



Hybrid Collaboration: POVs and Experience Prototypes

Michael, Tran, Jasper & Zoha

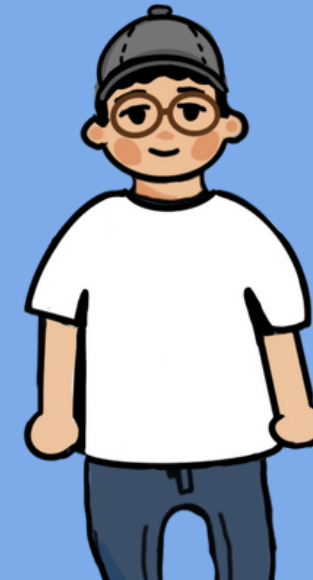
Meet Our Team



Michael
Engineer



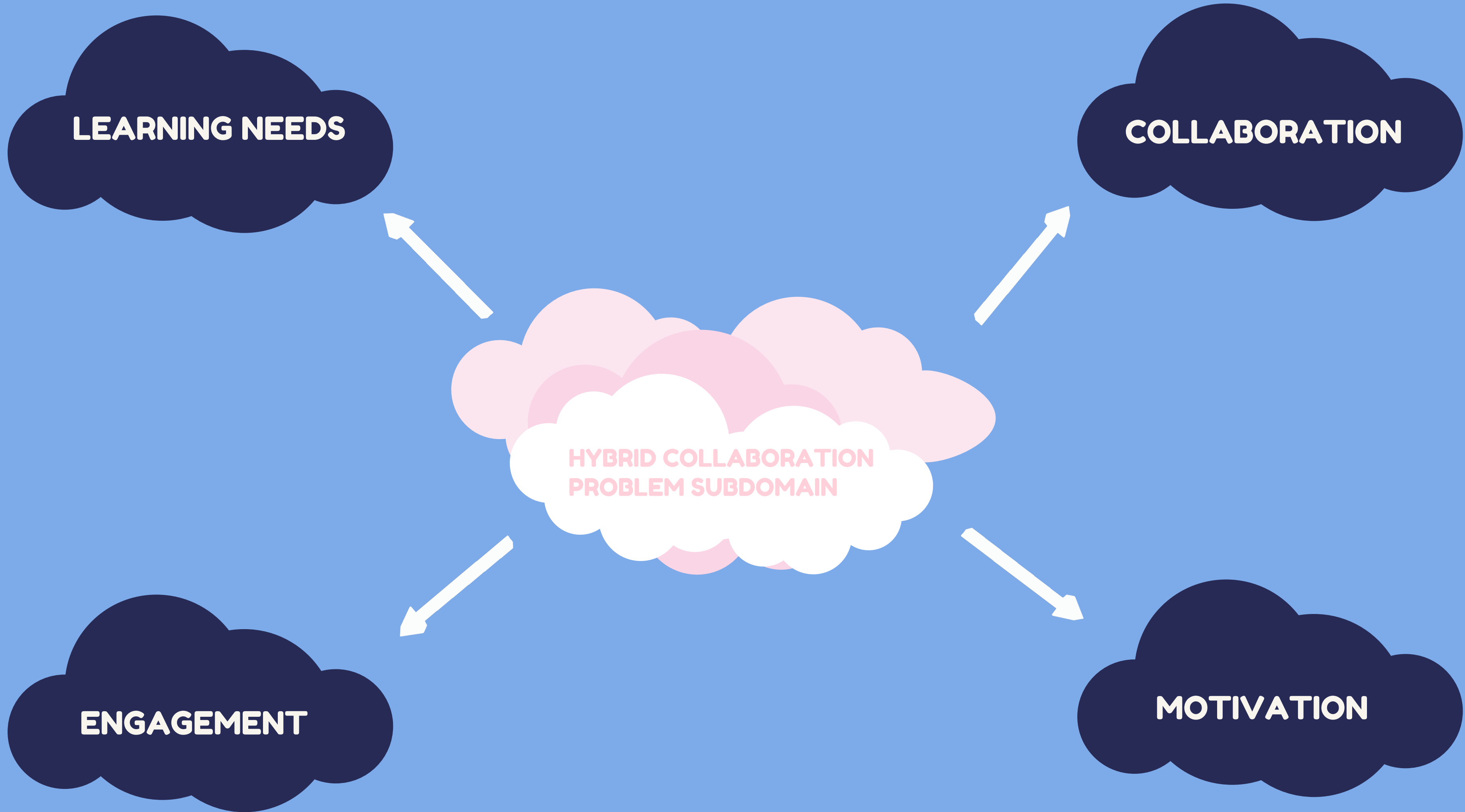
Tran
UX Researcher



Jasper
Engineer

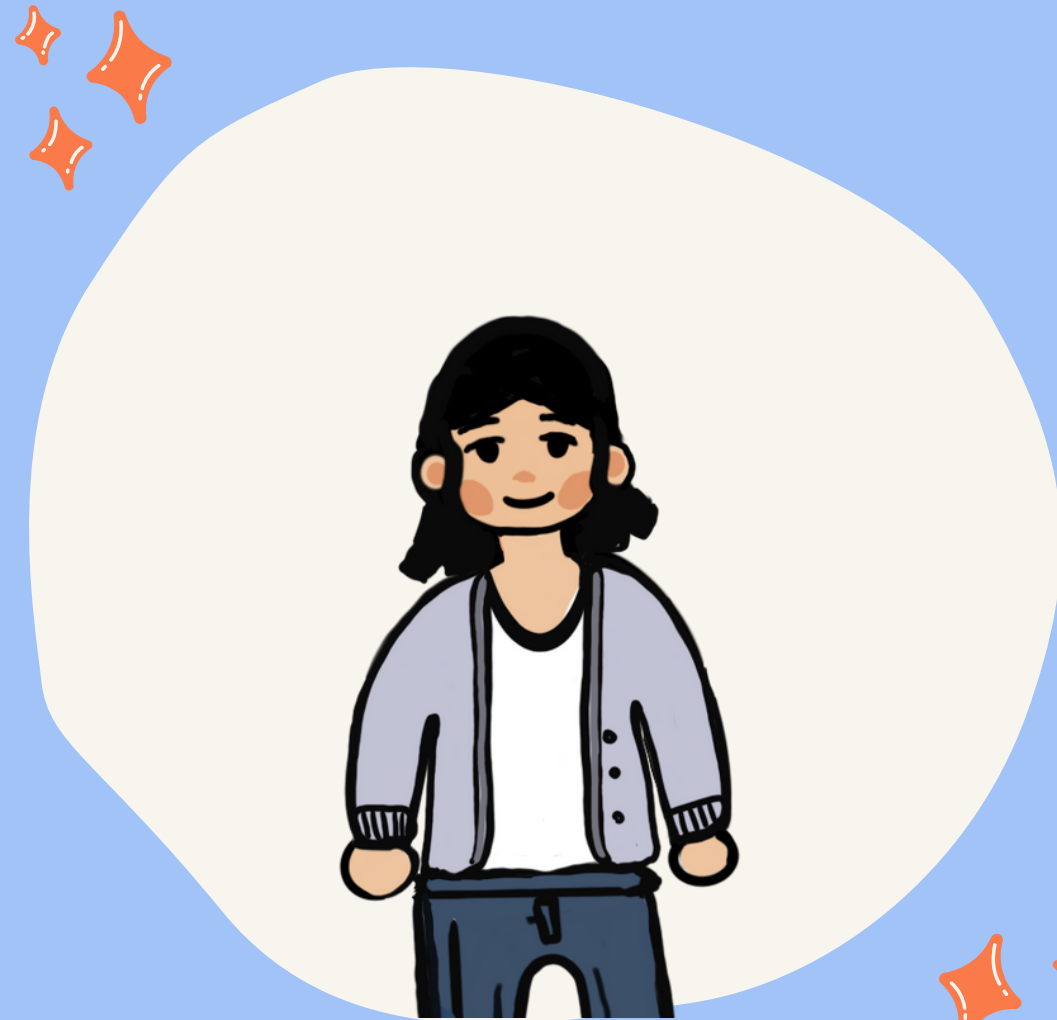


Zoha
UX Designer



INITIAL POINT OF VIEW

GISSELLE



We met...

Gisselle, a hard of hearing individual working in a pharmaceutical company

We were surprised to realize...

That Gisselle discovered live transcription in video platforms relatively late

We wonder if that means..

There is a lack of accessibility (unaware of recent updates to video conferencing calls) for general users

It would be game changing to...

Lower barrier of entry to digital accessibility features





NEEDFINDING PART II

WE INTERVIEWED 3 INDIVIDUALS



Jacklyn

Special education teacher at
an elementary school



Phuong

Special education instructional
aide and behavior technician

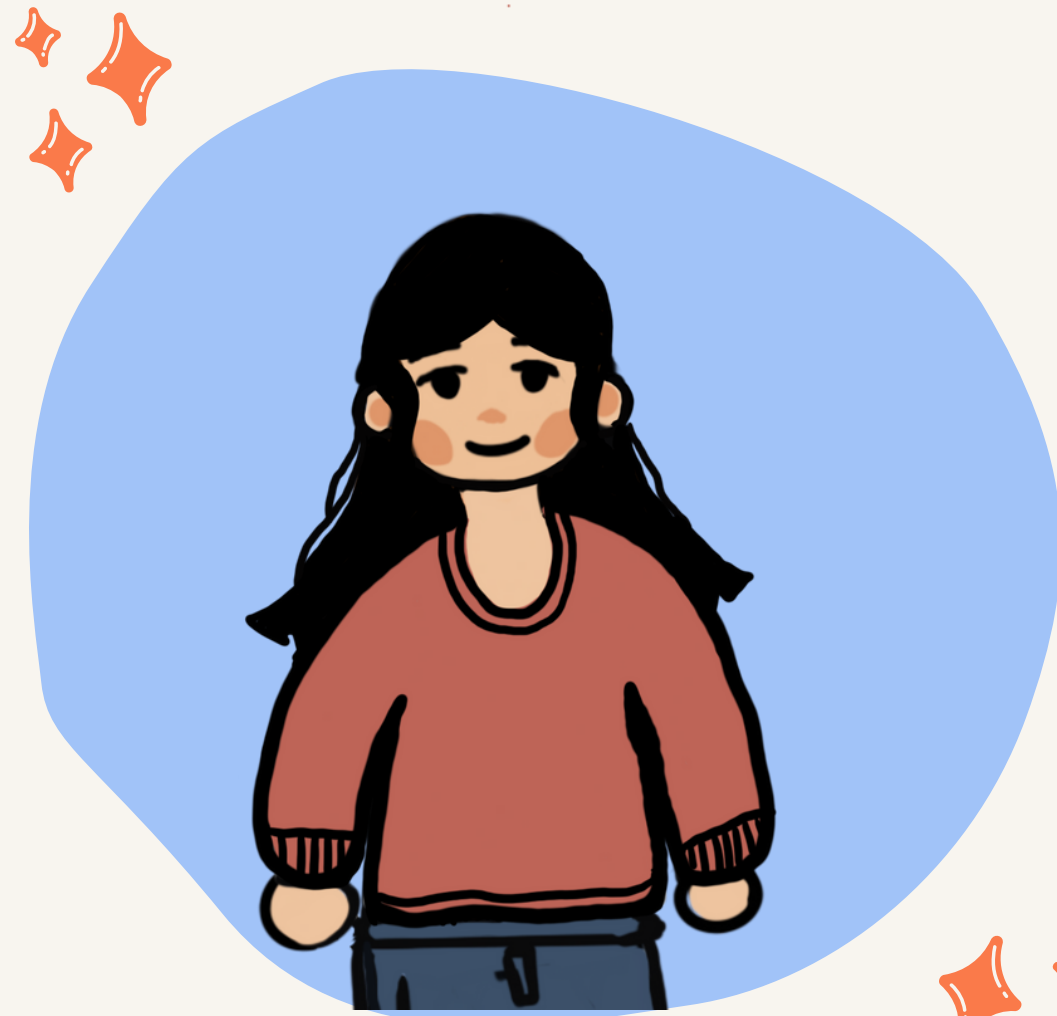


Branda

Student at Harvard
Former Kumon tutor
Former student at UCI

POINT OF VIEW

JACKLYN



We met...

Jacklyn, an elementary school teacher specializing in special education

We were surprised to realize...

That breakout rooms aren't meant for younger kids since they tend to talk over each other

We wonder if that means..

Have limited opportunities to collaborate with their peers

It would be game changing to...

Have a learning medium that would promote collaboration among young children



"It's like the moment you let one talk, you know it's like all of us like let me show you mine. It just creates more problems. For third grade, it was easier because you could use a group chat and we could put them in breakout rooms."

-Jacklyn

Special education teacher



Create a more engaging and collaborative medium for inter-student interaction

Make distractions a part of the learning process

Keep children accountable as if the teacher was in the room with them

Allow students to be in their classes simultaneously in the same space

Measure the student's engagement with the material itself and/or classroom participation

Heighten engagement through the platform to drown out surrounding distractions

Strip Zoom and other conferencing platforms to be used only for one-on-one communication

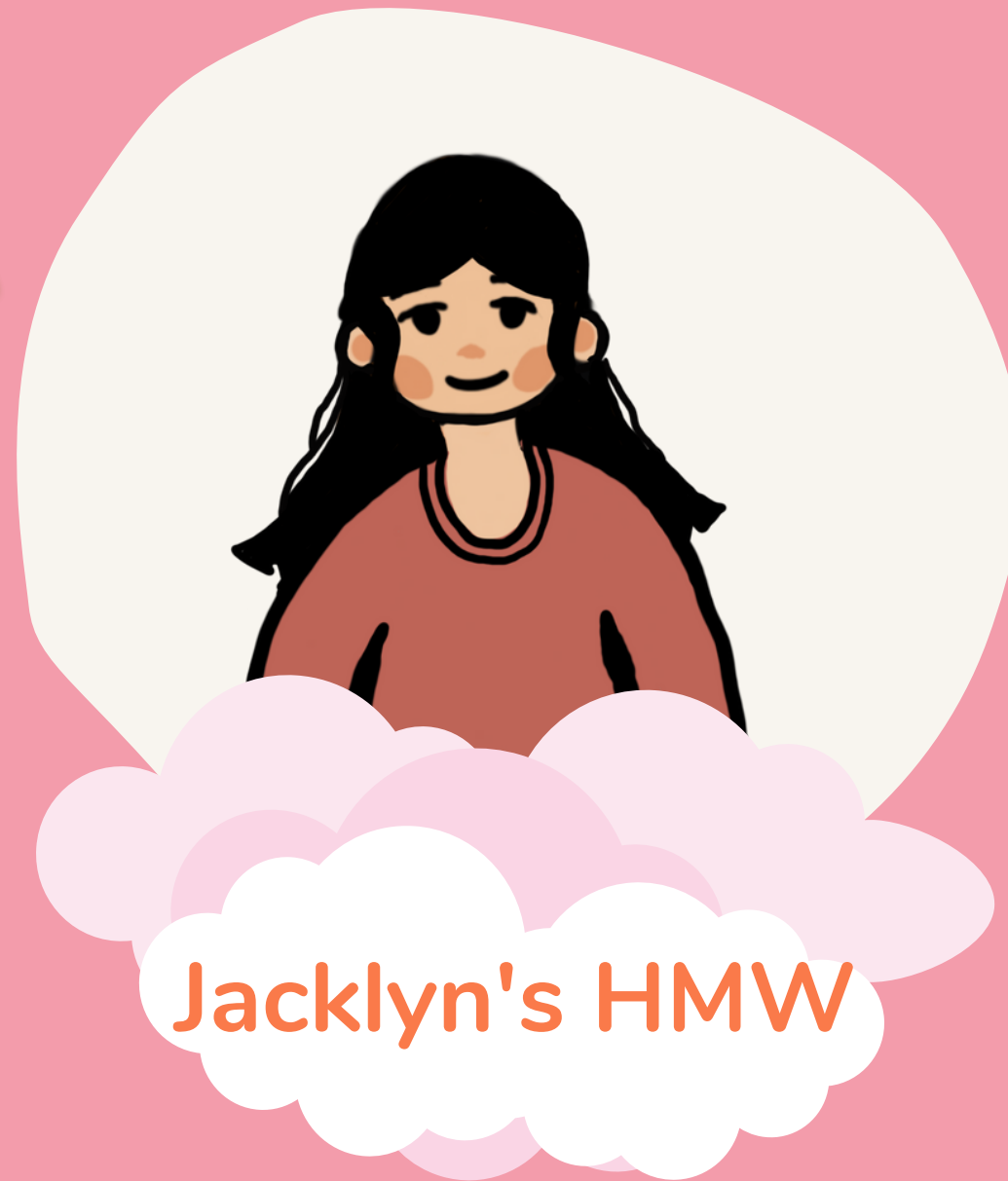
Monitor the student without the parent being physically present in the room

Translate directions for parents/guardians to understand assignments

Make learning so efficient that learning conditions aren't a significant issue

Convey instructions to student/parents without explicit text, i.e. graphics

Create "quiet spaces" for students in a busy household



Jacklyn's HMW

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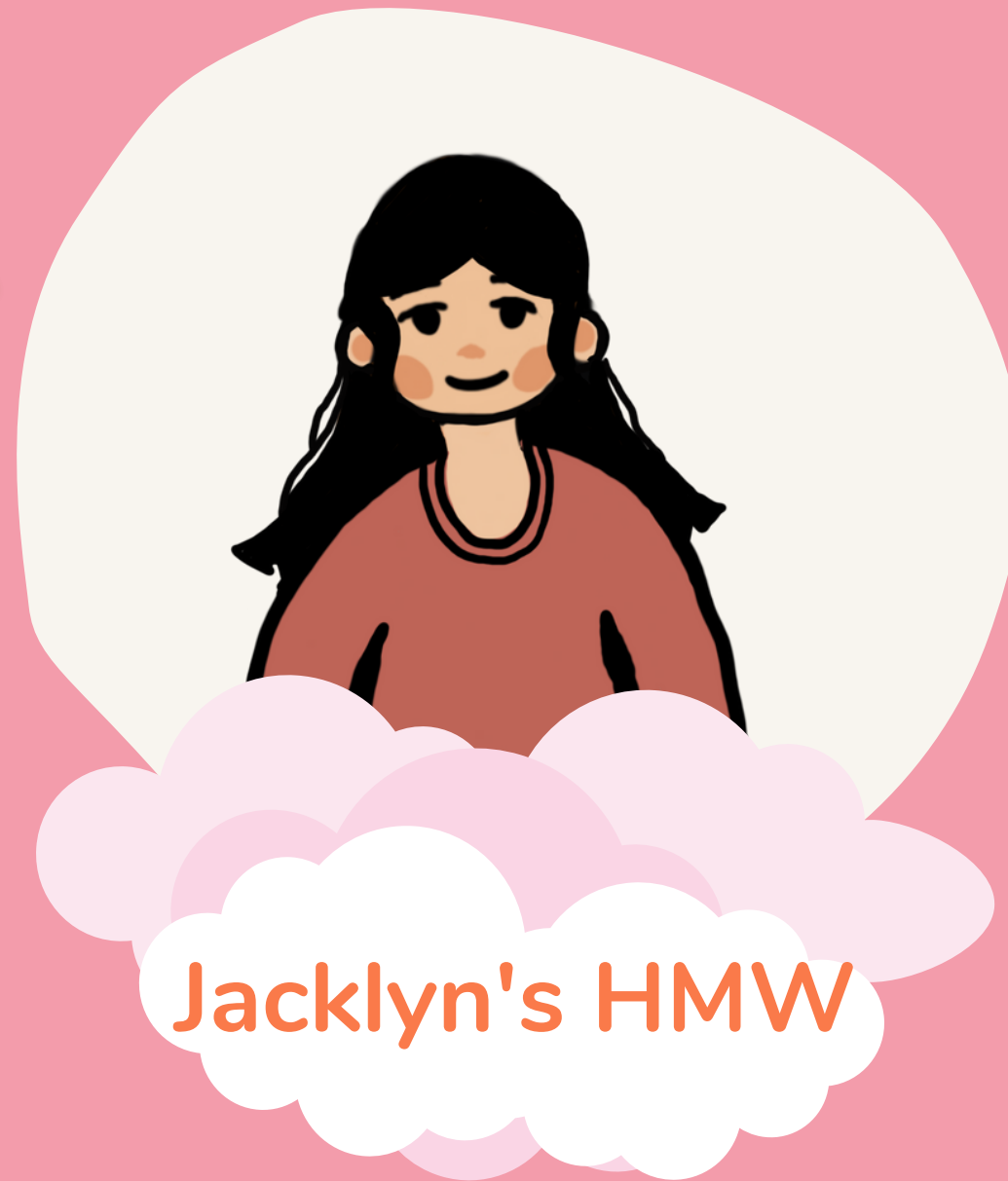
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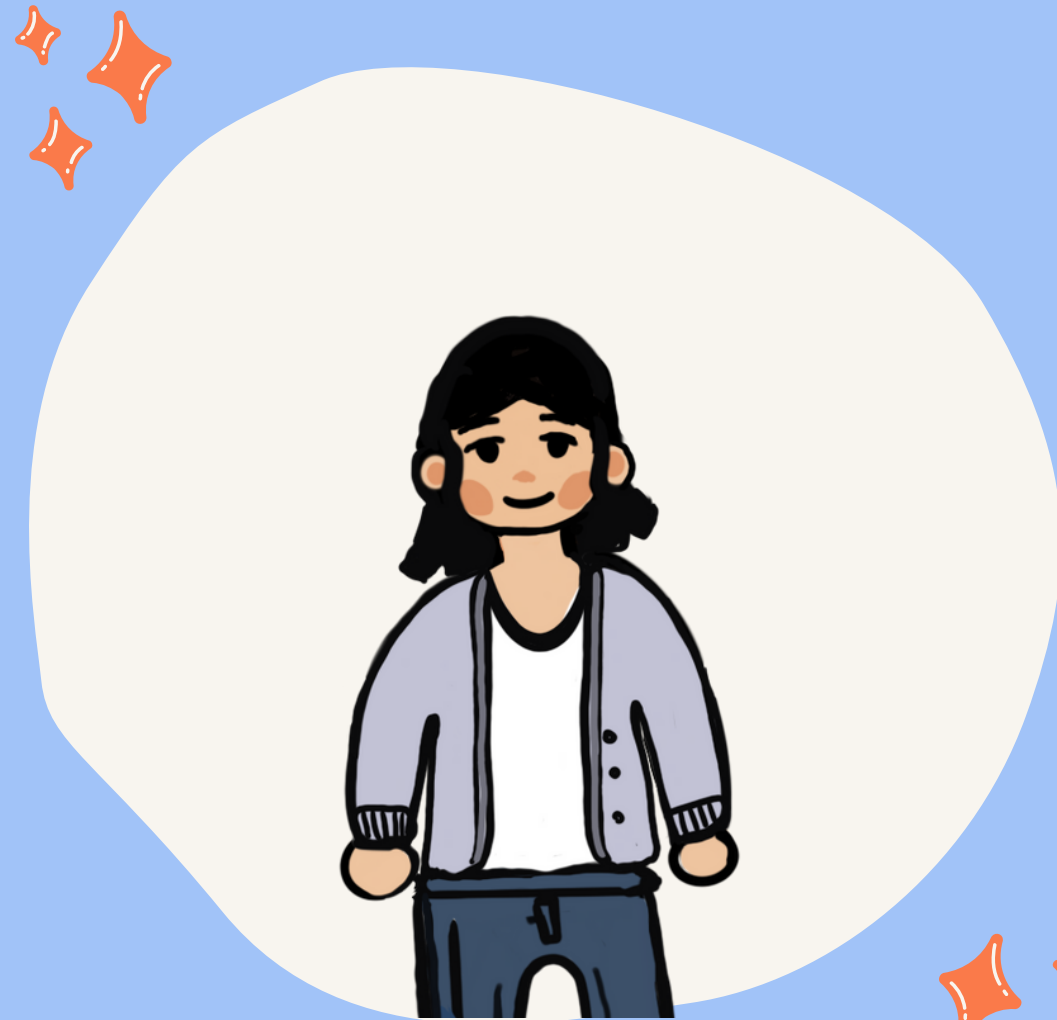
Create "quiet spaces" for students in a busy household



Jacklyn's HMW

POINT OF VIEW

GISSELLE



We met...

Gisselle, a hard of hearing individual working in a pharmaceutical company

We were surprised to realize...

That Gisselle learned best as she opened discord for chats during classes on her phone alongside Zoom.

We wonder if that means..

Gisselle needs to put in extra effort to be at the same pace as her peers

It would be game changing to...

Have a space where Gisselle does not have to go back and forth between different platforms during her classes



“ I shouldn't have to provide my own technology. if I do, then it should be provided from the disability office.”

-Gisselle

(Hard of hearing individual)





Giselle's HMW

Enhance video conferencing tools to have chat or collaboration features in it

Lessen the need for users to use additional resources to improve their learning experience.

Create an inclusive learning environment for students with learning differences.

Help users with additional barriers they face due to hearing/visual impairments when they use popular online learning platforms like Zoom.

Provide support of the instructors, peers, friends and families for students facing learning differences specifically in making them more confident and comfortable in the learning environment?

Create a consolidated place of all necessary applications for learning

Provide the appropriate accommodations for students with learning differences so that they can have the same learning experience as their peers.

Create a community in virtual classrooms to increase interactivity amongst students

Encourage a supportive learning environment for students with learning differences.

Provide additional resources for students that would help reduce the additional workload that students with learning differences have to deal with during their online learning?

Lessen the need for users to use additional resources to improve their learning experience.

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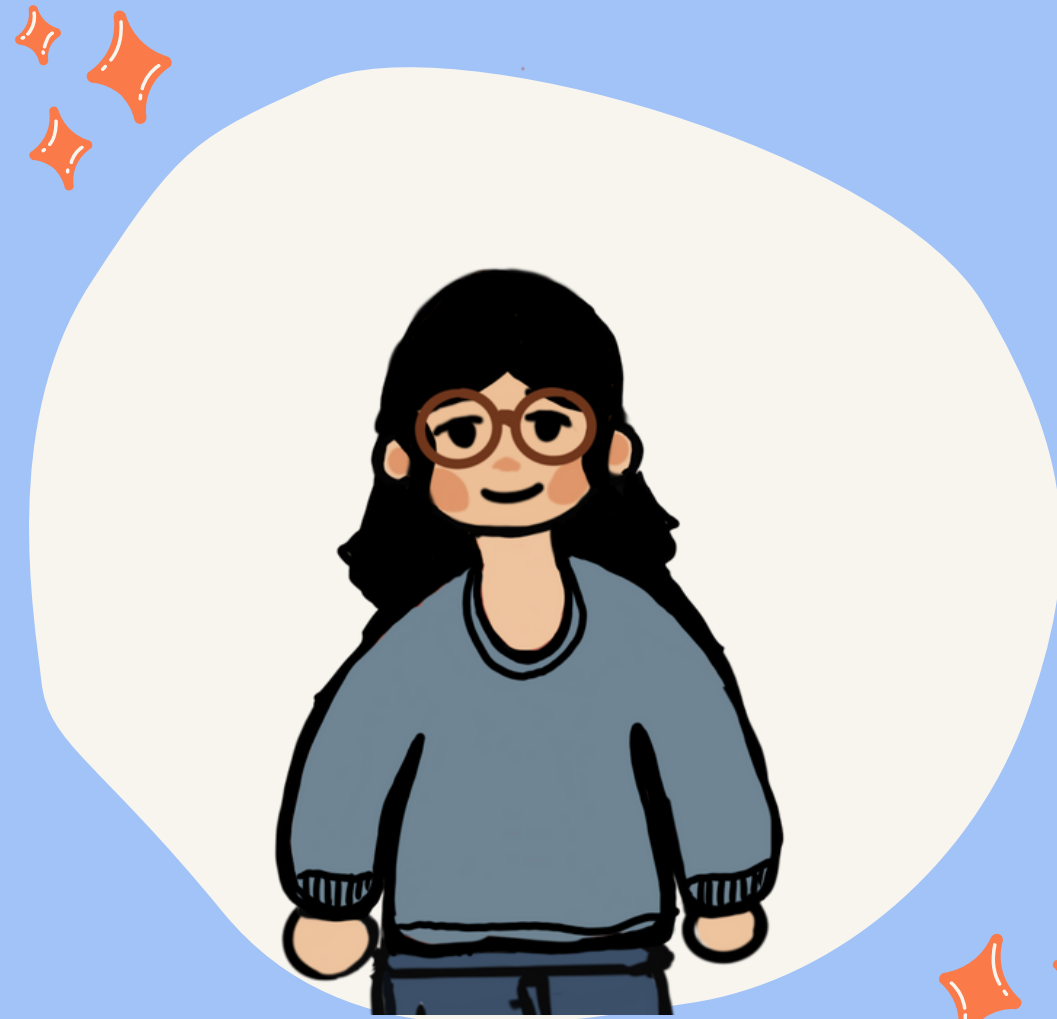
Giselle's HMW

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POINT OF VIEW

BRANDA



We met...

Branda, A kumon tutor who worked with young children during remote learning

We were surprised to realize...

Young children had a difficult time navigating through Zoom and she needed to guide her children through the different features on this platform.

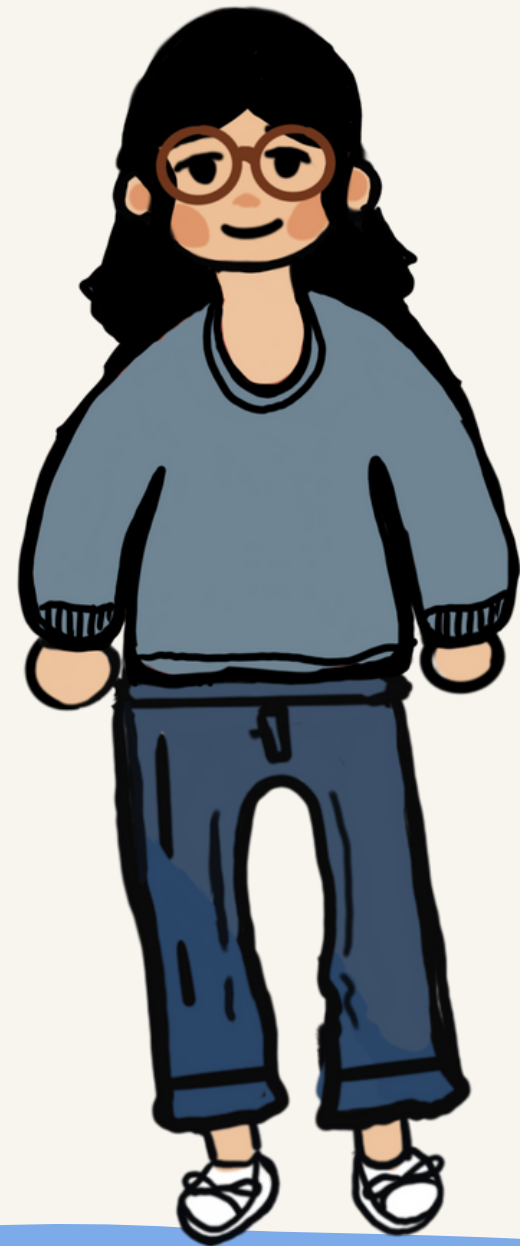
We wonder if that means..

The platforms children had to use during remote learning were not suitable for their age group.

It would be game changing to...

Include additional features that would allow young children to utilize these platforms with little to no adult support.





"Obviously, Zoom wasn't built for kids. It's built for adults. In the end, I think that just ended up being the platform that was used for students, but it wasn't really I think right for them."

-Branda

Allow physical movements (gesturing, pointing) to be "felt" in the digital space

Lessen the need for educators to use additional resources to improve their students' learning experience.

Integrate student engagement based on relevant trends and topics

Provide a child-friendly learning platform for children to independently navigate through.

Keep children engaged and accountable when using virtual collaboration platforms.

Create a learning environment to spark a meaningful two way discussion between the educator and students.

Encourage the children's own accountability in keeping themselves responsible



Branda's HMW

Emulate the supervision of an adult in a virtual format

Create a more impactful sense of authority on the part of the teachers that exist virtually for young children

Identify the features that traditional platforms don't get quite right, and further optimize for young children

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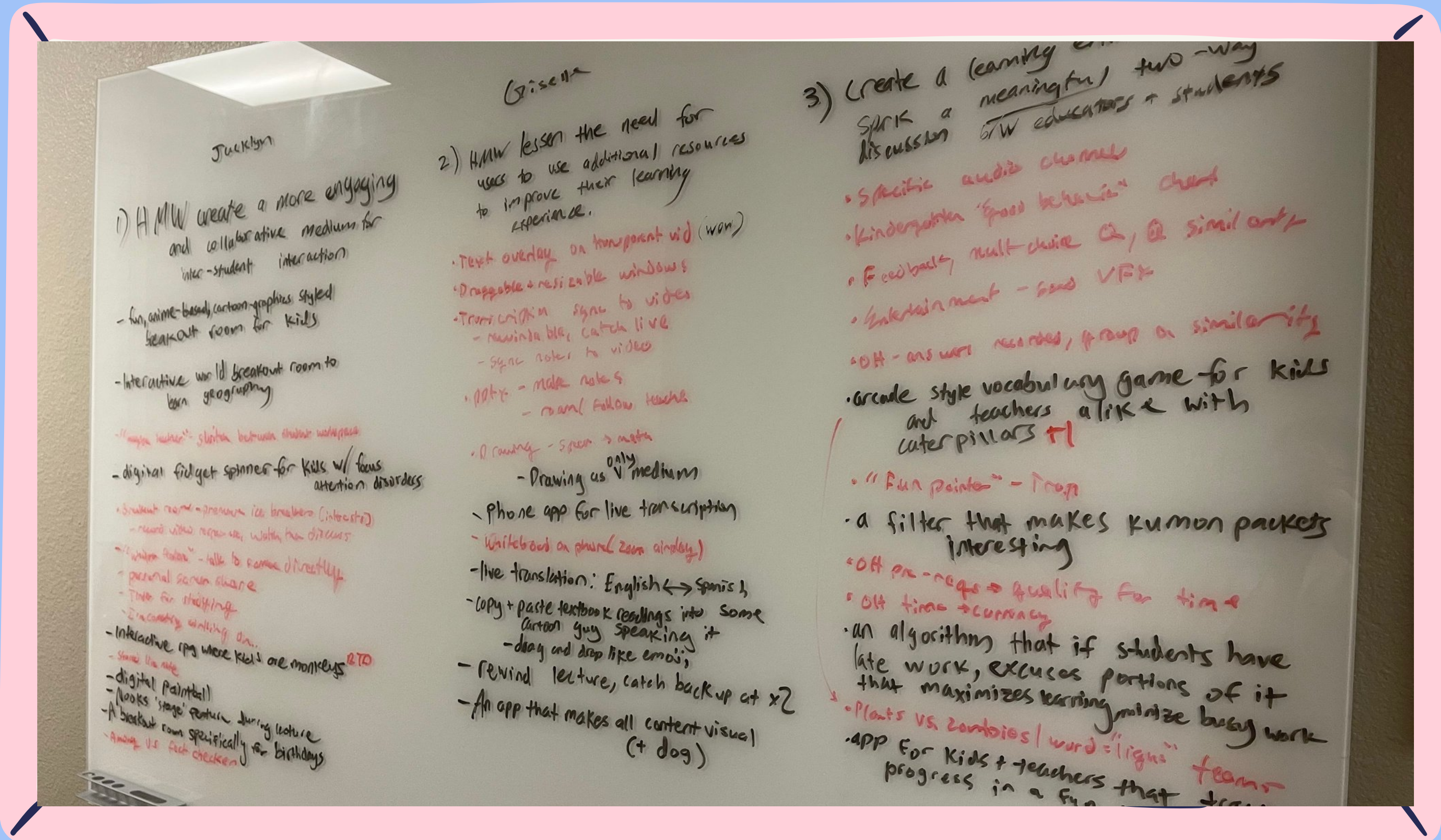
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BRAINSTORMING THE SOLUTION



HMW CREATE A MORE ENGAGING & COLLABORATIVE MEDIUM FOR INTER-STUDENT INTERACTIONS

Fun anime-based cartoon graphics styled breakout rooms for kids

Digital Fidget Spinner for Kids with focus attention disorders

A breakout room specifically for birthdays

Shared live note

Interactive world breakout room to learn geography

Interactive rpg where kids are monkeys

"Whisper feature" - switch between student workspaces

Among us fact checker

Digital Paintball

Nooks 'stage' feature during lecture

Tinder for studying

Private screen share during class

HMW LESSEN THE NEED FOR USERS TO USE ADDITIONAL RESOURCES TO IMPROVE THEIR LEARNING EXPERIENCE

Copy & paste textbook readings into some cartoon speaking it

Drawing as only medium

An application that makes all content visual (+dog)

Transcription sync to video: rewindable, catch live

Phone app for live transcription

Drag and drop like emoji

Text overlay on transparent video

Powerpoint -> make notes, roam/follow teacher

Live translation (english ->spanish)

Rewind lecture, catch backup at 2X

Draggable and resizeable window

Drawing: speech -> text

HMW CREATE A LEARNING ENVIRONMENT TO SPARK A MEANINGFUL TWO WAY DISCUSSION BETWEEN EDUCATORS & STUDENTS

Grade style vocabulary game for kids and teachers alike with caterpillars

keep track of progress in a fun way for both children and teachers

Feedback, Multiple choice Questions, Question similarity

OH pre-reqs -> qualify for time

An algorithm that if students are late to work, excuse portions of it that maximises learning

Specific audio channels

OH - answers recorded, group by similarity

OH time -> make it a currency

A filter that makes kumon packets interesting

Kindergarten "good behavior" chart

"Fun Pointers" -> transform all dimensions to something more engaging

Plants vs Zombies word = "light" + teams

WE CONDUCTED USER TESTING WITH 3 INDIVIDUALS



Deena

Afterschool counselor



Karin

Educator
LDT Program Director



GG

student at Stanford



Gaming While Learning Prototype





Gaming While Learning Prototype

Description:

Participants played the mobile version of Among Us. Along with playing the game, they had a spreadsheet open with a series of questions that they must answer.



Assumption:

- 1) People naturally work together to figure things out
- 2) People naturally work together to figure out the imposter



A1 | fx

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[EXAMPLE](#)

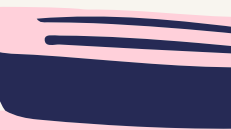
RESULTS

What worked: Participants were actively working on their tasks and problems they needed to answer.

Surprises: The players were not talking to each other, while they were playing the game.

New learnings: The participant mentioned that her students would love to play this game because Among Us is a popular game for children from the ages of 6 to 9 years old.

What didn't work: One of the players kept disconnecting from the game, which completely removed the individual from playing the round.



VALIDITY

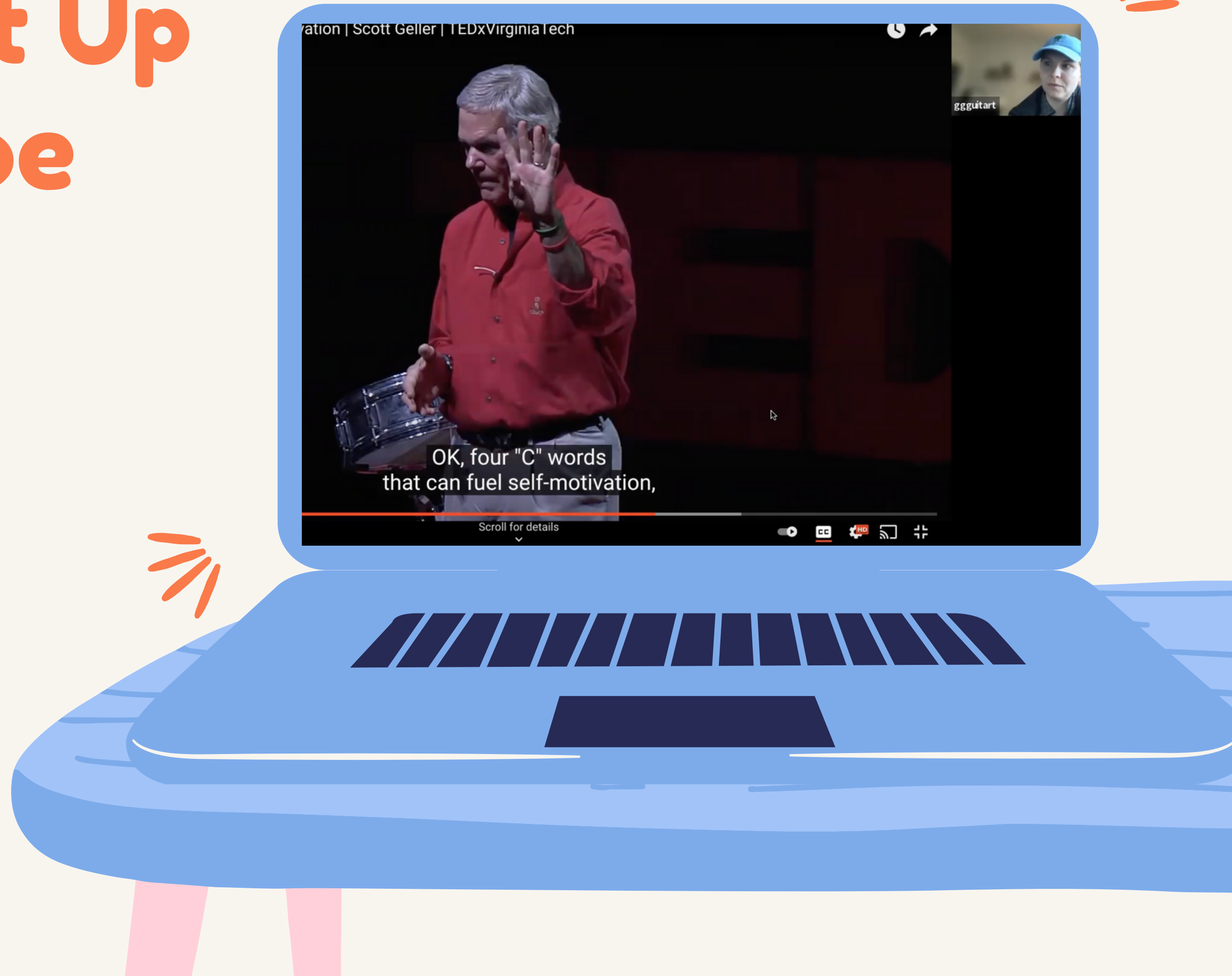
Before: Our assumption was that students and young children alike are able to benefit from memorable learning experiences as a result of engaging in fun and exciting games.

Why: Studies show that when students have fun, they are much more engaged and much more likely to retain the information.

New Assumptions: After user testing Among Us among us, we felt that it's important to strike a balance between fun experiences and educational learning outcomes.



Switching It Up Prototype



Switching It Up Prototype

Description:

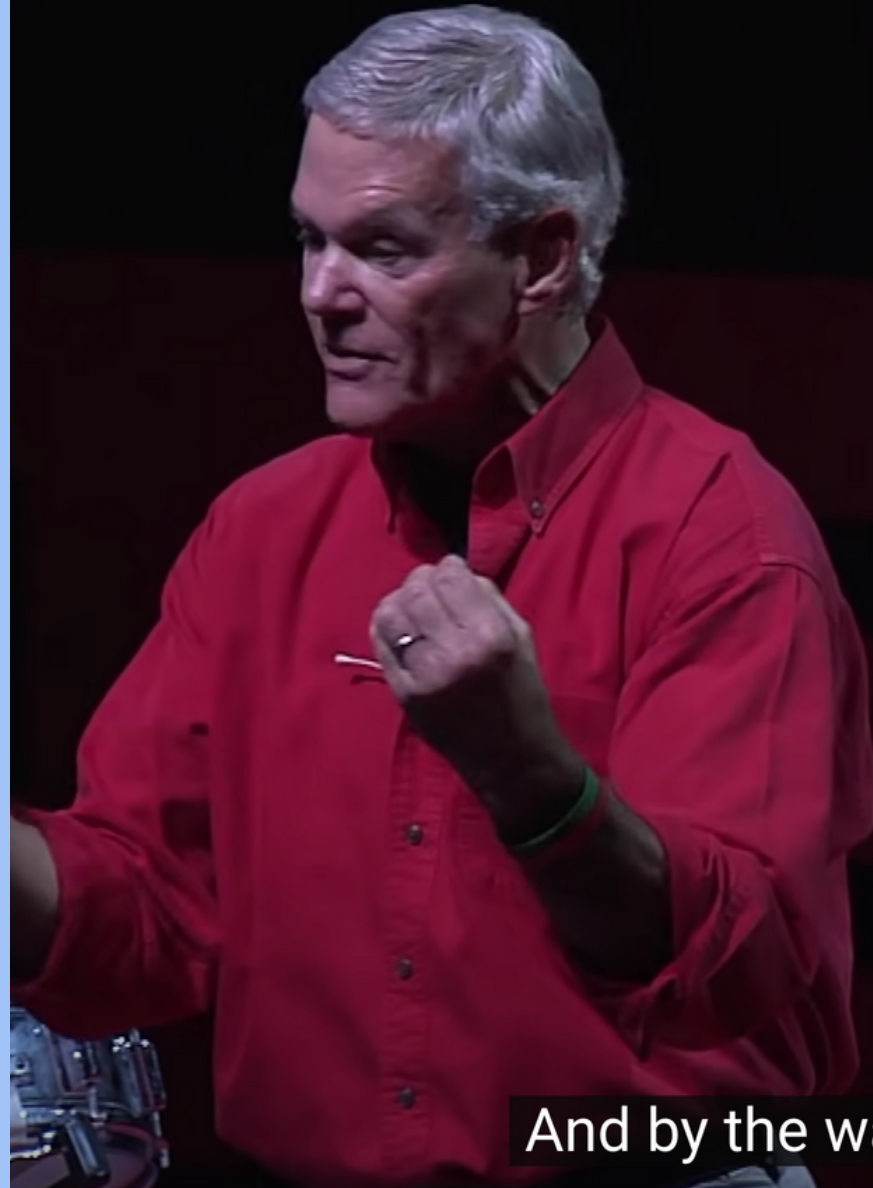
Participants watched a TED Talk. We toggled between subtitles, volume, and speed three times throughout the video. We stopped the video three times to test the participants' knowledge.



Assumption:

- 1) Using rewind and/or x2 speed features in videos should feel natural.
- 2) Users can switch from x1 speed to x2 without much comprehension loss.

Self-motivation | Scott Geller | TEDxVirginiaTech



And by the way,



So I would advise you to take notes/understand whatever is being presented so you would be able to answer the questions we ask you. Happy testing!

Play this video: [The psychology of self-motivation | Scott Geller | TEDxVirginiaTech](#) on 1x speed without subtitles

Time stamp: 5:55 pause

and ask the user the following questions:

- What are the three questions we should ask our workers to see if they feel empowered?
 - Can you do it? Self-efficacy.
 - Will it work? Response efficacy.
 - Is it worth it?
- How do you inspire people to feel competent?
 - You give them feedback/recognition
- Which book changed Scott Geller's life?
 - Beyond Freedom and Dignity BF Skinner
- What did Scott Geller realise after reading the book?
 - I am controlled by consequences but sometimes he doesn't feel controlled.
- What is negative reinforcement?
 - When I am working for a pleasant consequence, it feels good, like i'm working to get something. When i am working to avoid an aversive situation I feel controlled.

Now continue, lower the voice and then listen to the video with subtitles

Time stamp: 10:39 pause

- How many students did Scott Geller teach in his intro to psychology class?
 - I teach two classes of 600 students.
- What book does he refer to when using the quote 'When you perceive choice, you perceive motivation'?
 - Mindfulness book by Ellen Langer.
- Why is social support critical?
 - People who perceive relatedness/connectedness with other people feel motivated and they are happier.
- In the poem, what did the man do to the last cookie?
 - He broke it in half
- In the poem, why was the women surprised?
 - She found her bag of cookies in the bag

Now continue, increase the video speed to 2X and add the subtitles and start playing again

Time stamp: Towards the end

- What lessons did Scott take that was inspired by Buddy Rich?
 - Drum lessons
- Why was he ahead of the drumming lessons his teacher provided him?

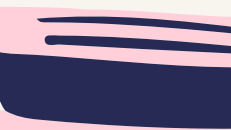
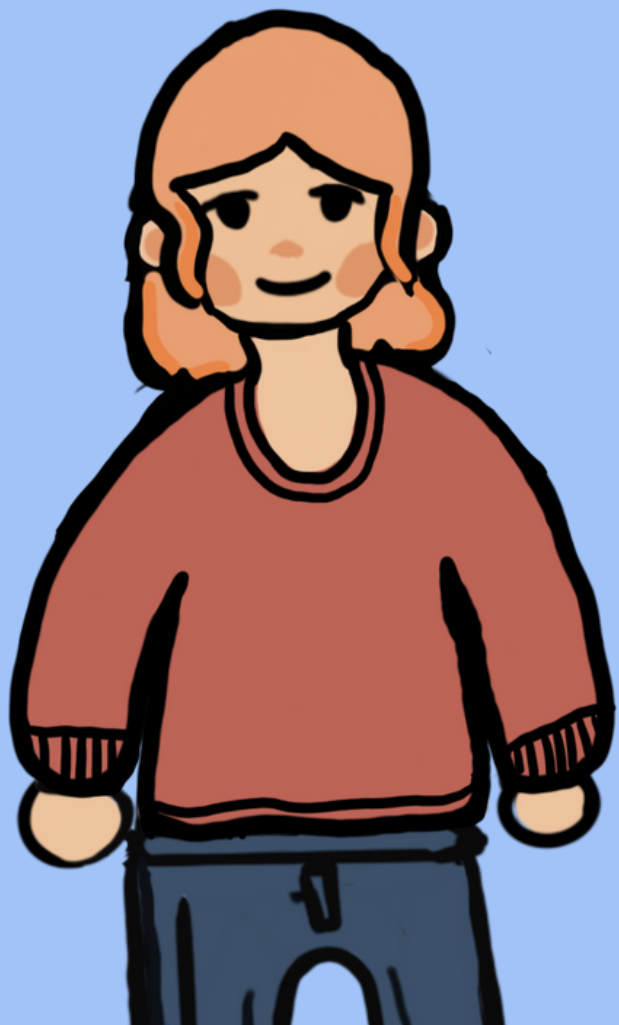
RESULTS

What worked: Adjusted the speeds for the same video to simulate different conditions

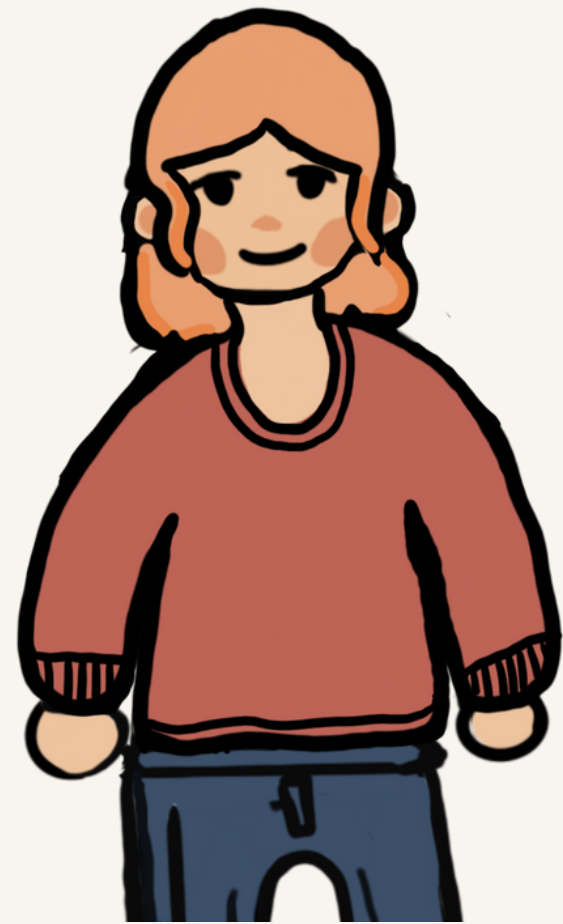
Surprises: GG answered the questions almost all correct for subtitles and 2x but not for 1x

New learnings: GG wanted to listen to just the audio without the video (particularly for YouTube)

What didn't work: She was able to predict the type of questions based and fish for the answers



VALIDITY

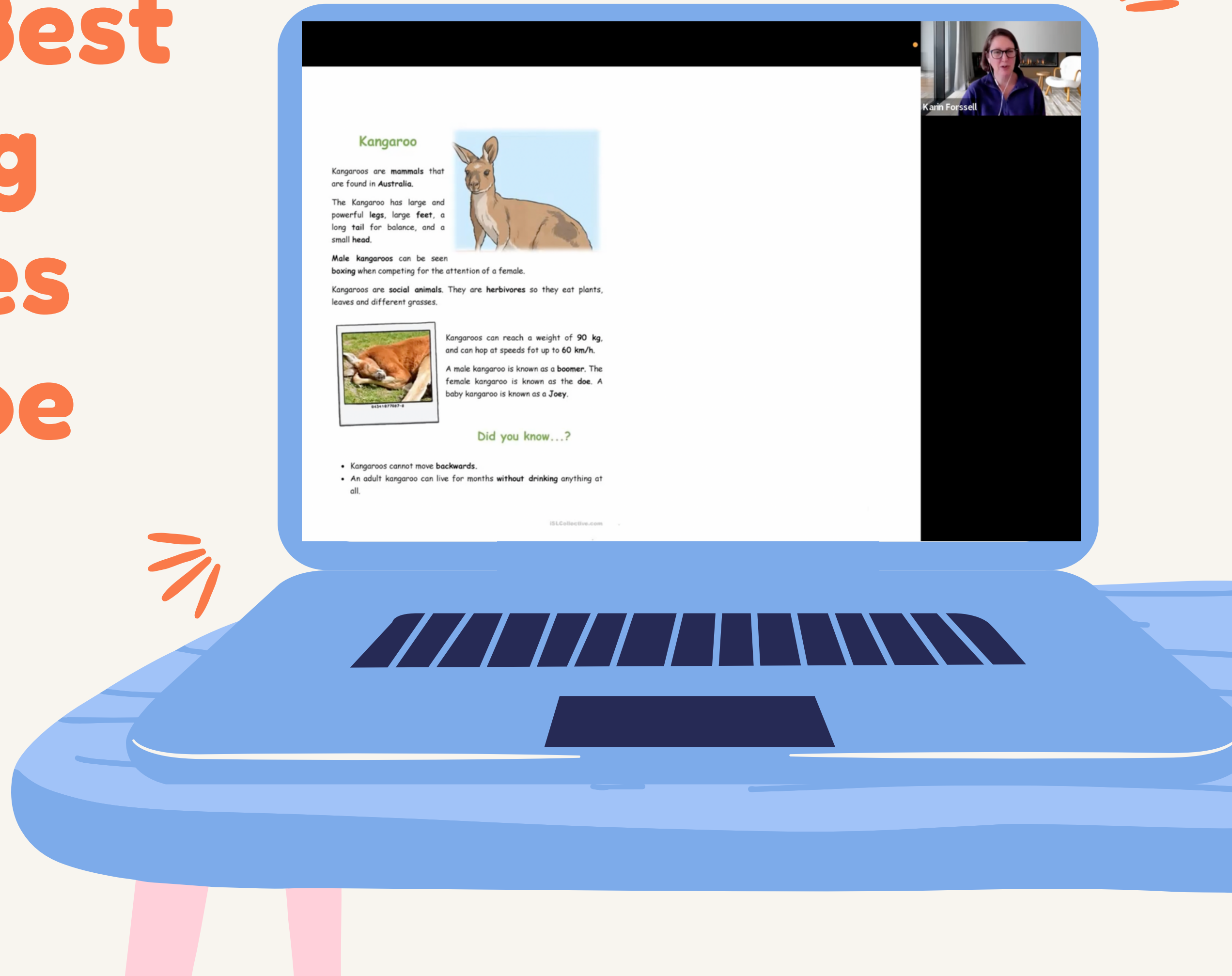


Before: Our assumption was that students would have better retention and comprehension for videos that are slower and better sound quality

Why: We imagined that students would find it easier to keep a track of the lecture when watching it on the speed that it was intended for.

New Assumptions: After student testing with GG, we realized that she preferred watching with subtitles on and had a better learning outcome when learning at 2X speed.

Choosing Best Learning Outcomes Prototype





Choosing Best Learning Outcomes Prototype

Description:

Karin, a middle school educator, was given a series of educational material on different topics, each with varying amounts of images. Next, Karin did an activity to choose best placements for images on text.



Assumption:

- 1) Visual content is better than non-visual content
- 2) Dogs are popular and cute



Dogs: Golden Retrievers

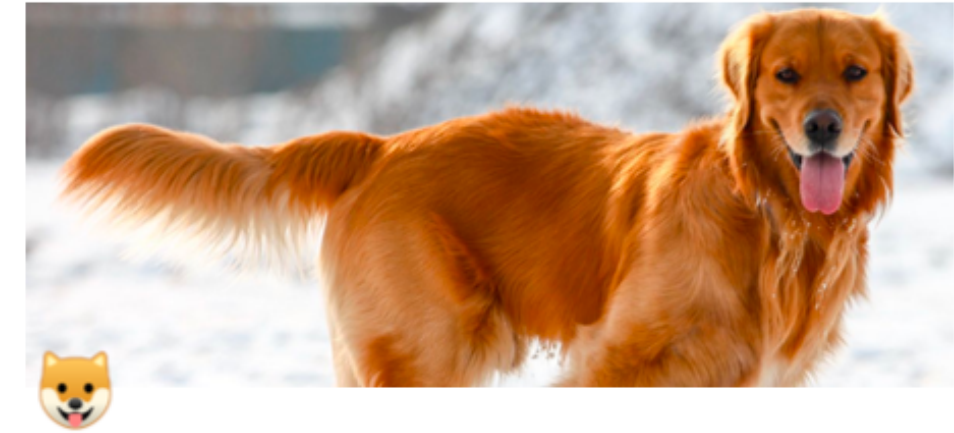
The Golden Retriever is considered an intelligent, gentle natured and very affectionate breed of dog. As is typical with retriever breeds, the breed is generally calm and biddable, being very easy to train and extremely keen to please their master. The breed is known to make excellent pets and family dogs, being generally extremely tolerant of children and keen to accompany any member of the family in a range of activities. Due to their affable natures, the breed is often completely devoid of guarding instincts.

The breed usually retains many of their gundog traits and instincts including an excellent sense of smell and a strong instinct to retrieve; even among those not trained as gundogs it is typical for Golden Retrievers to present their owners with toys or other objects.

Compared to other retriever breeds the Golden Retriever is typically quite slow to mature. Typically it will take approximately 18 months for your Golden Retriever to become an adult dog. Even though they can reach their full height at anywhere from 9 to 12 months, it will usually take them longer to fill out to their full weight.

The Golden Retriever is one of the most commonly kept breeds of companion dog in the Western world, and is often among the top ten dog breeds by number of

registrations in the United Kingdom, the United States, Australia and Canada. It is a frequent competitor at dog shows; separate show lines of the breed have been developed. The dogs can be trained



Dogs: Golden Retrievers (w/ pictures)

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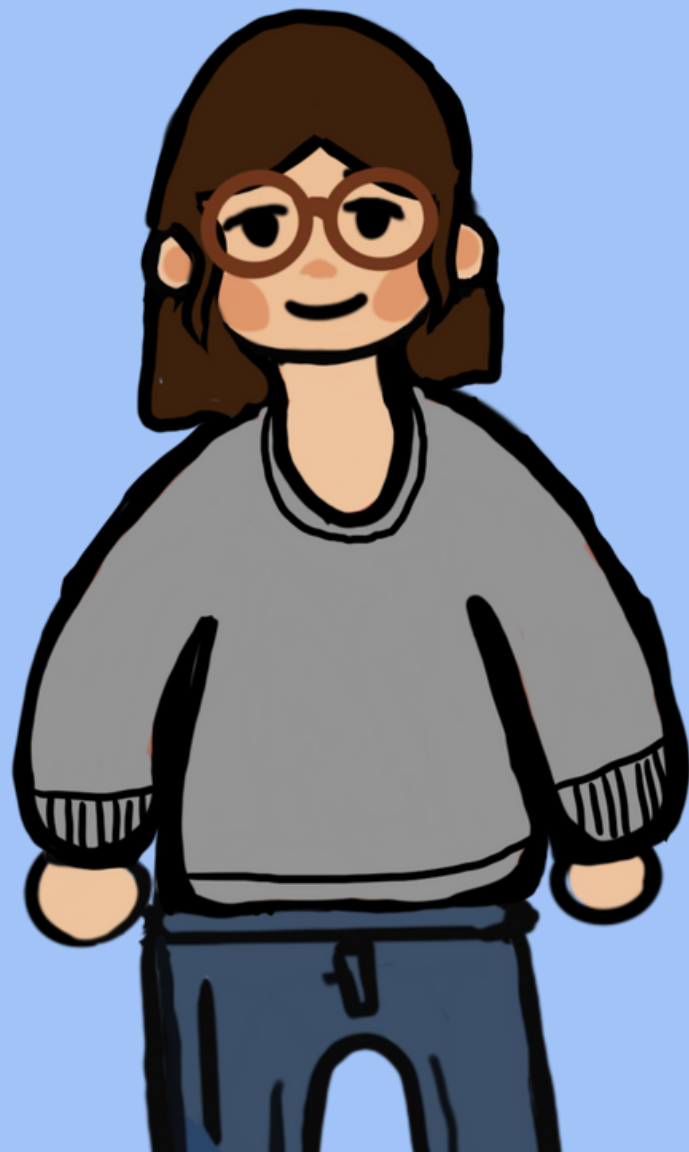
RESULTS

What worked: Karin was excited about the potential for educators to utilize easy-to-use graphic design in their curriculum.

Surprises: Karin mentioned the potential for text fonts to be dyslexic-friendly.

New learnings: There needs to be options for teachers to customize the worksheets based on students' with learning differences.

What didn't work: The participant wished that there was more methodical testing to test comprehension with images and without images.



VALIDITY



Before: Our assumption was that educators and students alike would appreciate an easy-to-use, customizable worksheet editor.

Why: We imagined that students would enjoy customizable templates to make it easier to read for themselves.

New Assumptions: After user testing with Karin, we found a strong, unmet user need for middle school teachers not having the knowledge or skillsets to customize worksheets to their liking.

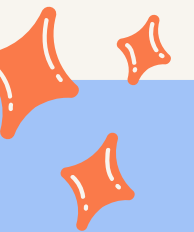
SOLUTION

Some solutions that worked well during testing included:

1. easy-to-use and customizable templates for early education and students with learning differences
 - a. Identified that teachers creating worksheets by hand = burnout
2. auto-transcription and rewind features for lectures and videos to accommodate learning differences

More testing: The Among Us solution requires more testing (eg. gamification rules, balancing educational material with fun elements)

After this past week, we narrowed our domain to the education space for students with learning differences.



The communities we left out were general users like college students and working professionals, opting instead for young students and educators.

SUMMARY

- We found that the players were actively engaging and enjoying playing the educational game when they had to compete against their peers.
- We realized that there was a potential need for educators to have the opportunity to customize their worksheet
- We found that our participant enjoyed customizing the video playing features.

NEXT STEPS

**Sketch cartoons
+ animations**

Storyboard plot

**Create concept
video**

**Begin website and
adding relevant
files**



APPENDIX

- POV
- Gaming While Learning
- Prototype
- Switch It Up Prototype
- Choosing Best Learning Outcome
- Consent Forms





**THANK YOU FOR
LISTENING TO OUR
PRESENTATION AND
KEEPING YOUR
MICROPHONE
ON MUTE! 😊**