Empowering Learners with AI

Jenny Li, Viviana Martinez, Ana Nguyen, Cecilia Wu

Agenda

01 Intro

02 Needfinding

03 Interview Results

04 Analysis

05 Summary

Our Team

Jenny Li

Computer Science
Guangzhou, China

Cecilia Wu

Computer Science
Portland, Oregon

Ana Nguyen

Computer Science
Torrance, CA

Viviana Martinez

Computer Science
Laredo, TX

Self Learning

Retention

Engagement

Multi-media

Finding Participants

We went to the streets.. and coffee shops

1	*2*	*3*	*4*
Different Ages	Levels of AI adoption	Technology proficiency	Types of employment

Our Participants

"Gunter"

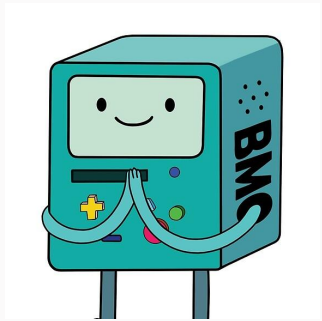
73 y/o
Records audiobooks

"Finn"

12 y/o
Middle School Student

"Jake"

21 y/o
CivilEng College Student



"BMO"

33 y/o
Works at AI company

Extreme users

Questions

What resources do you use to learn?

What do you think is the best way you learn?

Who do you usually reach out to for help when you get stuck?

What kind of feedback do you find most useful?

“What kinds of opportunities do you have to learn [xyz] outside of school?”

What’s been the hardest part about teaching yourself?

“Gunter”
73 y/o, VA - Audiobooks

- Lack of historically accurate resources
- Subjective audience
- Preference for no feedback

“

And so, I went online, and there were three or four different versions of how to pronounce [a last name]. So, finally I gave up, and I just gave it my best shot, and I figured, well, whoever listens to it, if they are going to argue with me, then I'll listen to their argument, but I probably won't change it.

SAYS

Observations: What did this person SAY that surprised you?

1. How he started his job as an audio book editor.
2. His teacher made him correct a mistake that wasn't a mistake.
3. He ignored the negative reviews and comments on his audio books.
4. He lived in a mountain and had never seen a car before 1st grade.
5. He thinks AI could be the alternative to his job.
6. He thinks reading opens up the window to the other world.
7. He learned by looking, listening, and reviewing whatever he's experiencing.
8. He doesn't like Math because of his teacher in elementary school.
9. He said his elementary peers didn't have a love for reading that he does.
10. He said that he tries to be aware of his own personal biases.

THINKS

Inferences: Based on what they SAY and DO, what might they be THINKING?

1. He thinks AI is more effective in giving factual and mathematical solutions.
2. He thinks AI is very repetitive and has no flavor and style.
3. He thinks some/lots of broadcasts are biased and never go beyond the script.
4. He thinks hearing conflicting opinions is important.
5. He thinks that filtering information constantly will make it more distilled although not always successful.
6. He thinks learning history is very important.
7. He thinks misinterpretation is very common in learning.
8. He thinks human voice and human thinking is required in his process of making audio books.
9. He thinks human thinking process & emotional connections are very important.
10. He believes that exchanging ideas is part of the learning process.

a 73-year-old man

DOES

Observations: What did this person DO that surprised you?

1. We approached him while he was reading various printed newspapers.
2. He spends lots of times listening to himself and narrating before publishing.
3. How particular he is about pronunciation that he had to re-record the entire book.
4. He is an avid reader.
5. He discusses newspapers with a 93-year-old lady weekly.
6. He revises and edits the audio books himself.
7. He has been recording audio books for 10-12 years.
8. He went to a Catholic school.
9. He learns a little bit of German and Latin.
10. He listens to what makes him rational, and tries to understand why rationality is important for a person.

FEELS

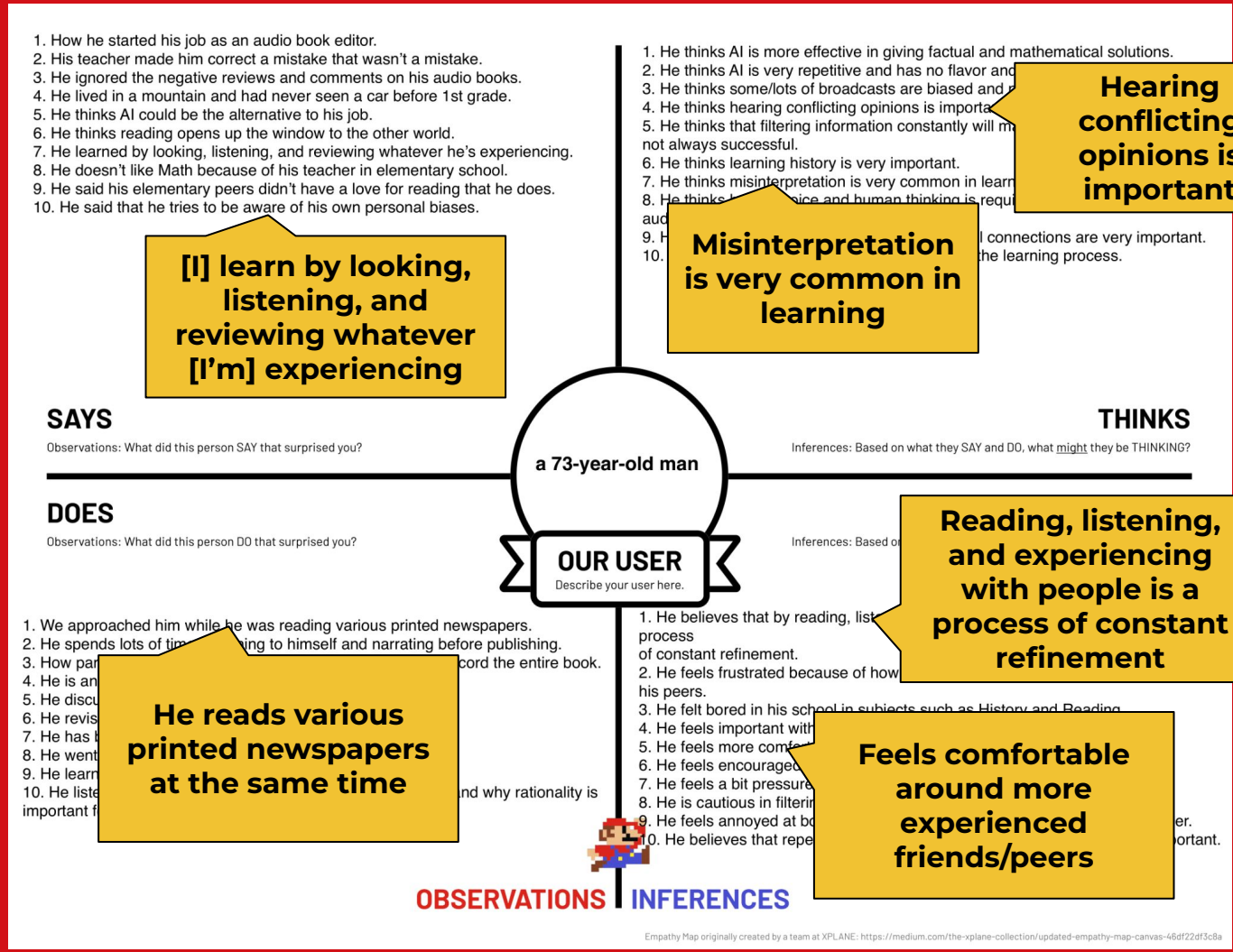
Inferences: Based on what they SAY and DO, what might they be FEELING?

1. He believes that by reading, listening, and experiencing with people, it's a process
of constant refinement.
2. He feels frustrated because of how advanced his reading level was compared to his peers.
3. He felt bored in his school in subjects such as History and Reading.
4. He feels important with his job.
5. He feels more comfortable around more experienced friend/peers.
6. He feels encouraged to learn new things.
7. He feels a bit pressured to also constantly refine himself.
8. He is cautious in filtering things that he learned.
9. He feels annoyed at both sides of the political spectrum at the echo chamber.
10. He believes that repetition and identifying key characteristics are very important.

OUR USER

Describe your user here.

OBSERVATIONS | **INFERENCES**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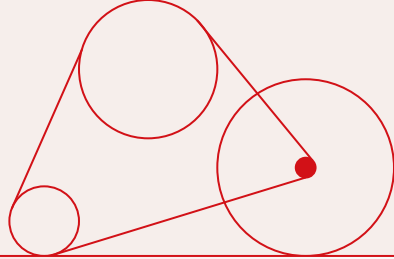
Key Insights



Insights

- Learning is an **iterative process of refinement** that depends on exposure to multiple perspectives
- Values **discussion** and diverse viewpoints
- **Misinterpretation** is common without clarification

Needs

- He needs reliable opportunities for **dialogue** and c**omparison of perspectives** with more knowledgeable peers or mentors

“Finn”
12 y/o, Middle School Student

- Feels targeted
- Relies on friends
- Wants to feel accomplished

“

I think this goes for a lot of kids. But I feel like there's a couple of people that like target me and some of my friends. Like when I didn't really do something bad.

SAYS

Observations: What did this person SAY that surprised you?

1. He says he's better than 85% of his friends at video games.
2. He said his teachers screenshow the questions and they answer them on iPad.
3. He said he would love to "leave on a win".
4. He says teachers encourage team collaboration.
5. He says his friends also take coding classes outside of class.
6. He says picking up coding was hard at first, but has become easier.
7. He says he can play a lot without realizing
8. He says its hard to play when your mad
9. He says he chose coding over other electives.
10. He says all class materials are on an app.

THINKS

Inferences: Based on what they SAY and DO, what might they be THINKING?

1. He thinks his teachers don't like him.
2. He thought the teachers are targeting him and his friends.
3. He thinks he is better than most of his friends in video games.
4. He thinks collaboration helps him.
5. He thinks winning includes luck.
6. He thinks using Ipads are helpful.
7. He thinks he's good at coding.
8. He thinks practice helps him improve.
9. He thinks emotions impact gameplay.
10. He thinks class interactions and instructor examples are important.

12-year-old Israelian boy

OUR USER

Describe your user here.

DOES

Observations: What did this person DO that surprised you?

1. He self-reported that he only spends 2 to 2.5 hours per day on video games.
2. He is a fast speaker.
3. He answered every question immediately with great confidence in his answers.
4. He learned how to code a slot machine.
5. He does all of his class assignments on iPad. (the school requires to do so)
6. He is learning how to code at 12 years old.
7. He plays video games when he is mad.
8. He plays games to feel accomplished.
9. He does school work with friends.
10. He doesn't like to read.

FEELS

Inferences: Based on what they SAY and DO, what might they be FEELING?

1. He feels confident in his gaming skills.
2. He feels very clearly that he's targeted by some of his teachers.
3. He likes the subjects where he likes the teachers too.
4. He feels comfortable learning with his friends. (He mentioned the word "friends" a lot of times)
5. He feels irritated when he can't pass the level of the game.
6. He feels confused on why his teachers don't like him
7. He likes working with his friends because they can answer each other's questions
8. He is very determined to pass every level.
9. He is curious about math and english.
10. He dislikes science.

OBSERVATIONS **INFERENCES**

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Teachers target him + friends

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Feels comfortable working with friends

Enjoys working with friends because they can answer each other's questions

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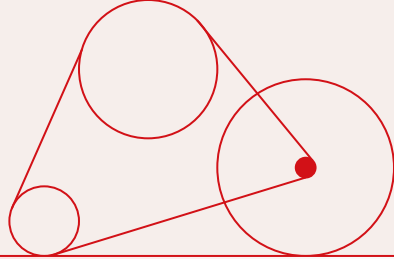
Key Insights



Insights

- Finn fosters an “**us” vs “them”** mentality between his **peers** and **teachers**

Needs

- He needs a **safe, collaborative learning environment** where peer interaction is encouraged and supported

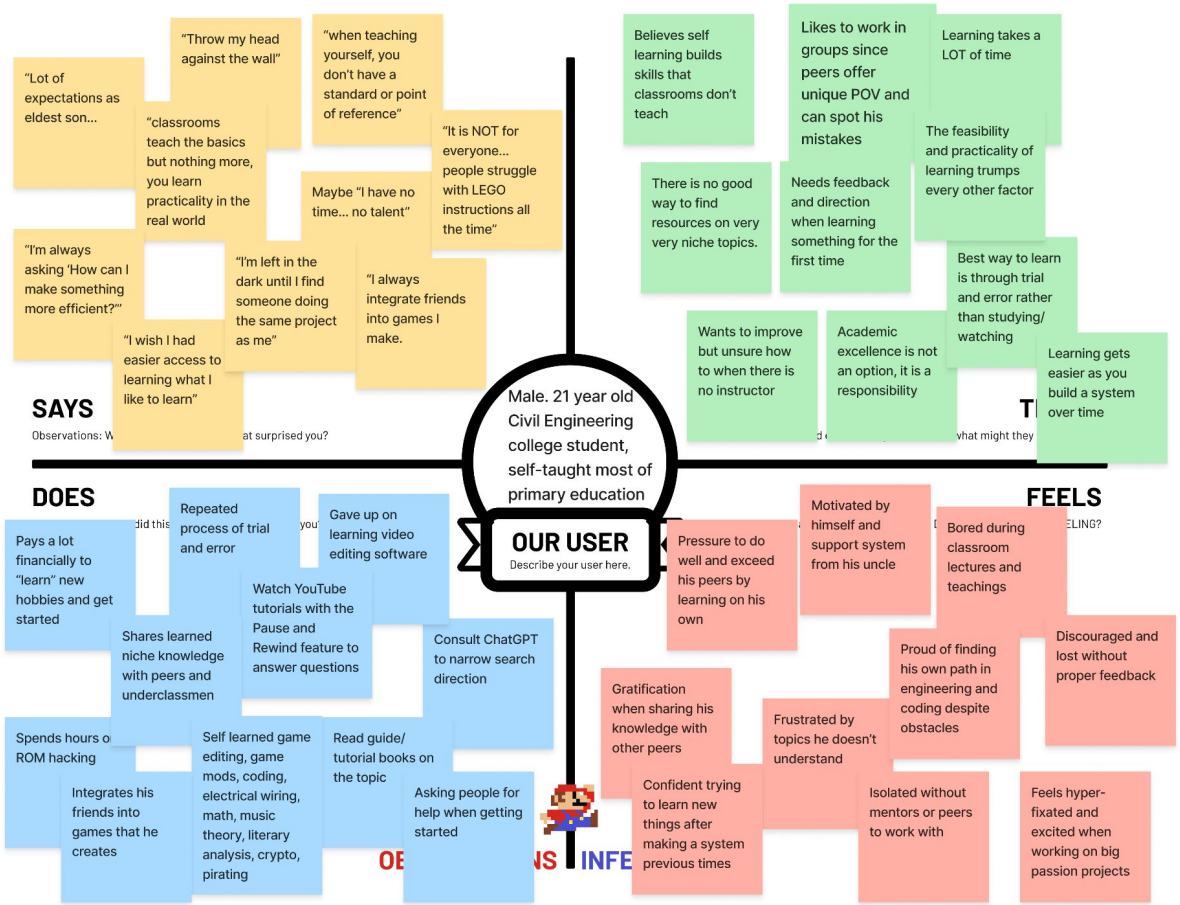
“Jake”
21 y/o, CivilEng College Student

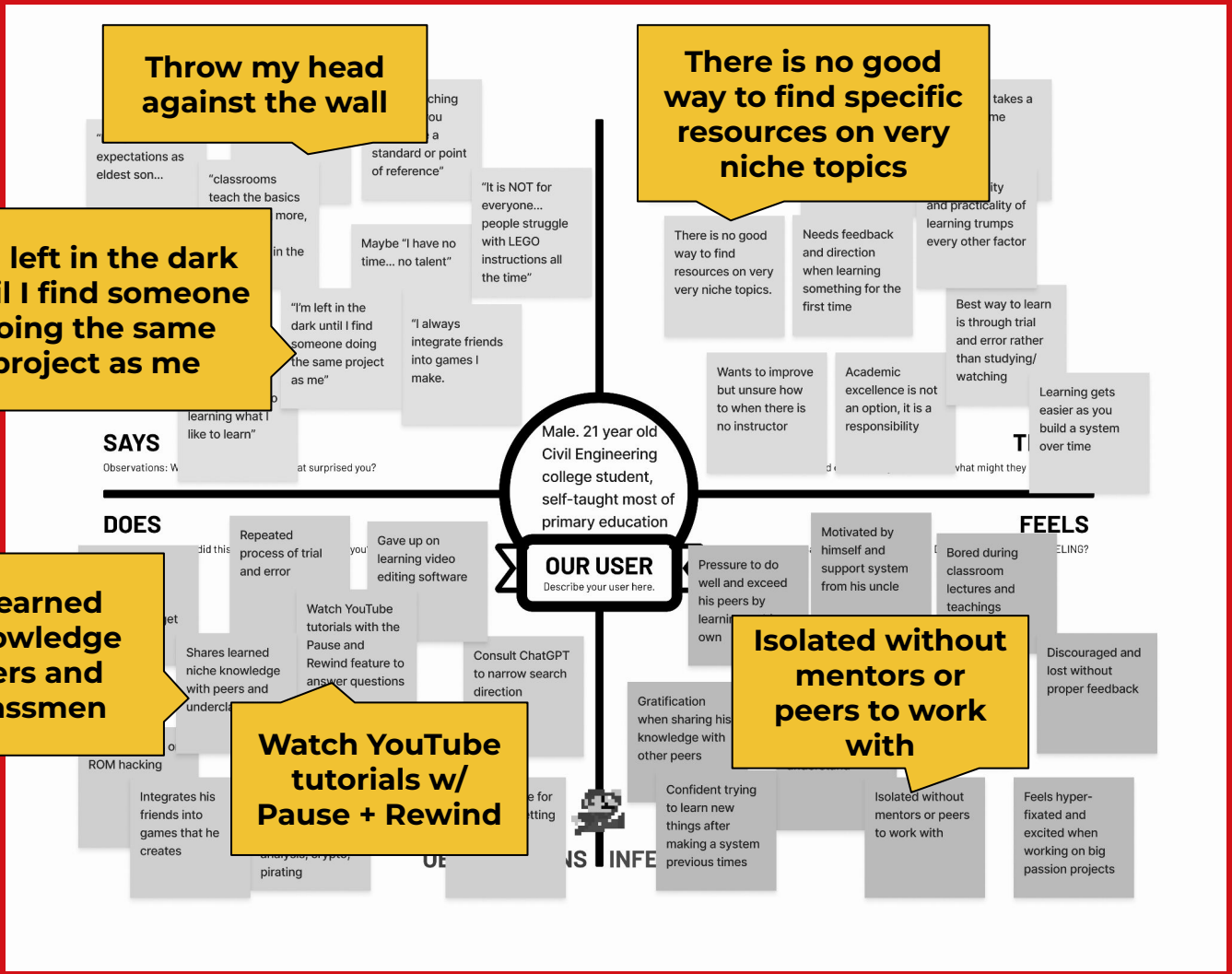
Street in San Jose

- Depth of independence
- Hyper-fixation on projects
- Isolation → resourcefulness

“

The main issue is lack of feedback. I wish I had easier access to learning what I like to learn. It’s been a lot of throwing my head against the wall.”


"Lot of expectations as eldest son...
"Throw my head against the wall"
"when teaching yourself, you don't have a standard or point of reference"
"classrooms teach the basics but nothing more, you learn practicality in the real world
Maybe "I have no time... no talent"
"It is NOT for everyone... people struggle with LEGO instructions all the time"
"I'm always asking 'How can I make something more efficient?'"
"I'm left in the dark until I find someone doing the same project as me"
"I always integrate friends into games I make.
"I wish I had easier access to learning what I like to learn"
SAYS
Observations: W
at surprised you?
Believes self learning builds skills that classrooms don't teach
Likes to work in groups since peers offer unique POV and can spot his mistakes
Learning takes a LOT of time
There is no good way to find resources on very very niche topics.
Needs feedback and direction when learning something for the first time
The feasibility and practicality of learning trumps every other factor
Best way to learn is through trial and error rather than studying/ watching
Wants to improve but unsure how to when there is no instructor
Academic excellence is not an option, it is a responsibility
Learning gets easier as you build a system over time
T
what might they
Male. 21 year old Civil Engineering college student, self-taught most of primary education
OUR USER
Describe your user here.
DOES
did this
you
Pays a lot financially to "learn" new hobbies and get started
Repeated process of trial and error
Gave up on learning video editing software
Watch YouTube tutorials with the Pause and Rewind feature to answer questions
Shares learned niche knowledge with peers and underclassmen
Consult ChatGPT to narrow search direction
Spends hours o
ROM hacking
Integrates his friends into games that he creates
Self learned game editing, game mods, coding, electrical wiring, math, music theory, literary analysis, crypto, pirating
Read guide/ tutorial books on the topic
Asking people for help when getting started
OB
NS
INFE
FEELS
ELING?
Pressure to do well and exceed his peers by learning on his own
Motivated by himself and support system from his uncle
Bored during classroom lectures and teachings
Proud of finding his own path in engineering and coding despite obstacles
Discouraged and lost without proper feedback
Gratification when sharing his knowledge with other peers
Frustrated by topics he doesn't understand
Confident trying to learn new things after making a system previous times
Isolated without mentors or peers to work with
Feels hyper-fixated and excited when working on big passion projects


Throw my head against the wall
There is no good way to find specific resources on very niche topics
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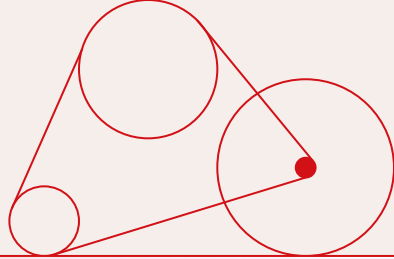
Key Insights



Insights

- Struggles with **isolation** and **lack of guidance** (niche topics)
- Progress often feels like **trial-and-error** until he finds peers tackling similar challenges
- Values **sharing knowledge** once he figures things out

Needs

- He needs **accessible, reliable ways** to **find support** and resources on specialized topics
- He needs **peer or mentor connections** to build confidence and receive feedback

“BMO”
33 y/o, AI company

Street in San Francisco

- Enjoys learning at own pace
- Motivating self is hard
- Wants AI plus human help

“I realized AI doesn’t mind if I ask ‘dumb’ questions again and again. It made it easier to admit what I didn’t get. But sometimes, prompting feels more like a hassle than help”

SAYS

Observations: What did this person SAY that surprised you?

- AI has made learning faster and more enjoyable than traditional methods
- History learning with AI feels reliable because facts don't change
- I like gamified learning—makes me want to keep going
- YouTube experts still feel more trustworthy for complex subjects.
- Sharing knowledge with friends helps me remember better.
- AI-tailored answers reduce the need to ask the same questions over.
- It's easier to stay motivated if I can track my progress.
- Cross-checking AI facts in STEM fields is a must for me
- Sometimes, I feel overwhelmed balancing deep focus and broad topics
- Learning with strangers online lacks the personal connection I want.

THINKS

Inferences: Based on what they SAY and DO, what might they be THINKING?

- AI has immense potential but must be used discerningly alongside human insight.
- Social learning and mentorship remain indispensable even in tech-enabled learning.
- Tracking subtle knowledge gains is challenging but motivates continued effort.
- Engagement suffers without relevance and community connection.
- Learning depth improves when able to reconcile conflicting information sources.
- Digital overload is a real obstacle; mindful tech use is essential.
- Personalized AI should gradually increase challenge levels to prevent stagnation.
- Practical application cements understanding better than passive consumption.
- Peer validation aids confidence in newly acquired knowledge.
- Reflection and metacognition make learning sustainable long term.

OUR USER

Describe your user here.

Male, early 30s, works in enterprise AI tech for business clients, focused on AI-driven learning and efficiency.

DOES

Observations: What did this person DO that surprised you?

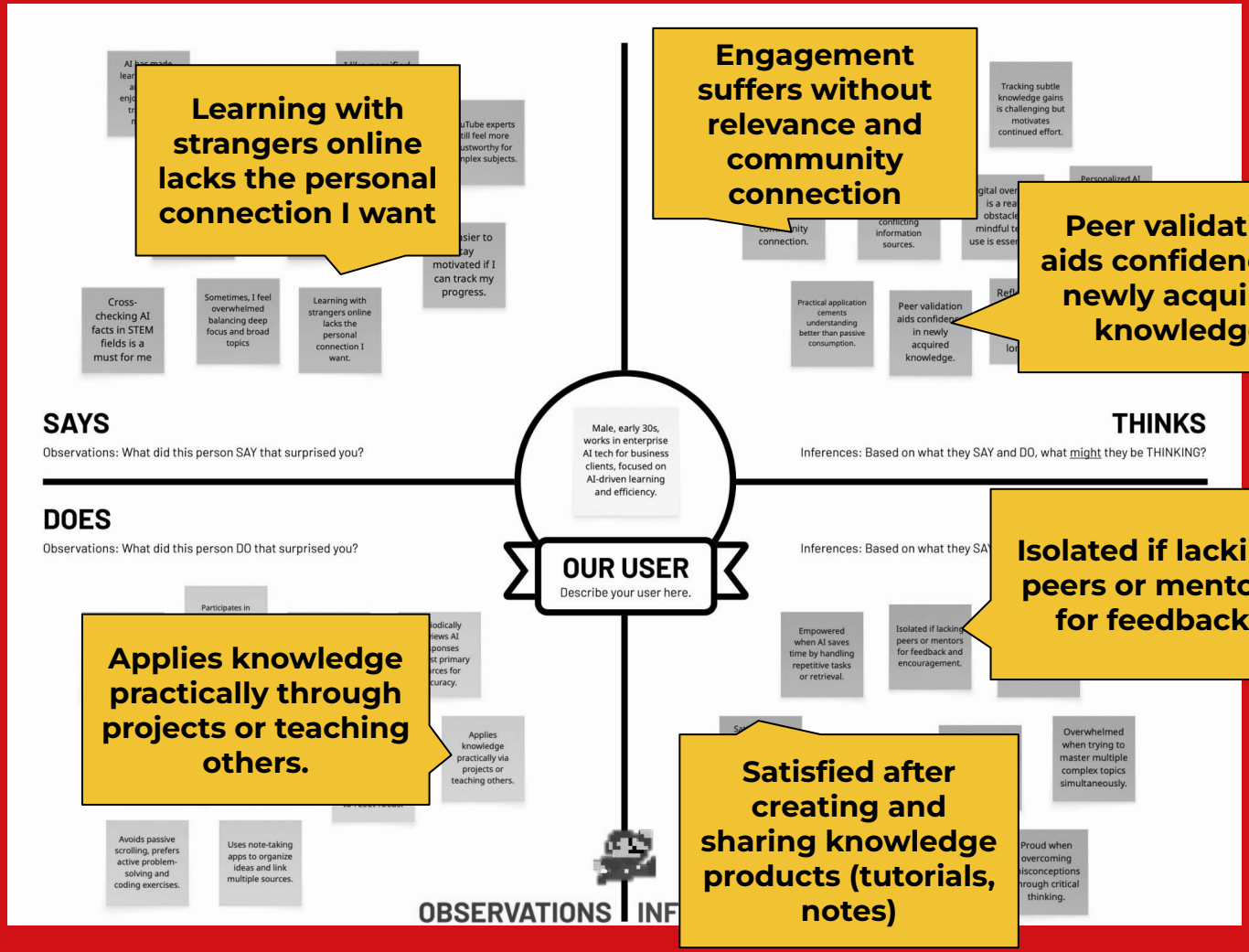
- Uses ChatGPT for personal learning and at work for enterprise AI tasks.
- Participates in community forums to answer others' queries using AI-generated insights.
- Consumes curated videos and podcasts relevant to specific subtopics.
- Periodically reviews AI responses against primary sources for accuracy.
- Checks learning progress and reflects on strategies to improve engagement.
- Creates quizzes or flashcards from learned content to self-test regularly.
- Disengages occasionally for offline reading or nature walks to reset focus.
- Applies knowledge practically via projects or teaching others.
- Avoids passive scrolling, prefers active problem-solving and coding exercises.
- Uses note-taking apps to organize ideas and link multiple sources.

FEELS

Inferences: Based on what they SAY and DO, what might they be FEELING?

- Empowered when AI saves time by handling repetitive tasks or retrieval.
- Isolated if lacking peers or mentors for feedback and encouragement.
- Cautiously optimistic despite occasional AI inaccuracies or "hallucinations."
- Satisfied after creating and sharing knowledge products like tutorials or notes
- Distracted and fatigued by information bursts without integration time.
- Curious and motivated when learning feels relevant and applied.
- Overwhelmed when trying to master multiple complex topics simultaneously.
- Relieved when able to balance deep study and downtime.
- Proud when overcoming misconceptions through critical thinking.

OBSERVATIONS INFERENCES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Overwhelmed when trying to master multiple complex topics simultaneously.
OBSERVATIONS

Key Insights

Insights

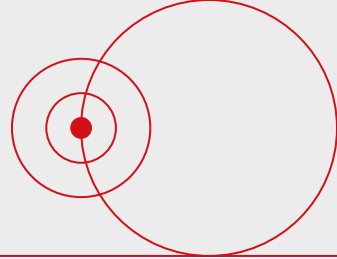
Self-learners...

- thrive when they can **apply knowledge** in practice and **share** it with others
- struggle when **missing community relevance**

Needs

- Learning needs to **facilitate practical application** and **sharing of knowledge**.
- Learning needs to **feel relevant, personal,** and **socially connected**

Summary



- Learning is social and iterative
- Guidance and access to resources → critical
- Sharing knowledge leads to more engagement + retention
- Safe and supportive environments encourage participation

1

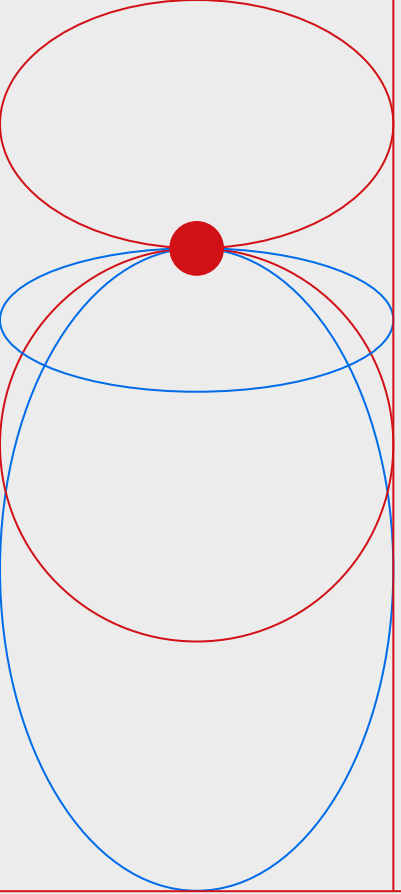
Narrow down our scope to focus on group collaboration among peers

2

Interview people to see what types of group collaboration work best

3

HMW statements, paper prototyping



Thank you