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Game-based assessment of socioemotional skills of preschool and early primary school students: Design and piloting of a tablet app

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Contextually Relevant Social And Emotional Wellbeing Tools (CREST)

Systems Mapping & Ecosystem Diagnostic

2022

Desk review, key informant interviews, and ecosystem mapping to understand how child SEL & TWB assessments can be used.

Stage 1: Qualitative Study

2022

Rapid focus group discussions with students, parents, and teachers to understand their definitions and prioritizations of child SEL and TWB.

Stage 2: Assessment Creation

2023-24

Validate Stage 1 analysis with students, parents, teachers, and education experts. Choose assessment domains and create draft assessments.

Stage 3: Assessment Validation

2023-24

Pilot assessment with primary grade children & teachers to understand psychometric properties and refine assessments & processes.

Dissemination & Research Translation

2024

Work through the education ecosystem in each country to disseminate & embed the learning through workshops & meetings.





The Contextually Relevant Emotional and Social Well-being Tools study (CREST)

Research questions

1. What social and emotional skills should be measured in early childhood?
1. What are feasible steps to transform these context-specific perspectives into measures of childrens' social and emotional skills?

Stage I participants



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9 public, private, rural schools

- **Buenaventura** is a port city with one of Colombia's highest indices of community violence. Its residents are primarily of Afro-Colombian descent. Despite having a key harbor, the city also has a high poverty index.
- Due to its proximity to the Venezuelan border, **Cúcuta** receives many migrants while not having the infrastructure or resources to cover their needs.
- **Cundinamarca** has experienced low levels of armed-conflict violence over the years, partly due to its proximity to Bogotá.



Stage I participants



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Participant	Sample & Methodology	Examples of questions
Students	137 (44% females) Interviews	Recall any situation with friends or classmates / teachers / school work that made you feel bad (e.g., sad, angry fearful). Describe that situation. If you had the opportunity to learn more about how to solve one of these situations, which one would you choose to learn about first?
Teachers	65 (88% females) Focus groups	Recall any difficult or negative situation (social/personal/academic) that occurred among your students and made you feel bad (e.g., sad, angry, worried or uneasy). Describe that situation. If your students had the opportunity to learn more about how to solve one of these situations, which one would you choose for them to learn about first?
Parents	79 - (85% females) Focus groups	Recall any difficult or negative situation (social/personal/academic) that occurred to your child at school and made you feel bad (e.g., sad, angry, worried or uneasy). Describe that situation. If your child had the opportunity to learn more about how to solve one of these situations, which one would you choose for them to learn about first?

Stage II: Social and emotional skills selection process



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Bottom-up:

- Participantes voices
- Categorization of challenging situations
 - o Open coding, prevalent categories and subcategories

Top-down:

- Evidence-based decision making
- Socio-emotional competencies needed for challenging situations identified
- Ecosystem advisory group

Challenging situations and social and emotional skills

Challenging situations:

- Interpersonal (e.g., aggression, conflicts)
- Intrapersonal (e.g., emotional dysregulation, self-efficacy)
- Academic (e.g., academic difficulties)

Social and emotional skills:

1. Conflict resolution
 2. Assertiveness to stop aggression
 3. Identification of emotions
 4. Empathy
- Self-regulation
5. Emotional: frustration
 6. Cognitive: inhibitory control
 7. Behavioral: delay of gratification

Stage II: Instrument design

Game-based assessment



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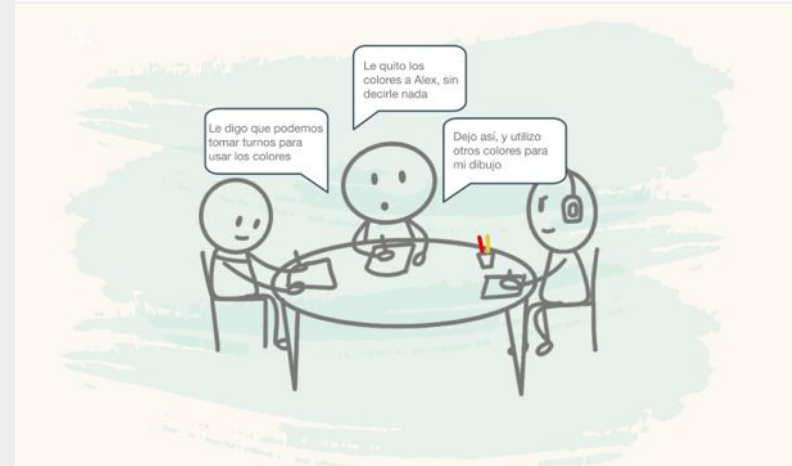
- ✓ Direct assessment of social and emotional skills
- ✓ Cost-efficient procedure:
 - ✓ No need of a qualified interviewer
 - ✓ Group-application

Situational analysis

Alex has the colors that you need and he does not want to lend them to you.

When this happens to you, ¿what do you do?

- a) I tell him we can take turns
- b) I grab the colors without asking
- c) I just ignore him and use other colors



Identification of emotions

Situational analysis

Your teacher is asking hard questions and you do not know the answers.

¿What do you feel?

- a) Anger
- b) Frustration
- c) Fear
- d) Nervousness
- e) I do not know

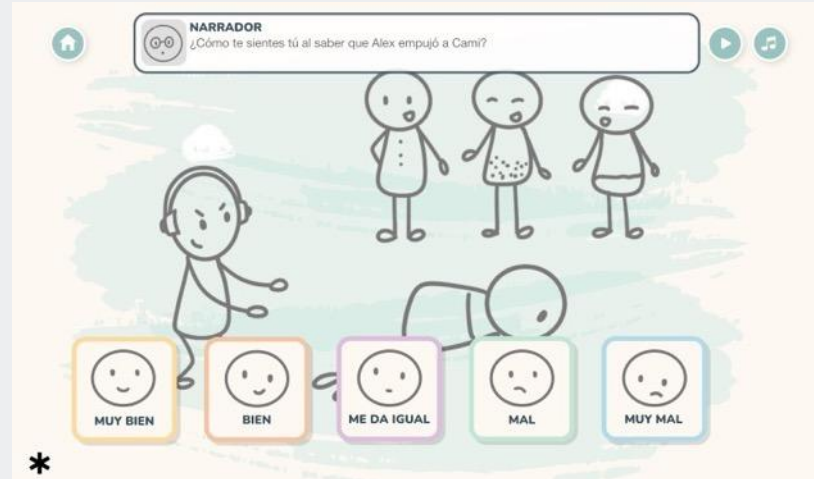


Situational analysis

Alex just pushed your friend and he/she got hurt.

¿How do you feel?

- a) Very well
- b) Well
- c) I don't feel anything
- d) Bad
- e) Very bad





General game mechanic

- ✓ Children earn stars
- ✓ They can exchange them for chests in a market
- ✓ The chests give them monsters to build a collection
- ✓ More expensive chests have more sophisticated monsters



Cognitive self-regulation: Inhibitory control



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Hearts and flowers



- ✓ Heart: click on the same side
- ✓ Flower: click on the opposite side

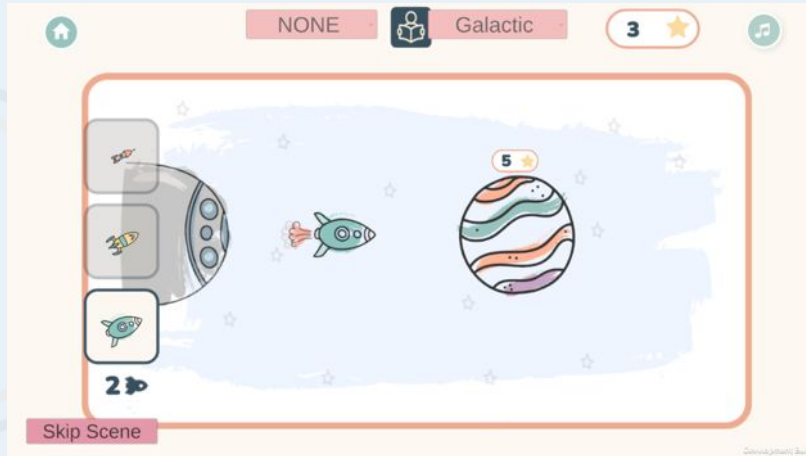
Figures monster



- ✓ If same figure available, select same figure
- ✓ If not, select a completely different figure

Behavioral self-regulation: Delay of gratification

Speed rocket



- ✓ Small and fast rocket: star
- ✓ Medium size and speed: 2 stars
- ✓ Big and slow rocket: 3 stars

Rocket booster



- ✓ Target planet: 5 stars
- ✓ Very slow rocket
- ✓ More stars can be picked on the way
- ✓ Booster option to get faster to the planet

Emotional self-regulation: Frustration management

The chasing monster



- ✓ Click on the booster to avoid the Monster and earn stars
- ✓ The system is bugged, so the booster does not always work
- ✓ Stars are lost if the monster reaches the rocket



- ✓ Emotional checking after losing the game
- ✓ From very calm to very frustrated



- ✓ The system forces the player to try again.
- ✓ The bar goes very slow
- ✓ Click counting of the “continue arrow”, while waiting



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Questions & Comments?

For more information about the Colombian CREST study,
please contact Ana Velasquez at ana-vela@uniandes.edu.co

The University of Notre Dame's Pulte Institute for Global Development is implementing the SHARE activity in partnership with local higher education and research institutions. Through SHARE and its partners, UND will advance USAID's Learning Priorities as a global good to improve education and learning outcomes as part of cooperative agreement No. 7200AA20CA00025. The contents of this presentation are the sole responsibility of the Pulte Institute and do not necessarily reflect the views of USAID or the United States Government.

If you build it, will they come?

Enablers and constraints of the adoption of
a gamified holistic learning application.



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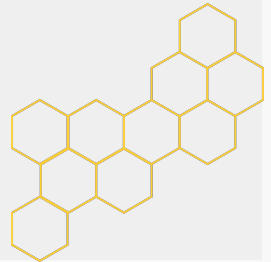
Hadeel Mansour

Hatem Al Hmoud



Intro to Gobe

Gobe is a gamified assessment (in prototype) that measures primary children's holistic learning in low-resource contexts



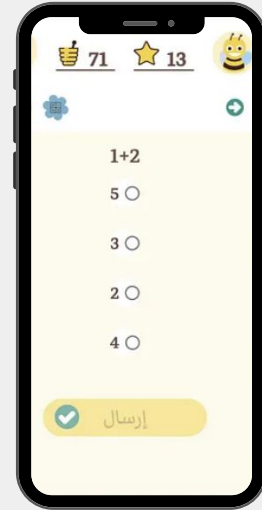
The Game



Meet Gobee.

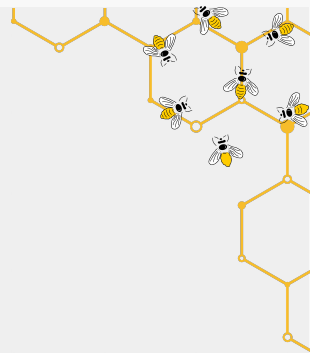


Gobee needs your help.



To get honey

Research Overview



Objectives

- What are the major enablers and constraints to EdTech + formative assessment practices?
- What is the appetite of a tool such as Gobee?

Timeline

- Data collection from October-December, 2024

Team

- War Child (Holland)
- War Child (Jordan)
- NYU-TIES (US)

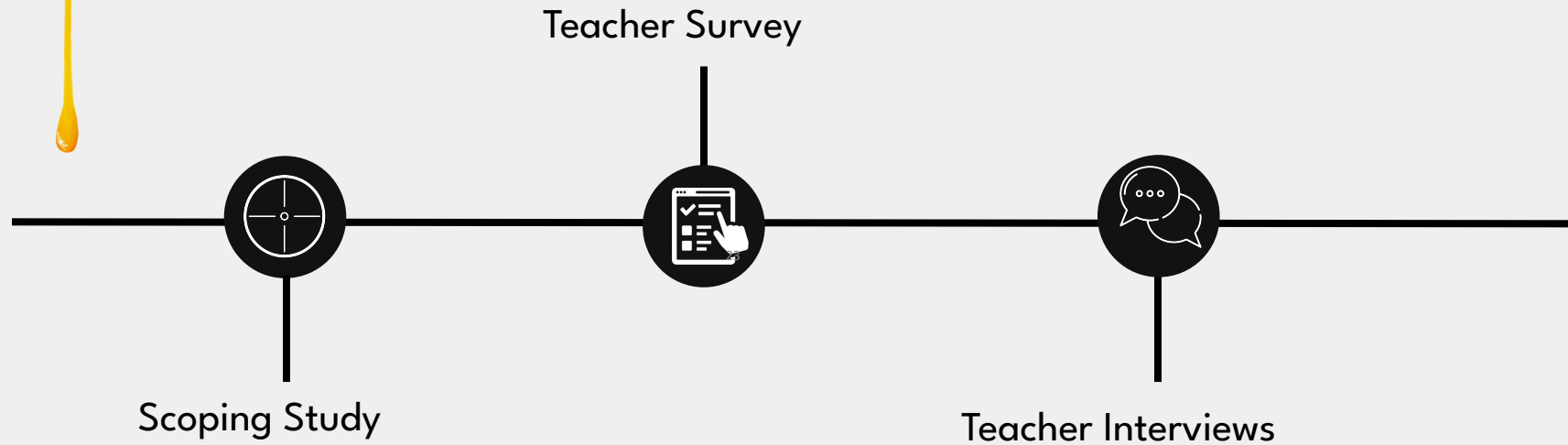


Context

- Population of 10.8 million, 3.5 mil of whom are refugees
 - 2 million+ Palestinian
 - 1.5 million Syrian
- 80% of refugees are integrated into host communities; 20% in dedicated camps
- Two-shift school system



Data Sources



Scoping Survey



EdTech product developers/service providers 30%



Education/child development program implementors 26%



Researchers 17%



Donors 13%



Digital assessments



OSS

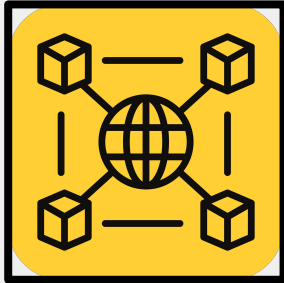


Data protection



Gobee appetite

Enablers (Policy level)



Interoperability



Collaborations



Dedicated teams

Constraints (policy-level)



Infrastructural
capacity

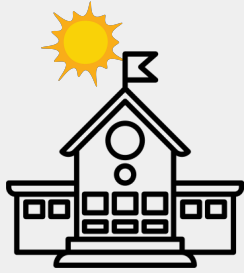
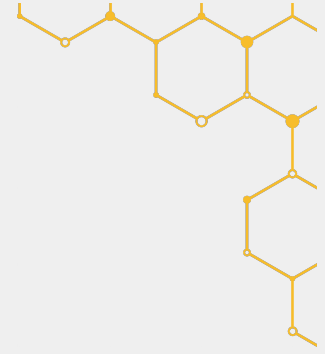


Context-specific best
practices

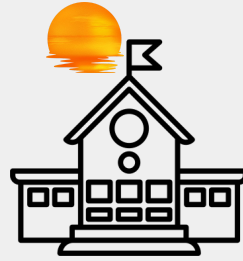


Technical Expertise

Surveys and Interviews



First Shift,
Jordanian students



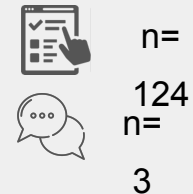
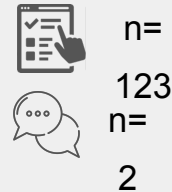
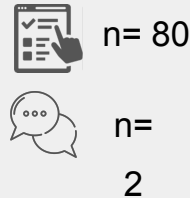
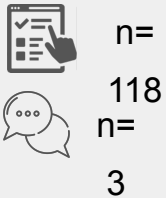
Second Shift,
Jordanian students



Second Shift,
Syrian students



Camp Schools,
Syrian students



Enablers



Supervisors

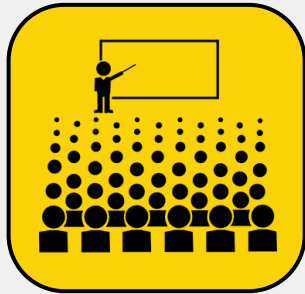


Caregivers



Flexibility

Constraints



Large class
sizes



Instructional
materials



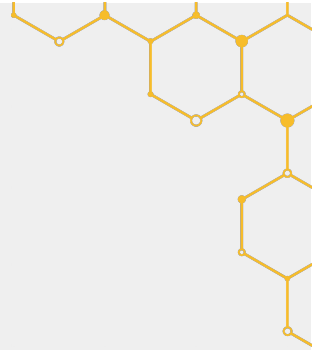
Teacher
Workload

Should you build it?

- Whose problem are you solving?
 - Is it specific to a population, time, and objective
- What kind of timeline and funds?
- What kind of team/community do you have/can you build?



Next steps



- Continue analysis of interview and observation data. Report back to MoE & the field.
- Share Gobe's code on an open-source platform such as GitHub (for dissemination and collaboration)



Thank you.

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