

The background features a large, irregular teal watercolor splash in the center. Two thin, dark teal lines are drawn across the page, one starting from the top left and curving towards the center, and another starting from the top right and curving towards the bottom right. Both lines end in small, stylized, looped shapes.

Team 2

Language Immersion in AR/VR

Team Members



ANNA CHANG



SELAINÉ RODRIGUEZ



WILMER ZUNA LARGO



AMANDA HUYNH



YSLETA *del sur* PUEBLO

Ysleta del Sur Pueblo



Problem Domain

Immersive Language Learning

Education and AR/VR Technology

The background features abstract, organic shapes in shades of teal and light green. A prominent dark teal line starts from the top right, curves downwards, and then forms a series of loops and curves in the bottom right corner. The text "Initial POV" is centered on the left side of the image.

Initial POV



Additional Needfinding Results

Initial POV

The initial POV we created in Studio was based on one of our first needfinding interviewees:

We met Claudia, a Hispanic Stanford Chef, Culinary student, and mother of 3, who learned English after immigrating to the U.S.

We were surprised to notice as an active English learner, Claudia implements a strict No-English speaking rule at home, despite the desire to want to practice it [English] so that she does not become over-dependent on her children.

We wonder if this means that Claudia prioritizes her children by making sacrifices in regards to skill learning and time so that they maintain their language and culture.

It would be game-changing to provide encouragement and support in balancing her language roots and goals.

Needfinding Interviewees



Adria

Age: Early-50s

Occupation:

Spanish Teacher

Languages:

English, Spanish,
French



John

Age: Early-60s

Occupation:

Math Teacher

Languages:

English, Spanish,
German



Chris

Age: Early-20s

Occupation:

College Student at
NMSU

Languages: English,
Spanish, South Tiguano



May

Age: Early-40s

Occupation:

Japanese Professor

Languages: English,
Japanese, Korean,
Chinese

Needfinding Interview Results

Things we found different:

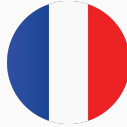
- **Immersion**
 - Current tools do not offer this
- **Culture**
 - Cultural dishes and traditions
 - Particularly for our indigenous interviewee
- **Easier/more approachable to learn similar languages**
 - However, not as interested because it was “too easy”



POVs



Adria



Age: Early-50s

Occupation:

Spanish Teacher

Languages:

English, Spanish,
French

POV:

We met Adria Hernandez, a high school Spanish teacher who has taught at a predominantly Latinx/bilingual school for 24 years.

We were surprised to notice that she was openly communicating that the school's administration's approach to language learning did not align with what her professional opinion was.

We wonder if this means that she prioritizes the "survival instinct" or immersion form of language learning rather than the standards-based form of achievement-measuring.

It would be game changing for Ms. Hernandez to have access to learning environments/tools that can provide a form of immersion while still being in the classroom.

John



Age: Early-60s

Occupation:

Math Teacher

Languages:

English, Spanish,
German

POV:

We met John Gullickson, a retired veteran stationed in Germany during his time in the army and current high school Math teacher who has taught at a predominantly Latinx/bilingual school for 24 years.

We were surprised to notice that despite not completely-understanding Spanish and struggling with learning it himself, he allows students to speak Spanish freely in the classroom.

We wonder if this means his teaching style is influenced by his initial experiences with learning German while in Germany.

It would be game changing to create a similar friendly experience for Mr. Gullickson while he continues to learn Spanish.

Chris



Age: Early-20s

Occupation: College Student at NMSU

Languages:

English, Spanish,
South Tiguán

POV:

We met Christopher (Chris) Gomez, a college student at New Mexico State University (NMSU) and a member of the Ysleta Del Sur Pueblo tribe in El Paso, TX.

We were surprised to notice that the revitalization of the South Tiguán language was not a main priority of the tribe.

We wonder if this means that larger issues such as getting their land back from El Paso County and the Ysleta Del Sur Pueblo v. Texas court case are detracting from the cultural and social aspects of the group.

It would be game changing to mediate the larger needs of the community and the maintenance of their language and cultural roots.

May



Age: Early-40s

Occupation:

Japanese Professor

Languages:

English, Chinese,
Japanese, Korean

POV:

We met May Miao, a Chinese-born university professor who has taught Japanese for five years, motivated to begin studying Japanese herself by historical events between China and Japan.

We were surprised to notice that despite thinking that learning Korean was “too easy” and very similar to Chinese and Japanese, she has not stayed motivated to continue studying it beyond her PhD.

We wonder if this means that learners should study language and culture/history concurrently to stay interested.

It would be game changing to provide May with a way to continue studying Korean in tandem with better understanding Korea’s culture and history.

The background features a stylized map with green and blue regions. A dark teal line starts from the top right, curves down, and then loops back up towards the right side of the page.

HMW Statements

All HMWs

1. How might we provide cultural information for language learning?
1. How might we create a comfortable and non-judgemental environment for language practice?
2. How might we provide opportunities for language learners to practice speaking and listening skills?
3. How might we develop language learning guides for local schools to encourage them to teach the history of Native American tribes and the basics of their native languages, with the utmost respect?
4. How might we help indigenous tribes teach one another their languages without feelings of frustration when the other party doesn't understand or speaks too fast?
5. How might we make it easier for traditional tribe councils to connect and exchange languages from other nearby indigenous communities?
6. How might we appreciate Native languages and Native cultures in a respectful way in schools and minimize racism surrounding Native language pride?
7. How might we address financial concerns for traditional tribes in learning languages?
8. How might we ensure that individuals at any age can develop fluency in a language they are excited about?
9. How might we create opportunities for language learning without readily accessible immersive environments / native speakers?
10. How might we encourage indigenous tribes to provide more language learning opportunities for their younger generations so it is easier for the tribe to keep the language alive instead of defaulting to another language as their main form of communication?
11. How can we help indigenous tribes develop a language guide and resource for newer folks who are learning the language so the newer generations don't start to make up new words as they go?
1. How might we address the lack of resources that exists for indigenous languages?
2. How can we honor the oral practices/traditions of the culture while also aiming to provide resources of other forms (written, pictures, etc.)?
3. How might we tie the languages that are currently understood (English and Spanish) to the revival of their native language (South Tigua)?
4. How might we maintain the important cultural factors associated with different languages?

Top Three HMWs

01

How might we **foster survival instincts** in language learning?

02

How might we capture the **different dialects and nuances of language** that are not often taught in textbooks and other materials?

03

How might we **maintain the important cultural factors** associated with different languages while **respectfully appreciating the history and people** behind these languages?

Solutions

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Top Three Solutions

01

VR **choose your own adventure storylines** that places you in different scenarios you might encounter when you are abroad in a new country.

02

VR/AR **singing app** where learners can sing along prepared-AR music videos in **different dialects** of a language with subtitled lyrics/phonetic pronunciations.

03

AR/VR cooking application where you **prepare recipes and dishes from other countries while fully immersed** in another language.



Experience Prototypes

Experience Prototype Testers



Marlon

Age: Early-20s

Occupation:

College Student at U.C.
Merced

Languages: English,
Spanish, Cantonese



Sam

Age: Early-20s

Occupation:

College Student at
Texas A&M

Languages: English,
Spanish



Lauren

Age: Early-20s

Occupation:

College Student at
Stanford

Languages: English,
Spanish, Korean



Brenda

Age: Early-20s

Occupation:

College Student at U.T.
Austin

Languages: English,
Spanish, French

Chinese & Spanish/English Immersion

Welcome to the
Choose-Your-Own-Adventure
Language Learning Immersion
Game

1

At any time, you can use the following Zoom reactions (or verbally mention) to ask us to:

- ❤️ Repeat the Phrase
- 🐢 Slow down and repeat the phrase
- 🗨️ Reword the Phrase

Today's adventure is: Traveling from
Beijing to the United States

3



4



5



6



7



8



9



10



11



12



13



14



15



16

YOU SURVIVED !!!!

17



Assumption

We assumed when users are immersed in real-life tasks in another language, this would prompt them to foster survival instincts in language learning.



Results

Having different ways for users to interact with the scene and learn at their own pace motivates users to learn.



Learnings

Learners comprehend better with visuals and guiding prompts to help them find answers when learning a new dialect.



Validity

Our assumption remained correct but this experience also helped us learn how to capture differences in various dialects of a language.



Assumption

We assumed someone who has learned a language would feel comfortable engaging and practicing in an immersive learning experience.



Results

Although Sam has background in the language, she doesn't have the Spanish accent and feels embarrassed of her own accent.



Learnings

Although users might learn a language, they might still feel certain aspects of learning a language (speaking, reading, writing, etc) are still difficult to master.



Validity

It was a nice experience for Sam but she would cringe if she had to hear a playback so she wasn't completely comfortable (but it would help).

Korean / English Cooking

Welcome to the
Cooking 
Language Learning Game

At any time, you are welcome to verbally ask us to:

- Repeat the phrase
- Slow down and repeat the phrase
- Reword the phrase
- Say the phrase in English

Do you have any questions so far?

Today we are cooking ramen!
오늘은 라면을 끓일 거예요!

Are you ready?
준비됐나요?



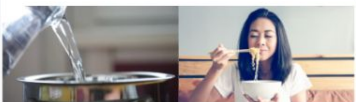
부엌 OR 거실



부엌



물을 끓이다 OR 라면을 먹다



Cuisine28



라면 스프

물이 끓고 있을 때 OR 물을 빼고 나서



ENJOY !!!!



Assumption

We assumed full immersion in a cultural activity (cooking food from the language's culture) would encourage users to learn and use new vocabulary.



Results

Language learners are more confident using the language when in low-risk situations.



Learnings

Learners comprehend more with subtitles in the practice language. Full immersion can be difficult for beginners.



Validity

Our assumption proved to be correct – the user was engaged and willing to navigate unfamiliar situations.

Spanish / English Karaoke Immersion

Welcome to the Karaoke
Language Learning Immersion
Game

1

At any time, you can use the following Zoom reactions (or verbally mention) to ask us to:

- ❤️ Repeat the Phrase
- 🐢 Slow down and repeat the phrase
- 🗨️ Reword the Phrase

2

Today's adventure is: Helping
Mariachi Cardenal de Stanford with a
Serenata Request

3



4



Me puedes ayudar hoy?

Claro!

Por Supuesto!

5



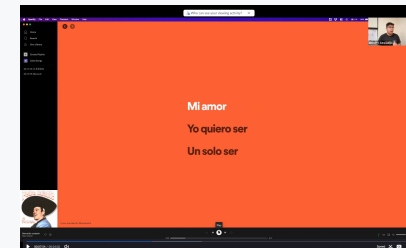
6



7



8





Assumption

We assumed that singing would help Brenda feel more connected to the language and culture of the language of interest, enhancing the Brenda's interest and investment in language learning..



Results

Experience provided structure to Brenda, especially if not familiar. But experience is best when skills learned will be useful for Participant in future scenarios.



Learnings

Song choice matters, especially if representing a language. Best songs are those that deal more with everyday things, not just romance.



Validity

People like a karaoke learning experience. But, a new assumption showed us that Learners need more than pop culture songs.

The background features abstract, organic shapes in shades of teal and light green. A prominent dark teal line starts from the top right, curves downwards, and then loops back up towards the right side of the frame. The word "Solution" is centered on the left side of the image.

Solution



Solution

Language Learners will benefit most from immersive experiences that prepare them for everyday life scenarios. Additionally, the difficulty of the experiences should be challenging enough to convey new knowledge yet easy enough to encourage learner to engage further.

What about academic applications?

New assumptions

Summary

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Summary



Adria



John



Chris



May



Marlon



Sam



Lauren



Brenda



THANKS!

Any questions?

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