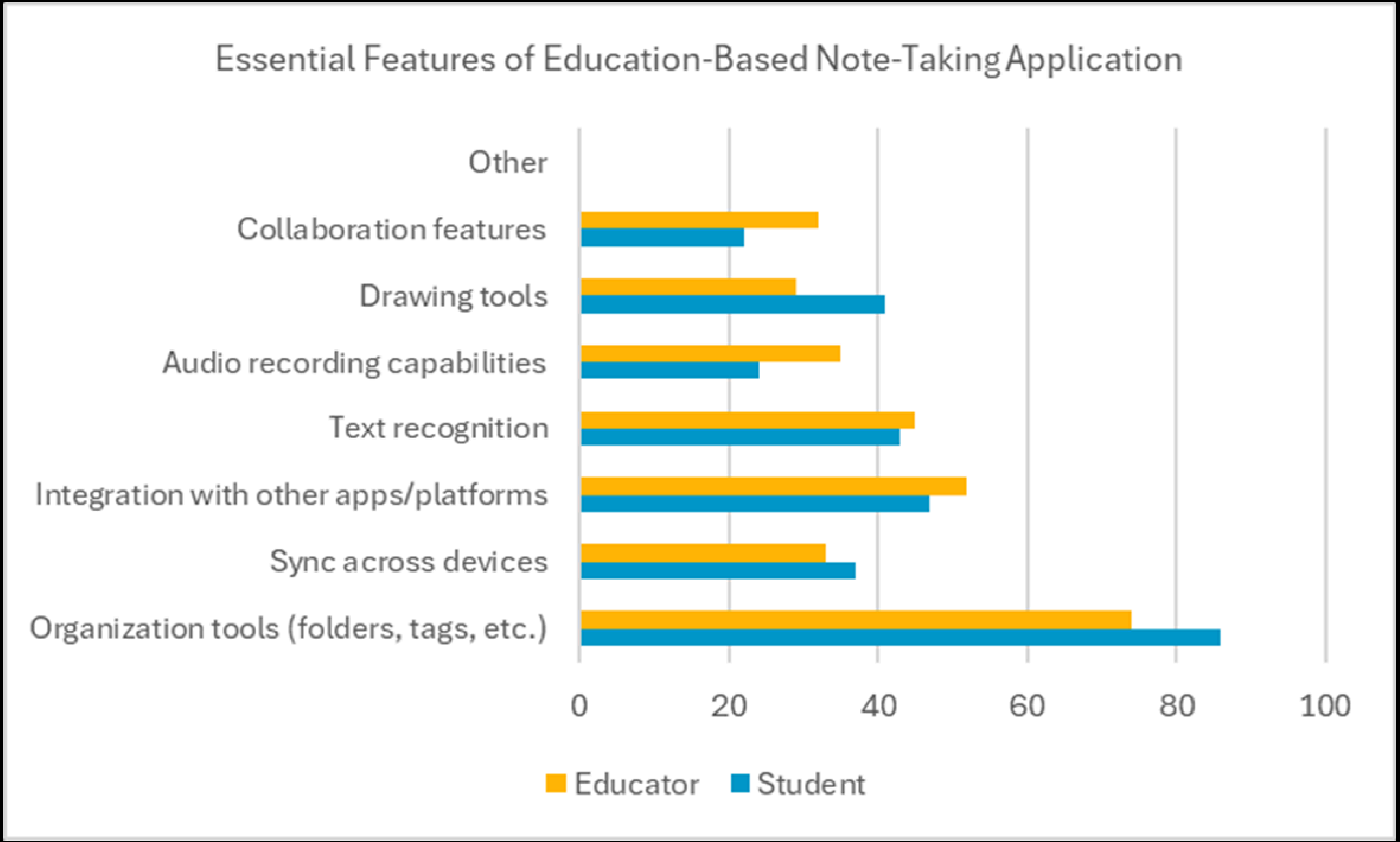
Conflicting Perspectives

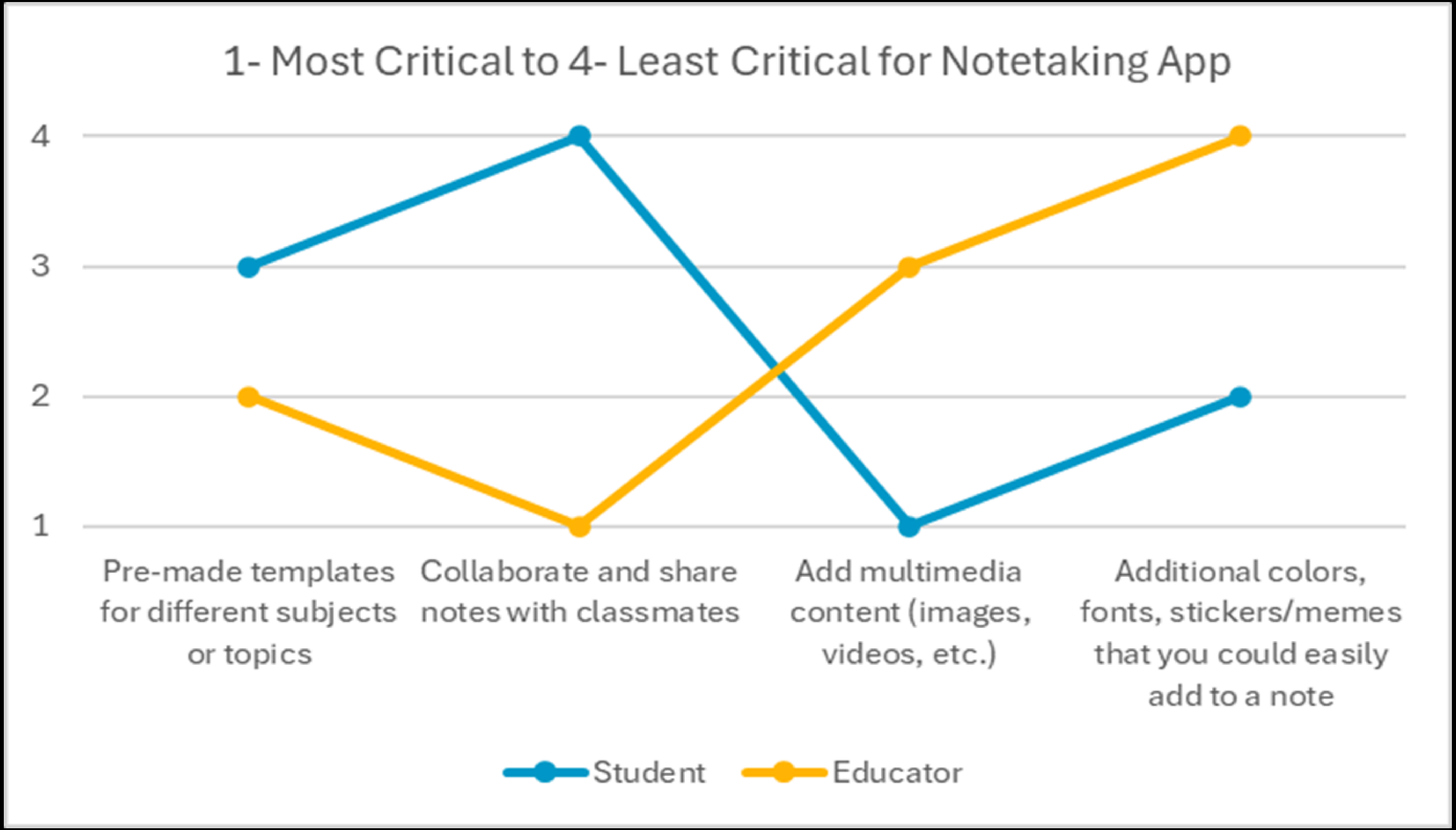


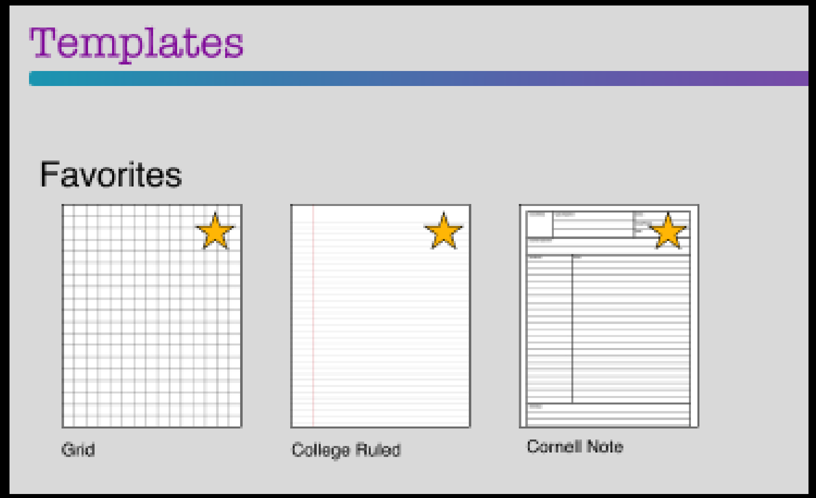


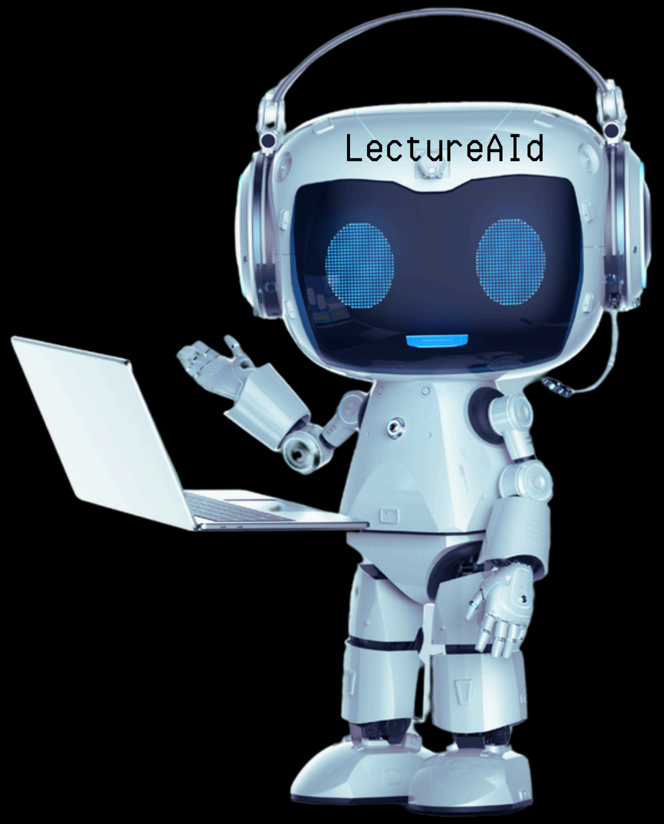

HOW STUDENTS PRIMARILY LEARNED NOTE-TAKING SKILLS
I figured it out myself, 65
A teacher taught me, 24
I watched tutorials , 8
I read how-to articles, 3

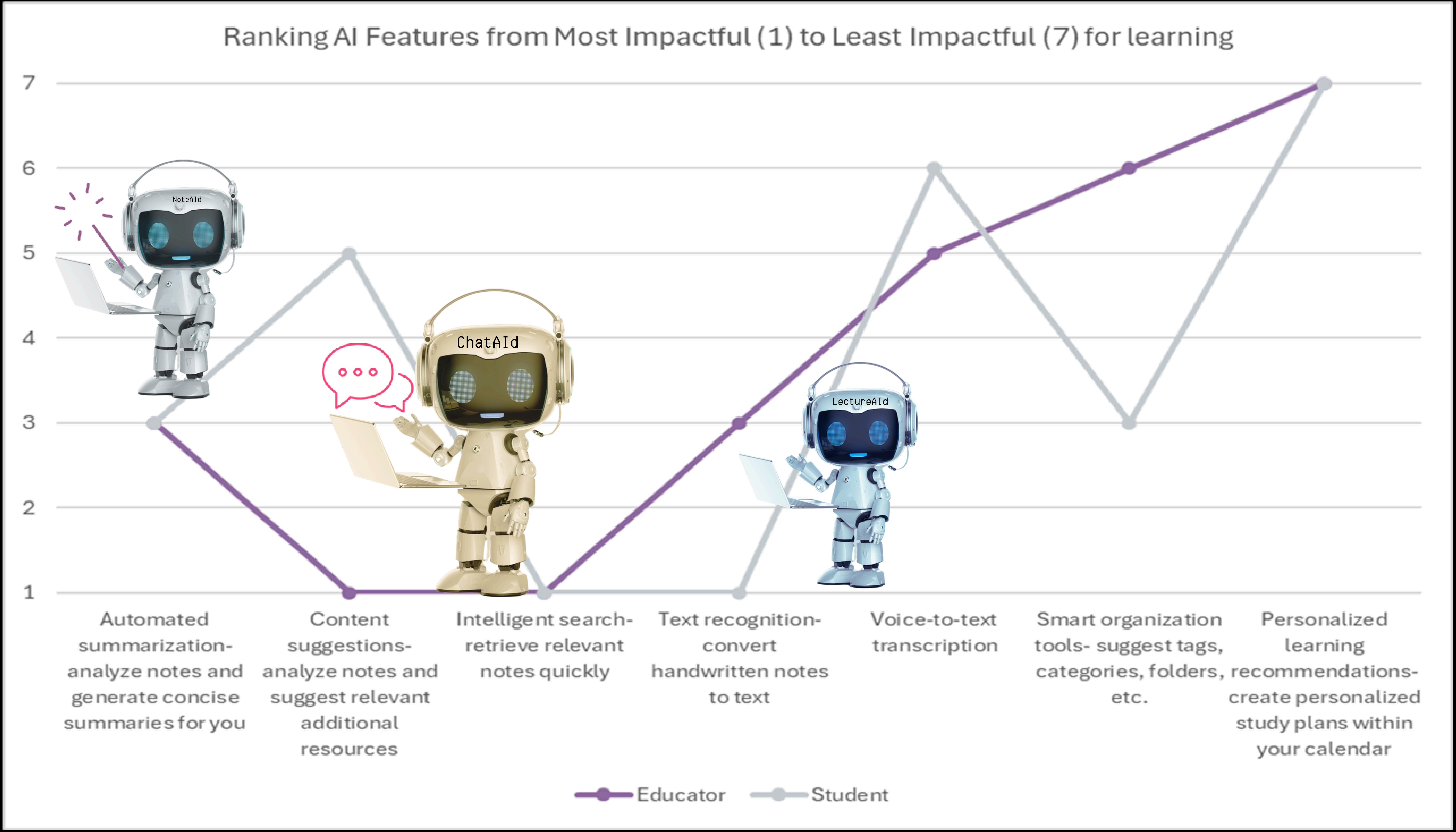

NoteAId

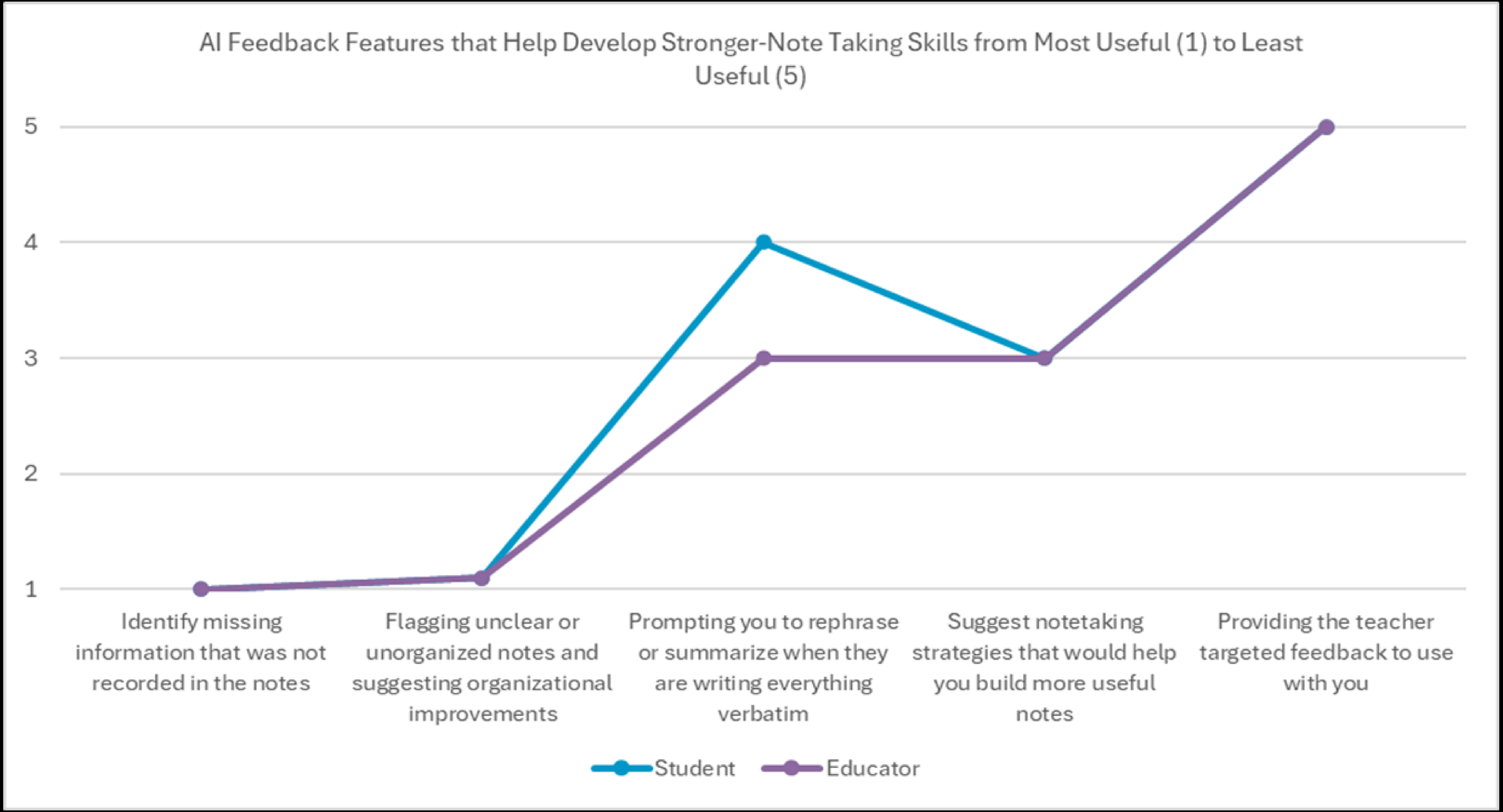

Essential Features of Education-Based Note-Taking Application
Other
Collaboration features
Drawing tools
Audio recording capabilities
Text recognition
Integration with other apps/platforms
Sync across devices
Organization tools (folders, tags, etc.)
0
20
40
60
80
100
Educator
Student


1- Most Critical to 4- Least Critical for Notetaking App
4
3
2
1
Pre-made templates for different subjects or topics
Collaborate and share notes with classmates
Add multimedia content (images, videos, etc.)
Additional colors, fonts, stickers/memes that you could easily add to a note
Student
Educator


Templates
Favorites
Grid
College Ruled
Cornell Note

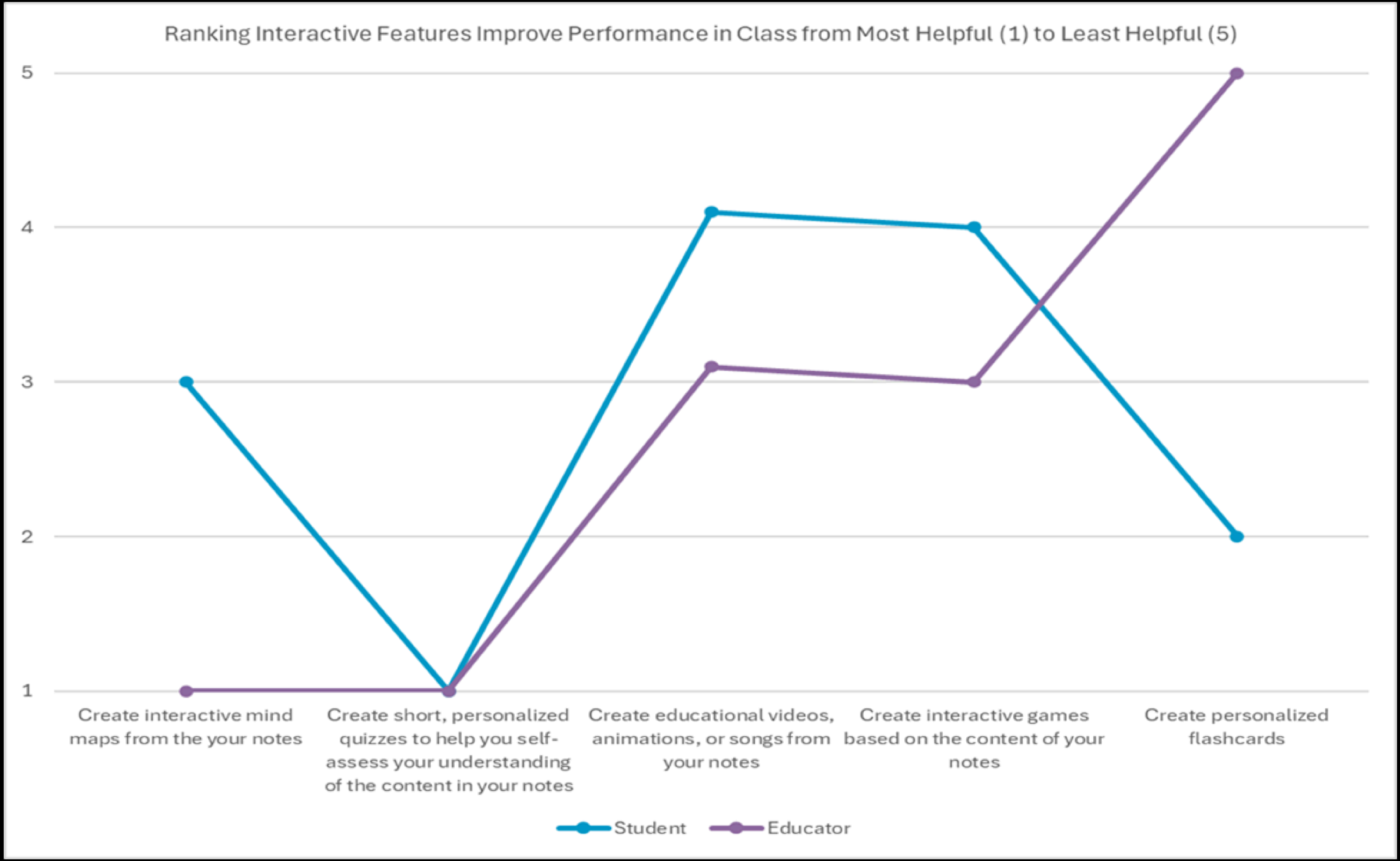

LectureAId

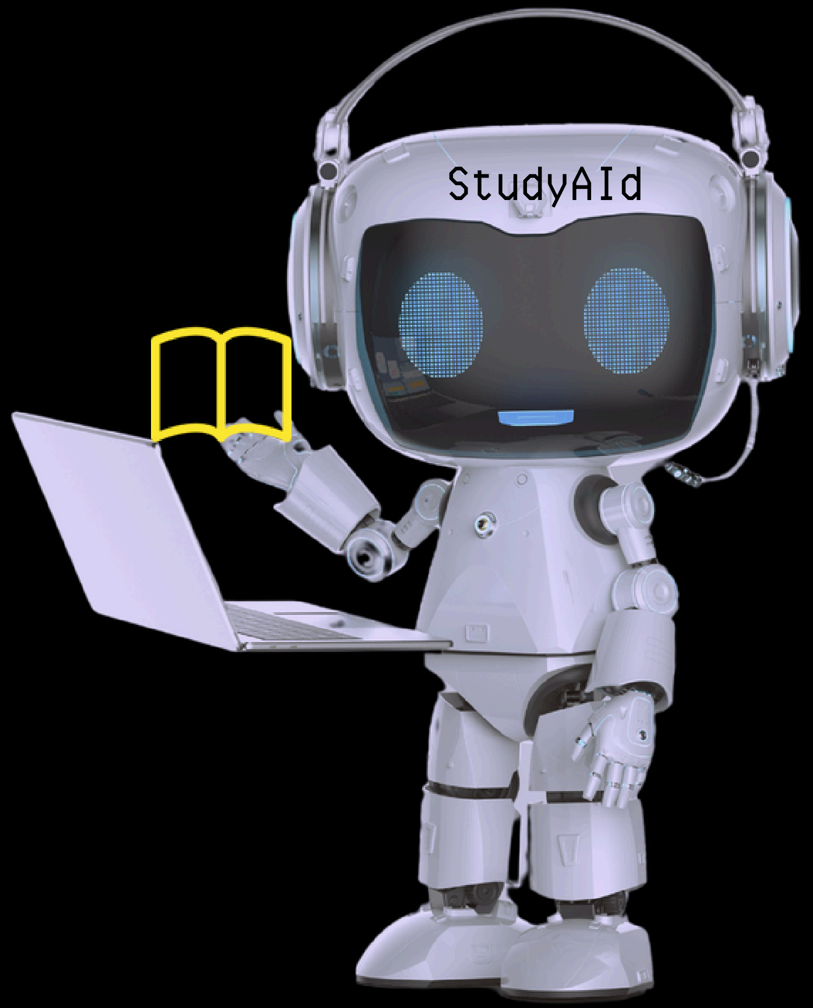

Ranking AI Features from Most Impactful (1) to Least Impactful (7) for learning
7
6
5
4
3
2
1
NoteAId
ChatAId
LectureAId
Automated summarization- analyze notes and generate concise summaries for you
Content suggestions- analyze notes and suggest relevant additional resources
Intelligent search- retrieve relevant notes quickly
Text recognition- convert handwritten notes to text
Voice-to-text transcription
Smart organization tools- suggest tags, categories, folders, etc.
Personalized learning recommendations- create personalized study plans within your calendar
Educator
Student



AI Feedback Features that Help Develop Stronger-Note Taking Skills from Most Useful (1) to Least Useful (5)
5
4
3
2
1
Identify missing information that was not recorded in the notes
Flagging unclear or unorganized notes and suggesting organizational improvements
Prompting you to rephrase or summarize when they are writing everything verbatim
Suggest notetaking strategies that would help you build more useful notes
Providing the teacher targeted feedback to use with you
Student
Educator

NoteAId


Ranking Interactive Features Improve Performance in Class from Most Helpful (1) to Least Helpful (5)
5
4
3
2
1
Create interactive mind maps from the your notes
Create short, personalized quizzes to help you self-assess your understanding of the content in your notes
Create educational videos, animations, or songs from your notes
Create interactive games based on the content of your notes
Create personalized flashcards
Student
Educator


StudyAId

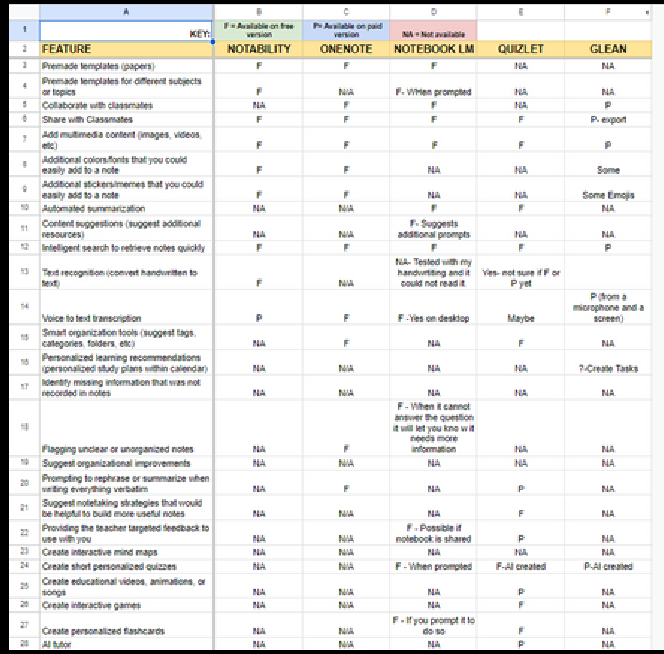
Competitor Analysis

Why our top 5?

Notability	Notability is a note-taking application that focuses on multiple templates and organization of notes. It has many multimedia options and allows importing files and writing on top of. It focus on handwritten note features and is a good replacement for analog note taking. As of 2023, more than 5 million K-12 students use notability in 53 countries.
OneNote	OneNote is a digital note-taking tool designed to serve as a unified repository for all your notes, research materials, plans, and important information. It offers a convenient solution for managing your life, whether you're at home, in the workplace, or at school. OneNote has over 250 million users.
Quizlet	Quizlet is an online learning platform that allows users to create, study, and share flashcards and other study materials. Quizlet provides a user-friendly and effective way to study and master various subjects and topics. It has also added an AI tutor and other AI-driven tools. As of late 2021, quizlet has over 60 million users.
Glean Notes	Glean is a note-taking application that focuses on empowering students to take better notes. It focuses on learning and is sold to a similar market that we feel our application will target- school districts. It also recently added an AI-drive quiz creation for the notes. As of 2021, Glean Notes has 300,000 plus learners using the product.
Notebook LM	Notebook LM is an early-stage AI driven application that is geared towards “doing your best learning, note-taking, creating, thinking.” It is still in the experimental stage but shows the possibilities of how AI features could change the note-taking application market.

NotebookLM

Feature Audit



KEY:	F = Available on free version	P= Available on paid version	NA = Not available		
FEATURE	NOTABILITY	ONENOTE	NOTEBOOK LM	QUIZLET	GLEAN
Premade templates (papers)	F	F	F	NA	NA
Premade templates for different subjects or topics	F	N/A	F- WHen prompted	NA	NA
Collaborate with classmates	NA	F	F	NA	P
Share with Classmates	F	F	F	F	P- export
Add multimedia content (images, videos, etc)	F	F	F	F	P
Additional colors/fonts that you could easily add to a note	F	F	NA	NA	Some
Additional stickers/memes that you could easily add to a note	F	F	NA	NA	Some Emojis
Automated summarization	NA	N/A	F	F	NA
Content suggestions (suggest additional resources)	NA	N/A	F- Suggests additional prompts	NA	NA
Intelligent search to retrieve notes quickly	F	F	F	F	P
Text recognition (convert handwritten to text)	F	N/A	NA- Tested with my handwriting and it could not read it.	Yes- not sure if F or P yet	
Voice to text transcription	P	F	F -Yes on desktop	Maybe	P (from a microphone and a screen)
Smart organization tools (suggest tags, categories, folders, etc)	NA	F	NA	F	NA
Personalized learning recommendations (personalized study plans within calendar)	NA	N/A	NA	NA	?-Create Tasks
Identify missing information that was not recorded in notes	NA	N/A	NA	NA	NA
Flagging unclear or unorganized notes	NA	F	F - When it cannot answer the question it will let you kno w it needs more information	NA	NA
Suggest organizational improvements	NA	N/A	NA	NA	NA
Prompting to rephrase or summarize when writing everything verbatim	NA	F	NA	P	NA
Suggest notetaking strategies that would be helpful to build more useful notes	NA	N/A	NA	F	NA
Providing the teacher targeted feedback to use with you	NA	N/A	F - Possible if notebook is shared	P	NA
Create interactive mind maps	NA	N/A	NA	NA	NA
Create short personalized quizzes	NA	N/A	F - When prompted	F-AI created	P-AI created
Create educational videos, animations, or songs	NA	N/A	NA	P	NA
Create interactive games	NA	N/A	NA	F	NA
Create personalized flashcards	NA	N/A	F - If you prompt it to do so	F	NA
AI tutor	NA	N/A	NA	P	NA

1 Insight 1

Harness the power of Quizlet's cutting-edge AI tools for optimized studying.

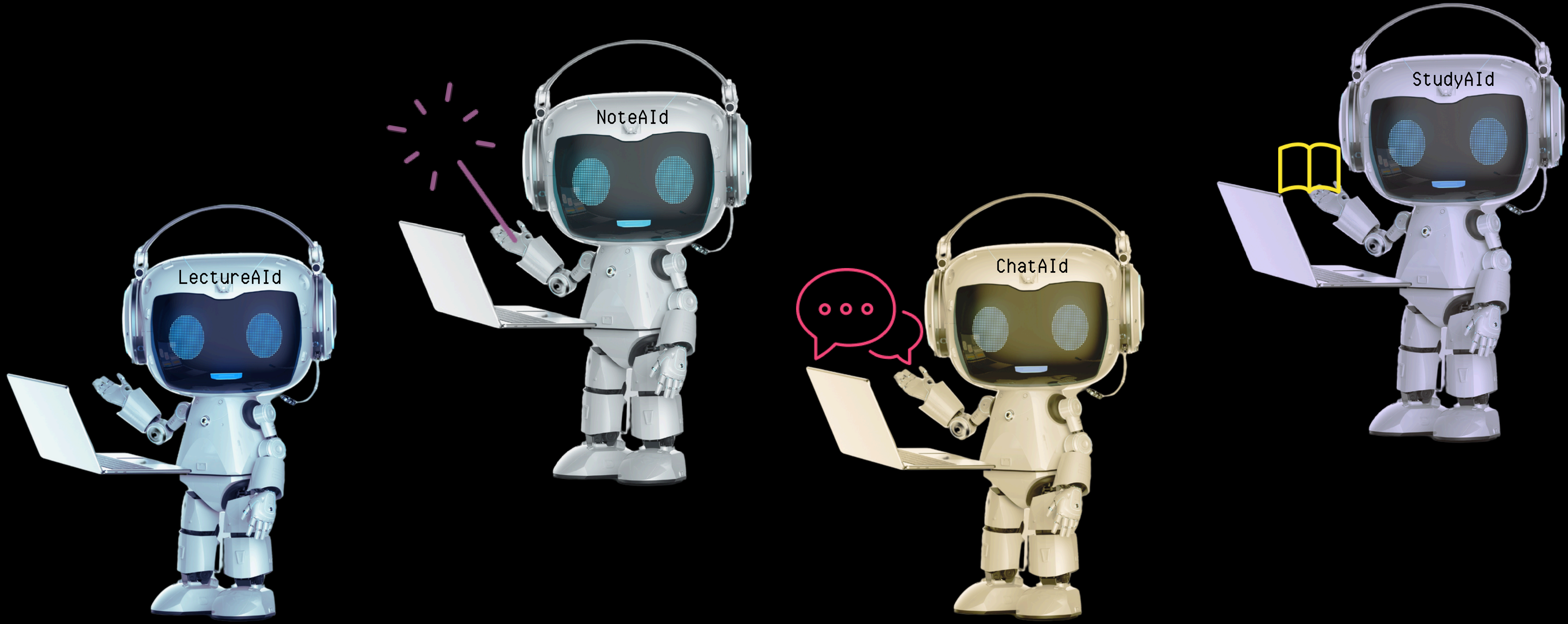
2 Insight 2

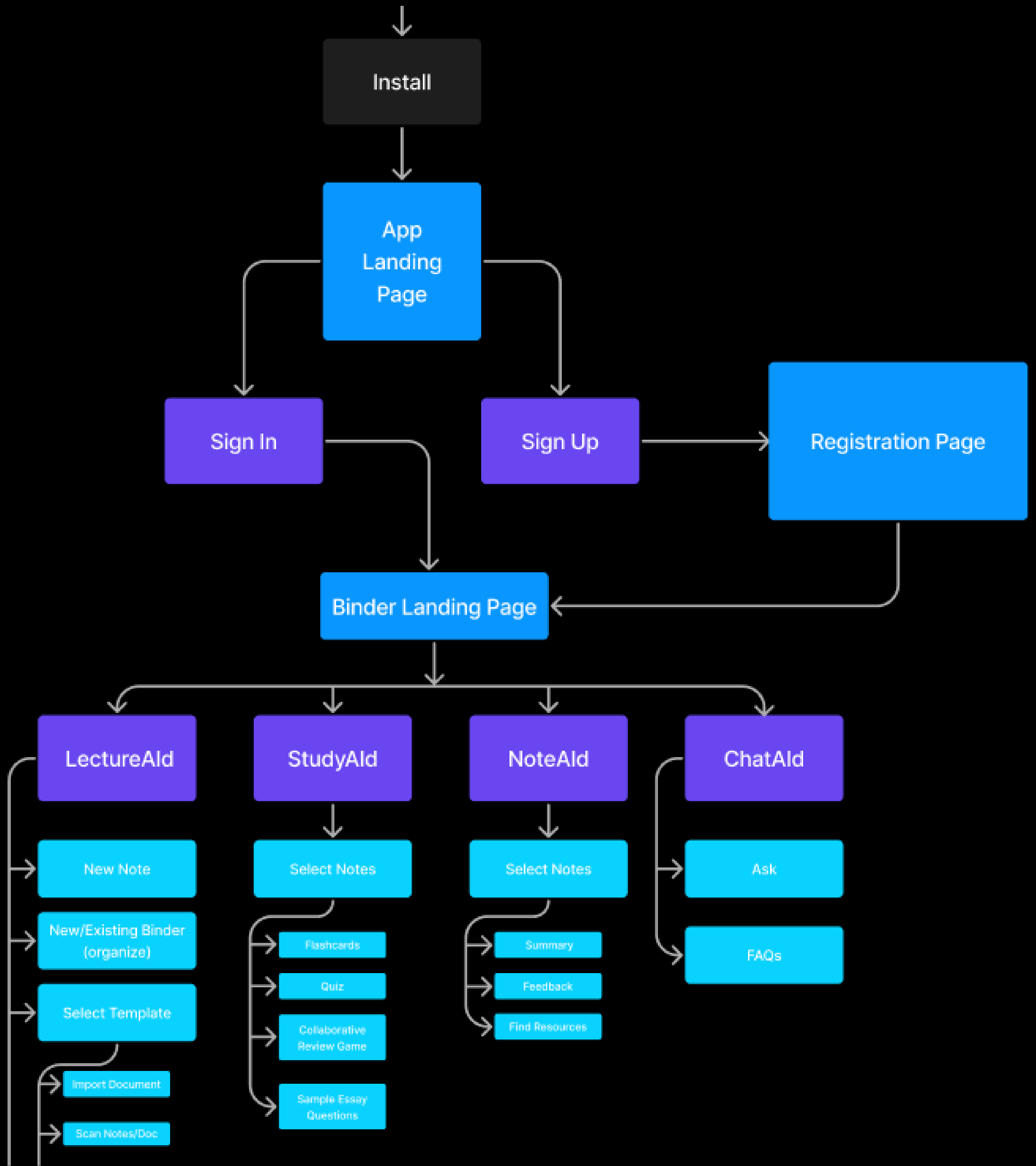
The simplicity of creating and organizing notes is similar across applications.

3 Insight 3

Use AI tools to pinpoint and rectify gaps and inaccuracies within your lecture notes

Information Architecture





Install
App Landing Page
Sign In
Sign Up
Registration Page
Binder Landing Page
LectureAId
StudyAId
NoteAId
ChatAId
New Note
New/Existing Binder (organize)
Select Template
Import Document
Scan Notes/Doc
Select Notes
Flashcards
Quiz
Collaborative Review Game
Sample Essay Questions
Select Notes
Summary
Feedback
Find Resources
Ask
FAQs

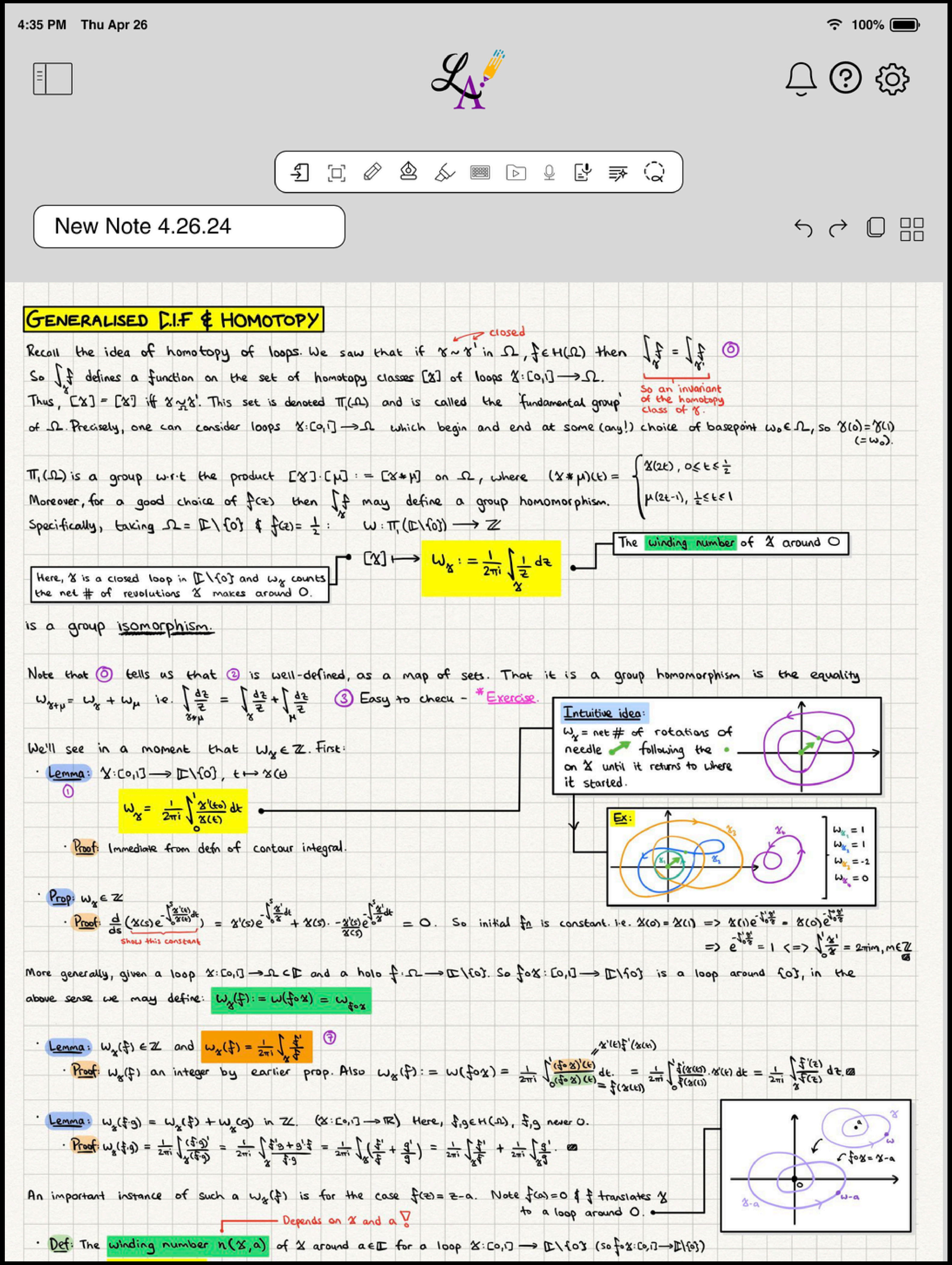
Top 5 User Flows for MVP:

Flow 1	Downloading the application and signing up
Flow 2	Creating and Sharing a lecture note with LectureAId
Flow 3	Utilizing NoteAId to create a summary of your notes
Flow 4	Creating a quiz with StudyAId
Flow 5	Asking ChatAId a help question

Based on the user stories and insights from completing the RICE framework in the previous slides- we narrowed in on these five user flows for our MVP. Our decision making process included:

- features critical to ease of use
- features critical to our value proposition of helping them learn to take better notes and learn the material- which would impact business metrics for retention and renewals
- managing the amount of effort needed to create the first MVP of the product


4:31 PM Thu Apr 26
100%
Binders
Date
Name
Type
New Binder
MODULE 1
April 17, 2024 at 11:40 am
MODULE 2
April 17, 2024 at 11:40 am
MODULE 3
April 17, 2024 at 11:40 am


4:35 PM Thu Apr 26
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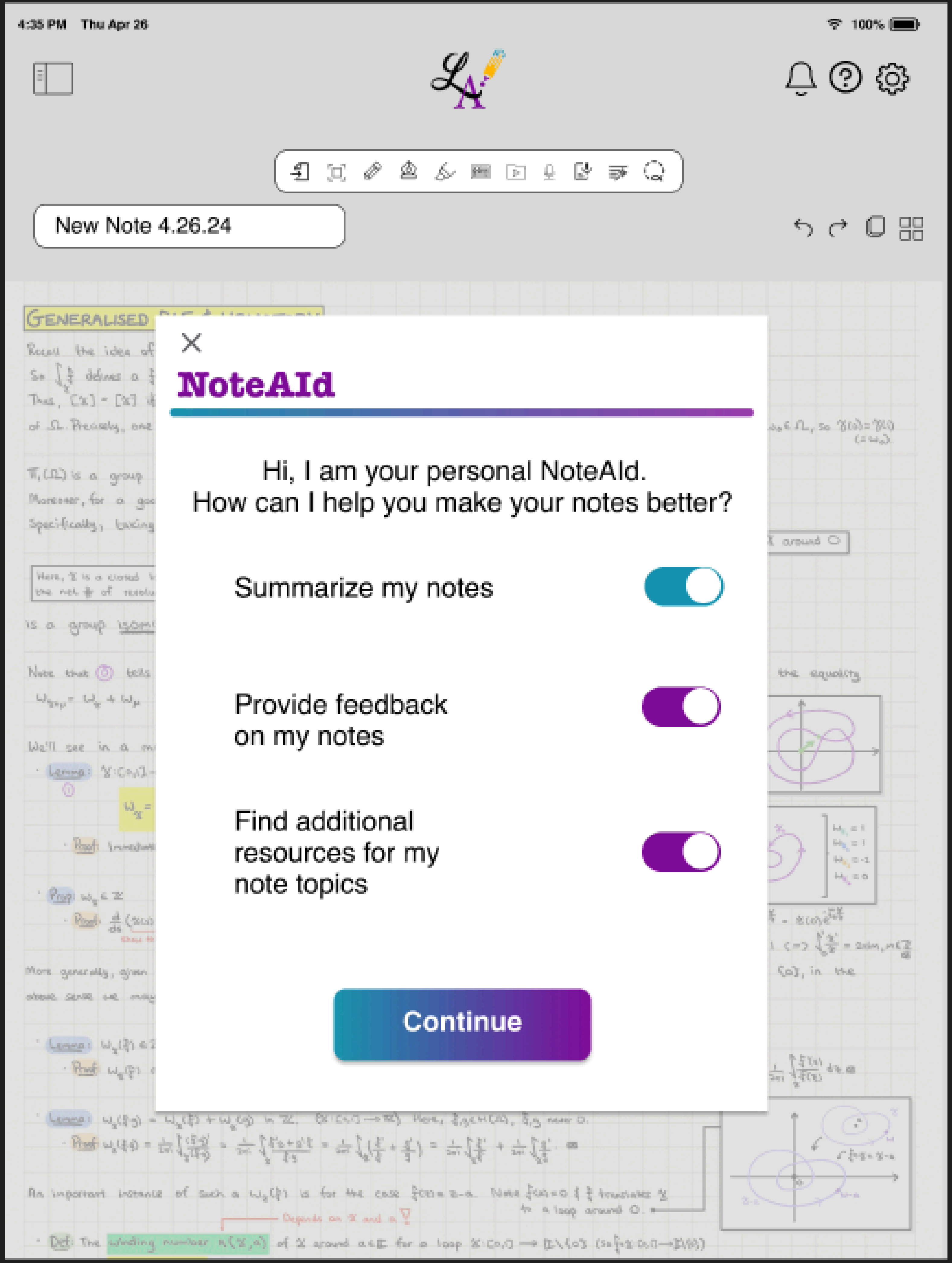
New Note 4.26.24
GENERALISED C.I.F & HOMOTOPY
Recall the idea of homotopy of loops.
is a group isomorphism.
Intuitive idea:
Ex:
Lemma:
Proof: Immediate from defn of contour integral.
Prop:
Lemma:
Lemma:
Def: The winding number


4:35 PM Thu Apr 26
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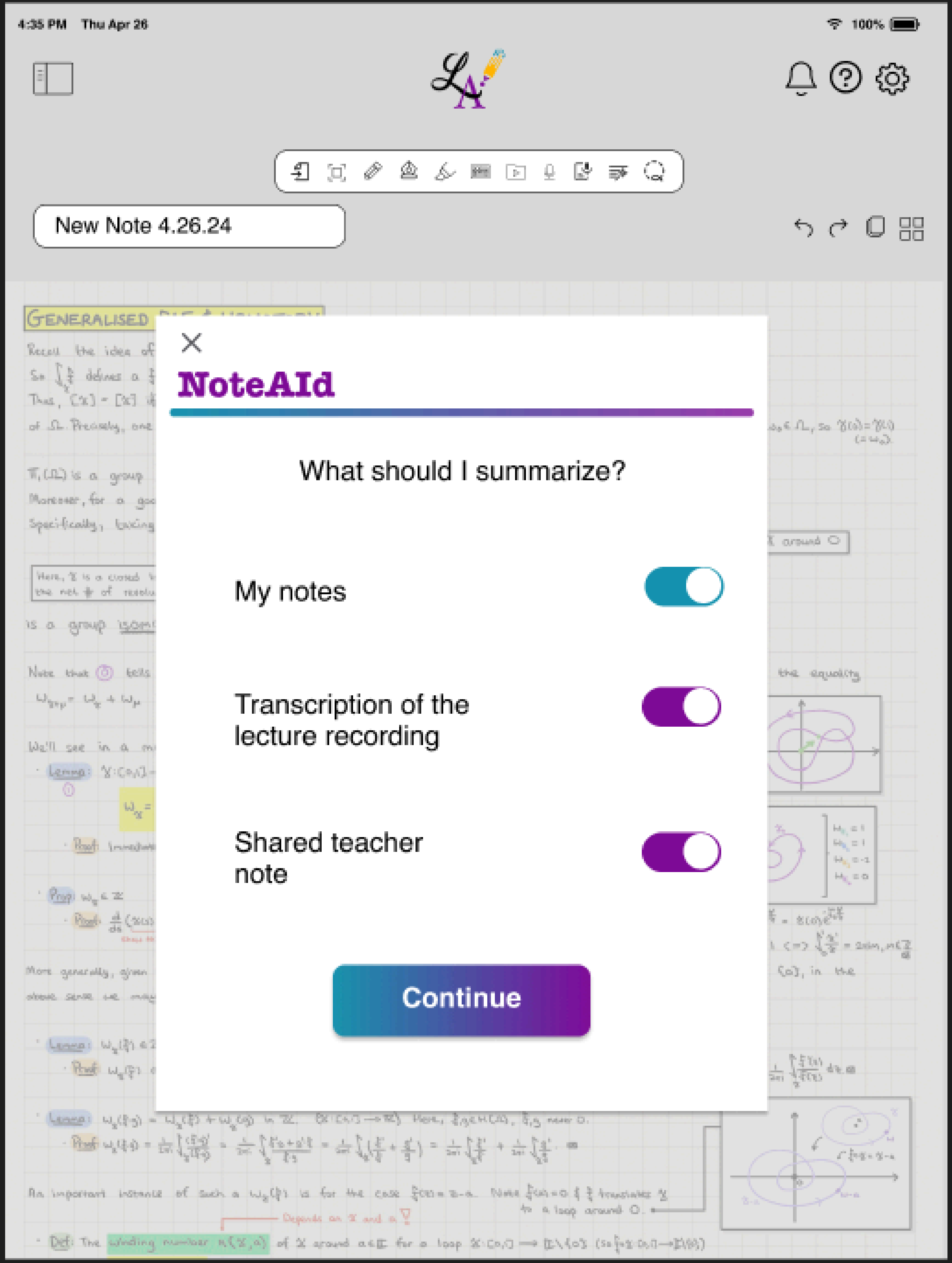
New Note 4.26.24
NoteAId
Hi, I am your personal NoteAId.
How can I help you make your notes better?
Summarize my notes
Provide feedback on my notes
Find additional resources for my note topics
Continue


4:35 PM Thu Apr 26
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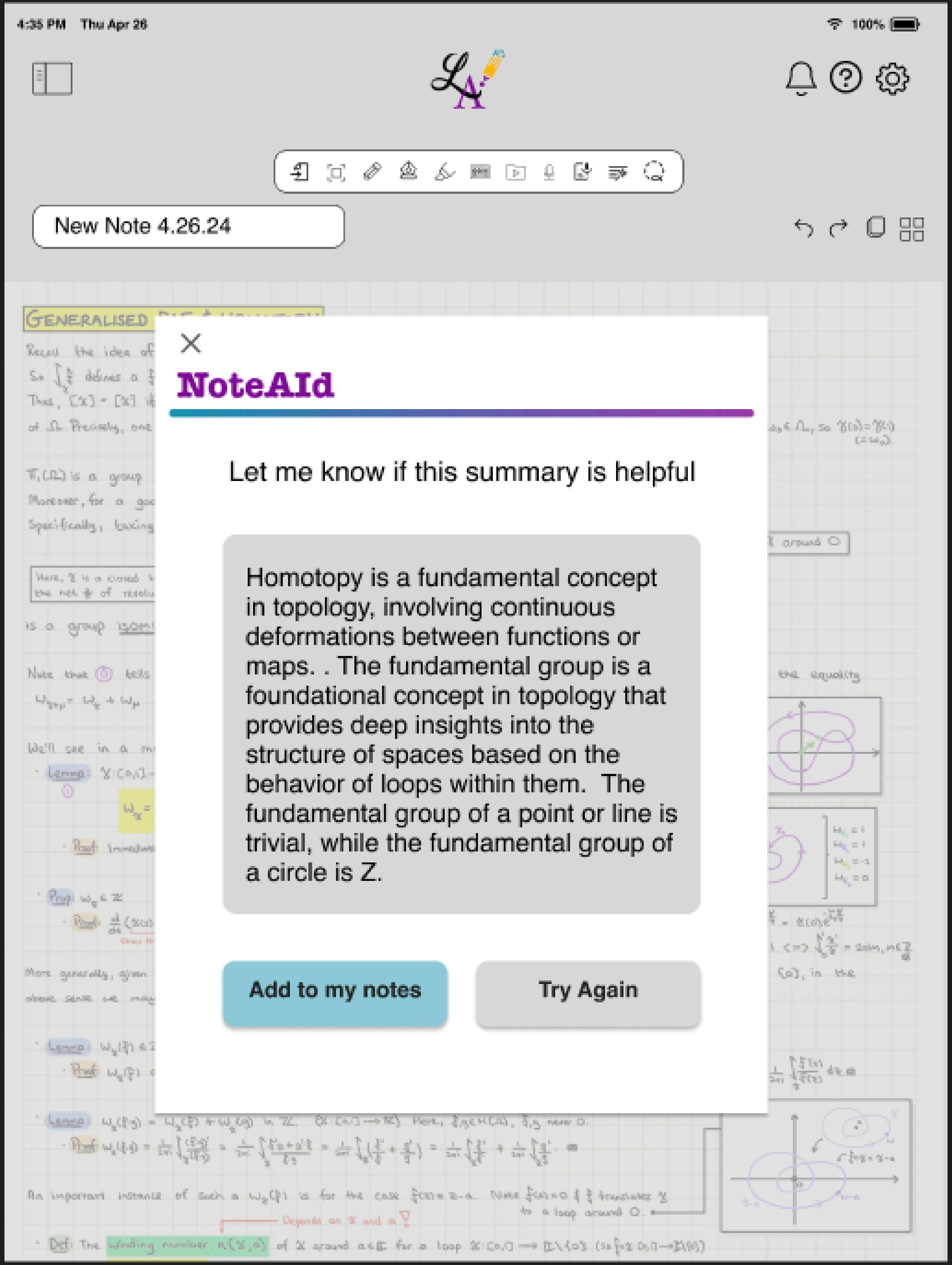
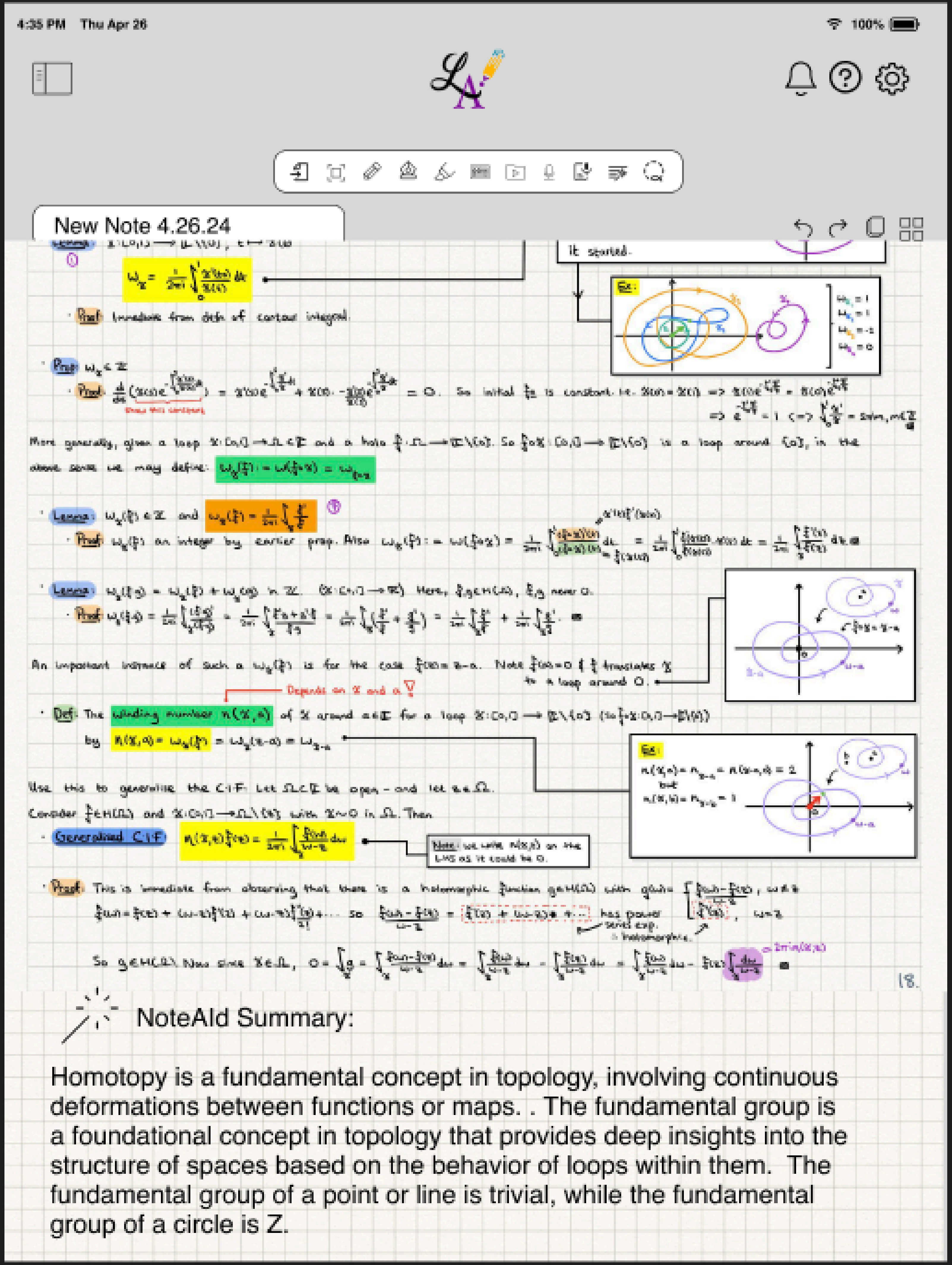
New Note 4.26.24
NoteAId
What should I summarize?
My notes
Transcription of the lecture recording
Shared teacher note
Continue


4:35 PM Thu Apr 26
100%
New Note 4.26.24
NoteAId
Let me know if this summary is helpful
Homotopy is a fundamental concept in topology, involving continuous deformations between functions or maps. . The fundamental group is a foundational concept in topology that provides deep insights into the structure of spaces based on the behavior of loops within them. The fundamental group of a point or line is trivial, while the fundamental group of a circle is Z.
Add to my notes
Try Again


4:35 PM Thu Apr 26
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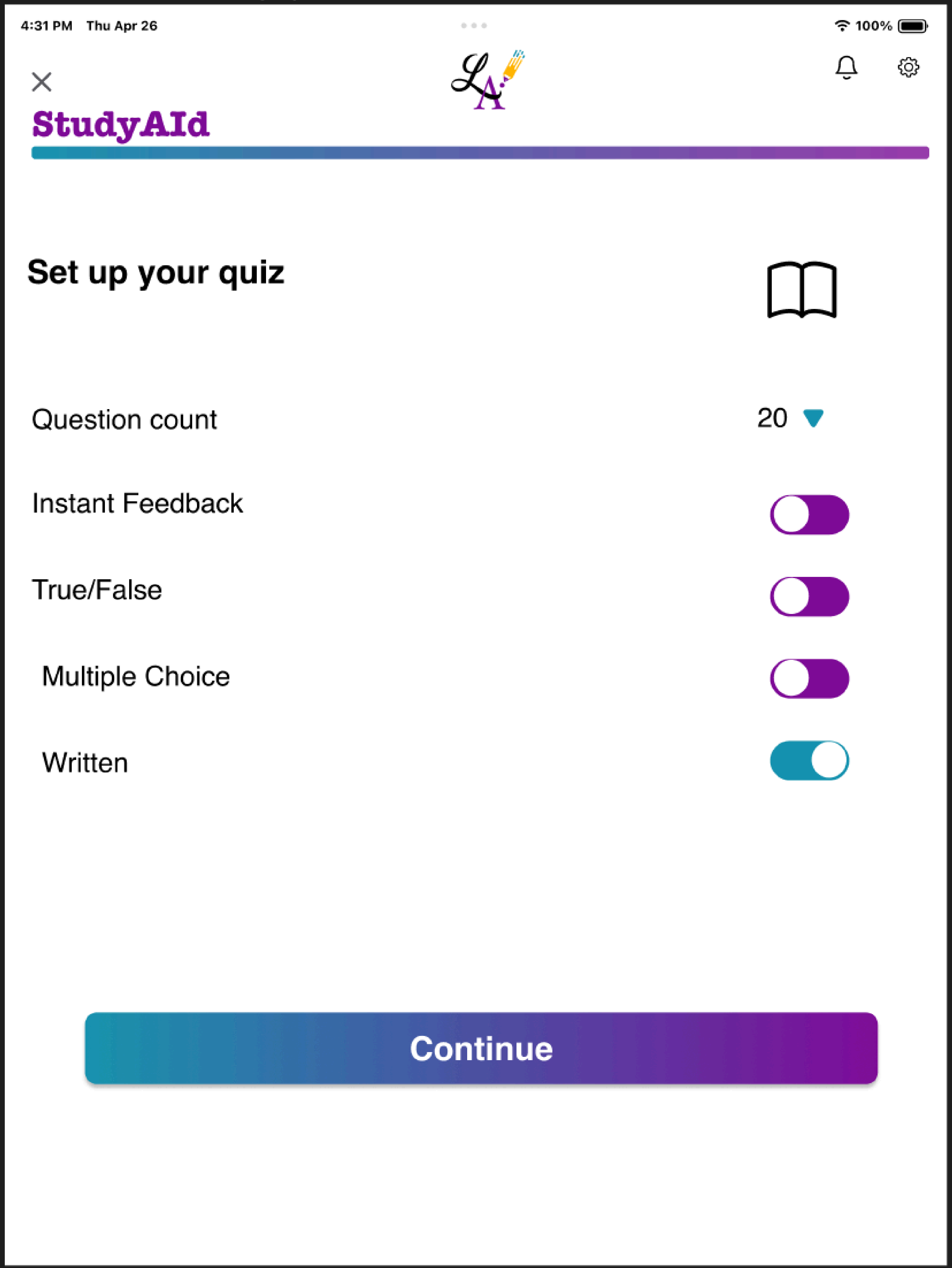
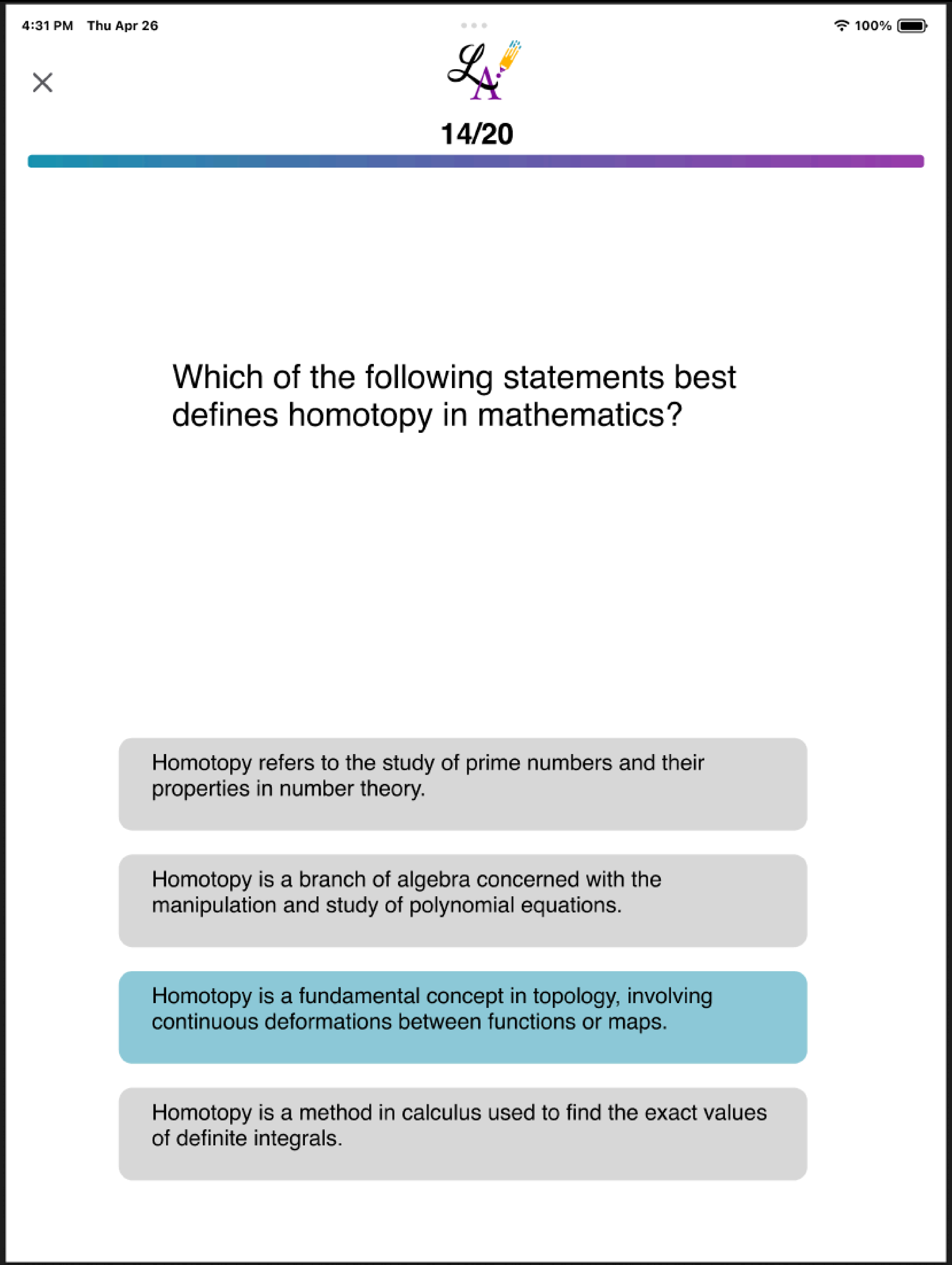
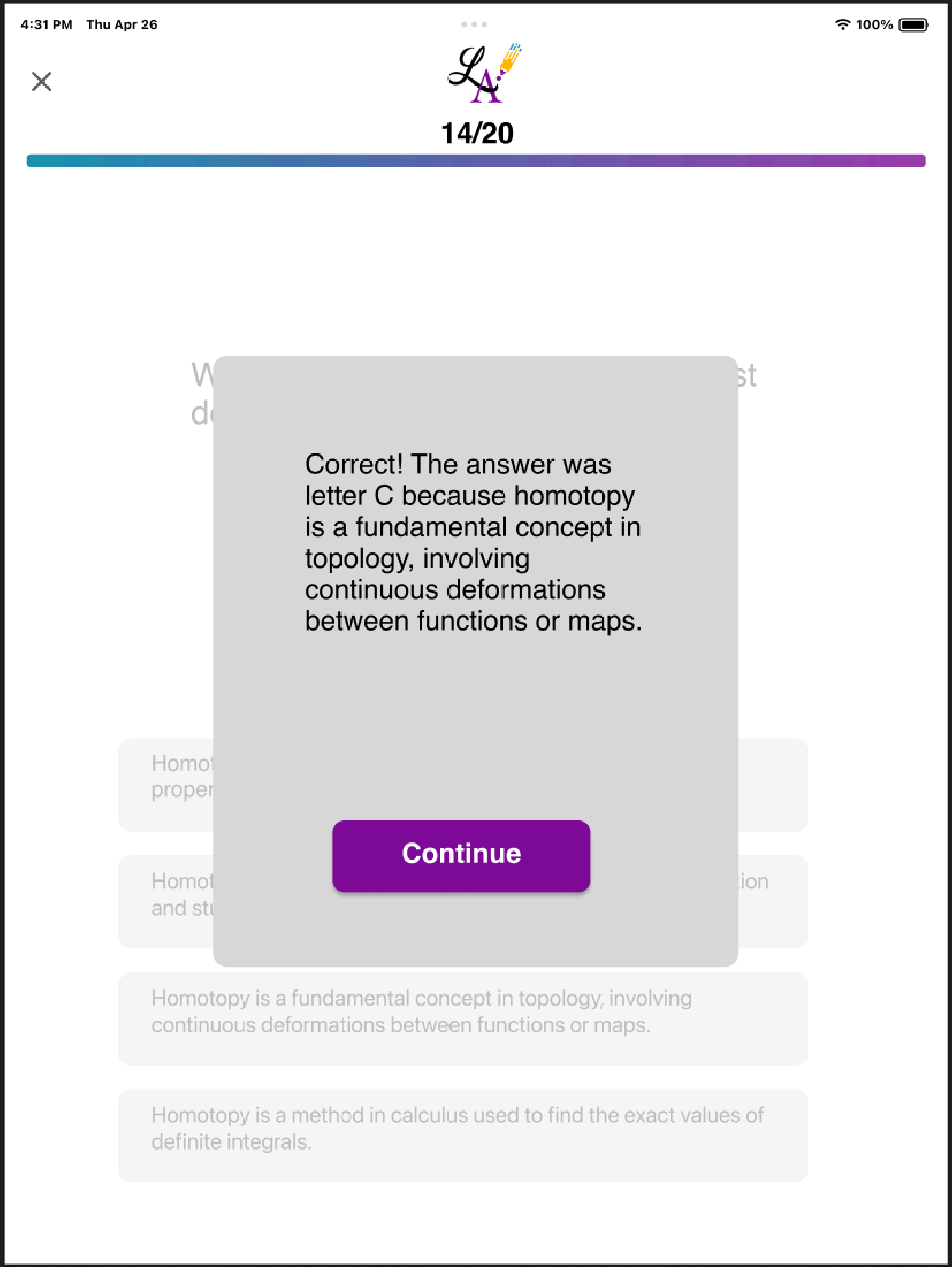
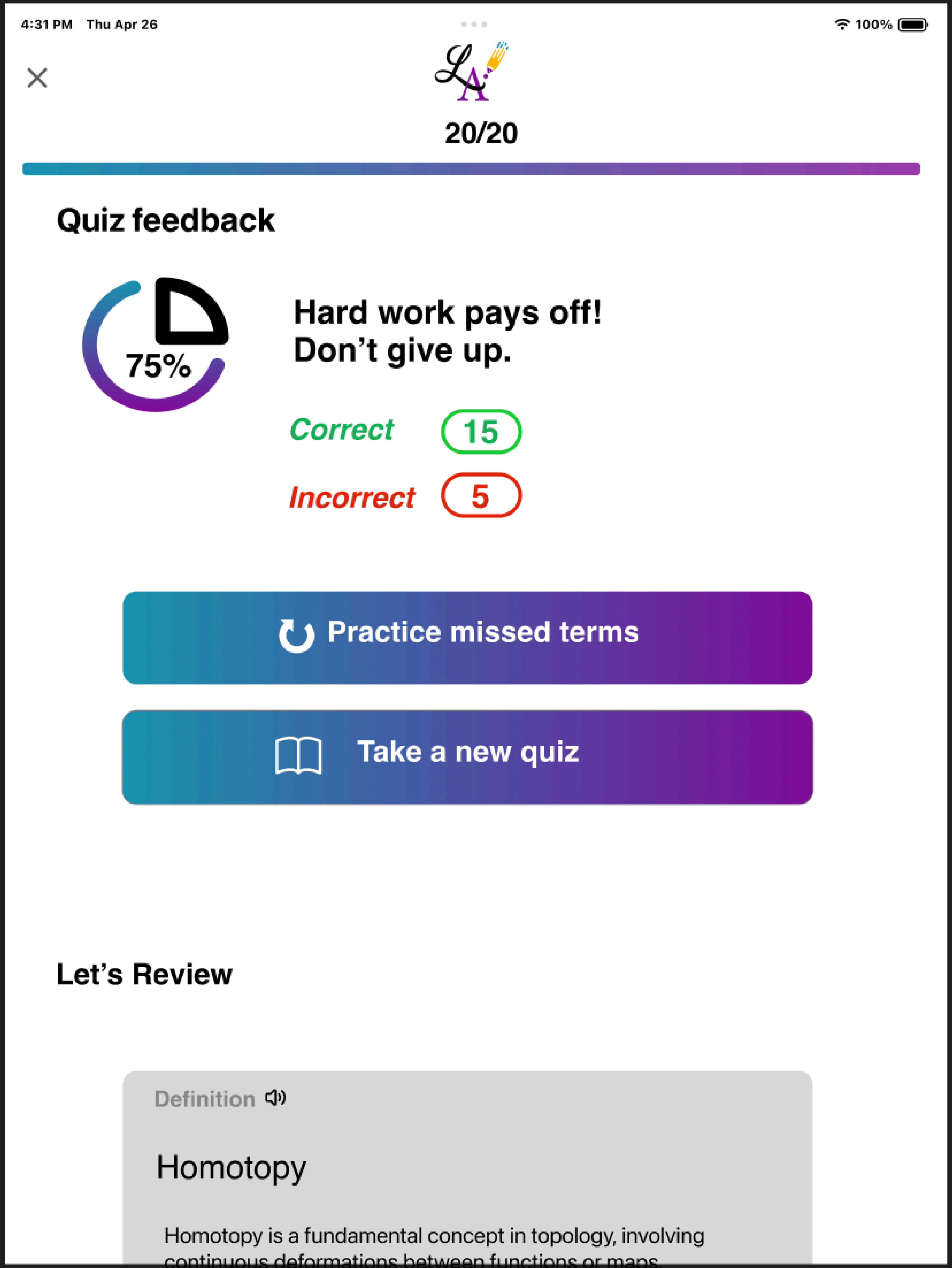
New Note 4.26.24
NoteAId Summary:
Homotopy is a fundamental concept in topology, involving continuous deformations between functions or maps. . The fundamental group is a foundational concept in topology that provides deep insights into the structure of spaces based on the behavior of loops within them. The fundamental group of a point or line is trivial, while the fundamental group of a circle is Z.


4:31 PM Thu Apr 26
100%
StudyAId
Set up your quiz
Question count
20
Instant Feedback
True/False
Multiple Choice
Written
Continue


4:31 PM Thu Apr 26
100%
14/20
Which of the following statements best defines homotopy in mathematics?
Homotopy refers to the study of prime numbers and their properties in number theory.
Homotopy is a branch of algebra concerned with the manipulation and study of polynomial equations.
Homotopy is a fundamental concept in topology, involving continuous deformations between functions or maps.
Homotopy is a method in calculus used to find the exact values of definite integrals.


4:31 PM Thu Apr 26
100%
14/20
Correct! The answer was letter C because homotopy is a fundamental concept in topology, involving continuous deformations between functions or maps.
Continue
Homotopy is a fundamental concept in topology, involving continuous deformations between functions or maps.
Homotopy is a method in calculus used to find the exact values of definite integrals.


4:31 PM Thu Apr 26
100%
20/20
Quiz feedback
75%
Hard work pays off!
Don't give up.
Correct
15
Incorrect
5
Practice missed terms
Take a new quiz
Let's Review
Definition
Homotopy
Homotopy is a fundamental concept in topology, involving

Next Steps

1

Next Step 1

Get user feedback on the MVP and consider what iterations need to happen

2

Next Step 2

Engage in A/B testing for some of our design features

3

Next Step 3

Build the teacher MVP

Believe

Elevate your
learning

one
note

at a
time