

# Education



## Overview

Language acquisition during childhood is a crucial developmental milestone, often shaping cognitive abilities, cultural understanding, and future academic or career opportunities<sup>[1]</sup>. However, multiple barriers can hinder children's successful language learning.

Traditional offline language programs often entail **significant financial costs** and **scheduling challenges**, limiting **accessibility** for many families. Also, traditional structured language classes can **lack engagement** for younger learners, contributing to a **reluctance to attend**. Moreover, parents frequently face **challenges** when trying to **support their children's language development**, as they may not possess the necessary proficiency, skills, or resources to aid effectively in conversational and listening practice at home. A restricted range of learning topics in many traditional language courses can further limit knowledge expansion and hinder the child's ability to connect language learning to everyday experiences.

As research demonstrates that **game-based learning** and interactive technology can enhance engagement and language retention in children. And with AI applications, it can enable **personalized language learning paths** that adapt dynamically to a child's progress and individual challenges, such as vocabulary retention or conversational fluency.

Quackiverse aims to create an **AI-powered, gamified language tutor** targeting children aged 6 to 15, focused on cultivating their reading, speaking, and listening abilities in a secondary language. Through **personalized avatars**, **real-world AR interactions**, and **adaptive game-based learning pathways**, this platform aims to make language learning accessible, enjoyable, and flexible.

[1] Kovacs, A. M. (2015). Cognitive adaptations induced by a multi-language input in early development. *Current opinion in neurobiology*, 35, 80-86.  
[2] Barac, R., Bialystok, E., Castro, D. C., & Sanchez, M. (2014). The cognitive development of young dual language learners: A critical review. *Early childhood research quarterly*, 29(4), 699-714.



# Master language!

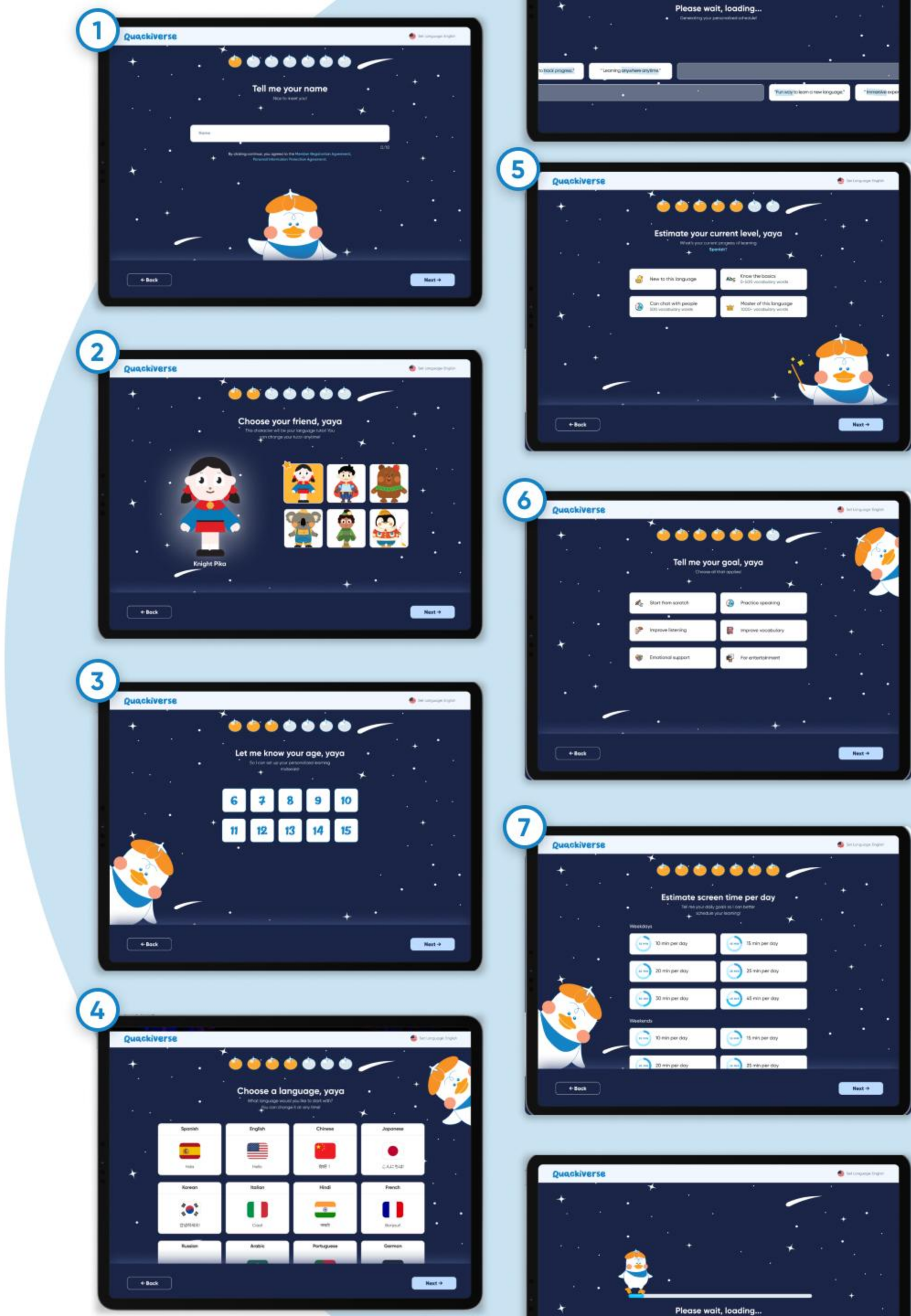


# Onboarding

## Customizable Learning Paths with Real-Time Adaptation

Quarkiverse makes getting started easy and enjoyable for children. By following a series of simple steps, children and their parents are invited to enter their name, select a friendly avatar, and provide details such as age, language, and learning goals., enabling the platform to understand each child’s unique needs and preferences from the outset.

Based on these initial assessments and set goals, Quarkiverse generates an optimized learning schedule designed to grow alongside the child. As they make progress, the curriculum dynamically adapts to focus on areas that may need extra support. For instance, if vocabulary improvement is a goal, the platform will adjust to offer additional vocabulary-focused tasks, ensuring that the learning experience remains responsive and effective.

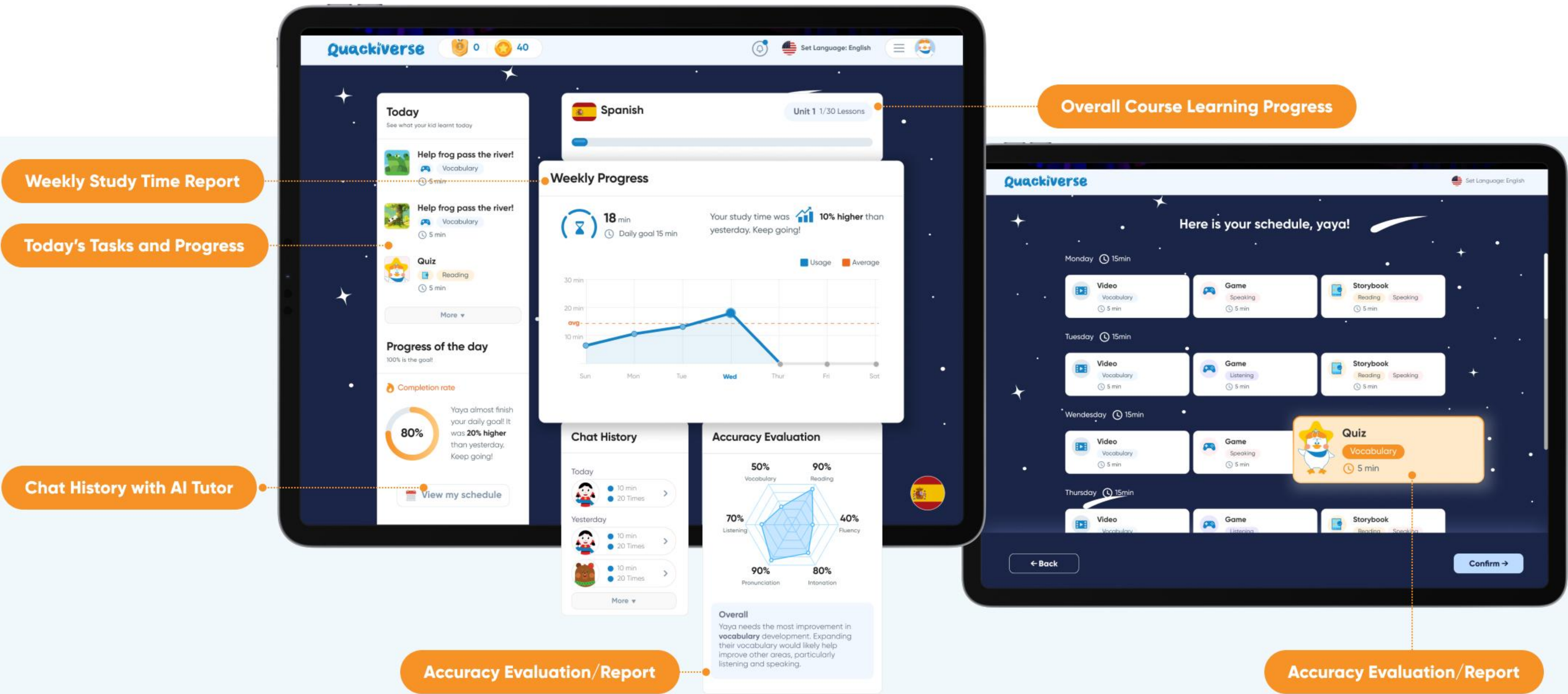




# Parent Portal

## Stay Informed and Support Your Children's Learning Journey

The Quarkiverse Parent Portal provides an in-depth look into your child's educational progress, giving parents the tools to support and enhance the learning experience. With Quarkiverse, parents are empowered to be part of their child's educational journey, ensuring that each learning session is both meaningful and effective. Through a combination of real-time reports, weekly updates, and goal tracking, the portal allows you to monitor how your child is advancing through their personalized learning path. Based on initial assessments and set goals, the platform generates a tailored learning schedule that adapts dynamically to the child's evolving needs.





# Child's Personalized AI-Powered Learning Coach

## 01 Personalized Learning

Quarkiverse transforms learning into an engaging and customized experience by offering a unique AI-powered avatar coach that both guides and motivates children on their educational journey. As children start signing up, they're welcomed with an easy onboarding process. After filling in some basic information, each child receives a personalized learning schedule, carefully optimized to match their unique learning needs and goals.

## 02 AI-Powered Avatar Coach

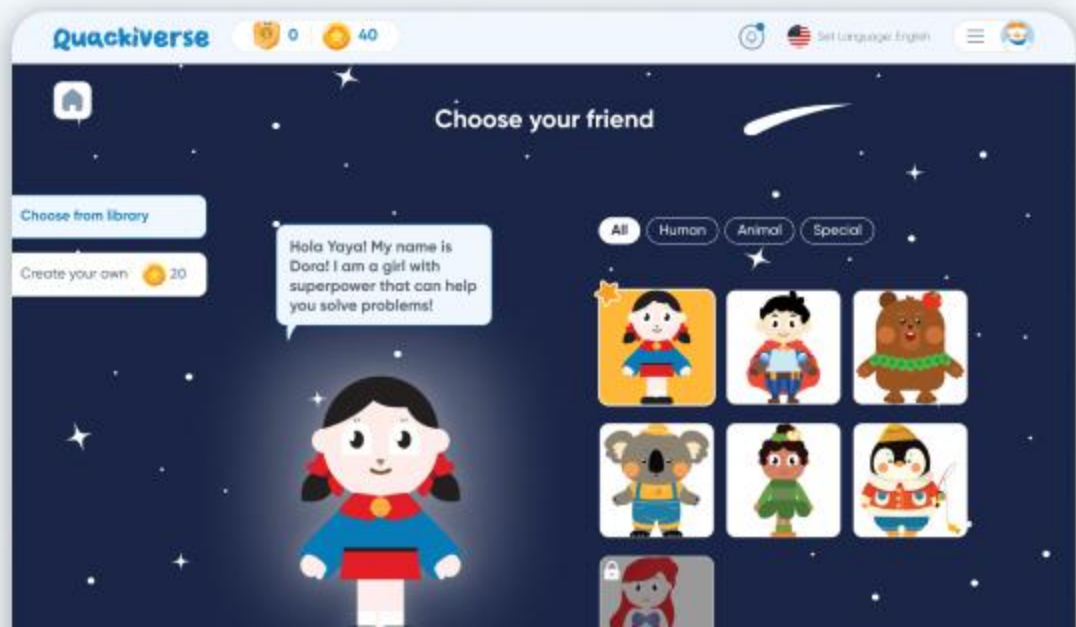
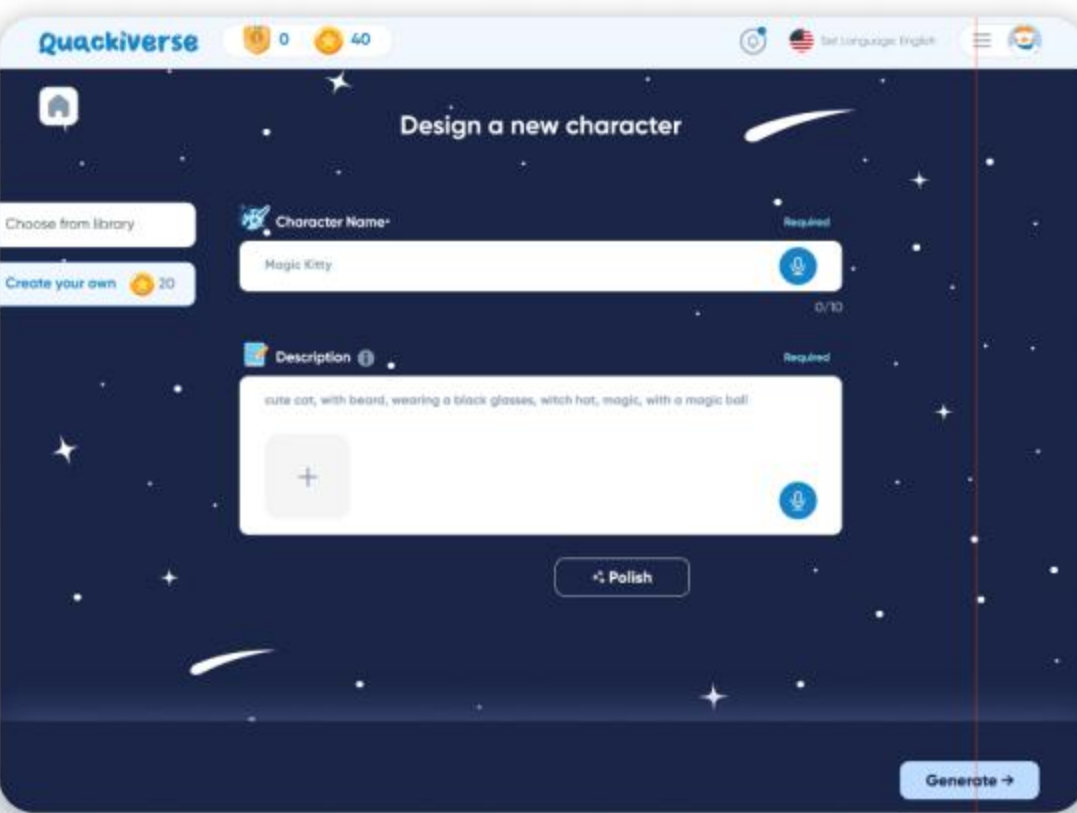
Quarkiverse offers children a unique AI-powered avatar that acts as both a coach and companion, guiding them through the learning process and motivating them to succeed. They can either select from a library of existing characters or use AI to generate a unique avatar based on their description—one that reflects their personality and interests.

## 03 Engaging Education

Quarkiverse transforms traditional learning by using interactive avatars and an exciting, game-like experience. Children can select or create avatars that reflect their own personality, making learning feel like a fun, immersive adventure rather than a chore.

## 04 Companionship & Motivation

The AI-powered coach offers a sense of companionship and support, building a bond with each child that encourages trust and comfort. This friendly, reliable presence not only motivates them but also provides a sense of reassurance and continuity, making learning feel less like a task and more like a journey alongside a reliable friend.





# Gamified Learning

## Gamification Experiences: Learning Through Interactive Mini-game

### 1 Reward System

Earn stars and rewards for completing tasks, fostering a sense of accomplishment and encouraging continuous learning.



### 2 Interactive Gameplay

Each mini-game is designed as a mission that encourages children to learn language skills in a fun and interactive way.

### 3 Skill Reinforcement

Games focus on key language skills such as vocabulary, speaking, and listening, allowing kids to practice and improve in an enjoyable format.

### 4 Progress Tracking

Children can see their progress as they complete missions, track progress on the map, visually showing achievements and milestones.





# Learning Videos and Fun Challenges

## Building Vocabulary for Each Milestone & Reinforcing Knowledge Through Fun Challenges



Each video corresponds to a milestone within the unit, introducing the vocabulary needed for the next phase of the learning journey. These videos serve as foundational lessons that prepare children for upcoming quizzes and tasks.



Quizzes are designed to reinforce the vocabulary and concepts introduced in each video, providing children with a way to test and solidify their knowledge. When a quiz question is answered incorrectly, it is automatically saved to the Error Notebook. This feature allows children to review and practice their mistakes later, reinforcing learning and ensuring retention of challenging vocabulary.



UNIT 1-1  
KNOW THE FRUITS!

▶ Start Watching





# Scene Camera

## "Object-Based Conversations" Engaging Real-World Interactions

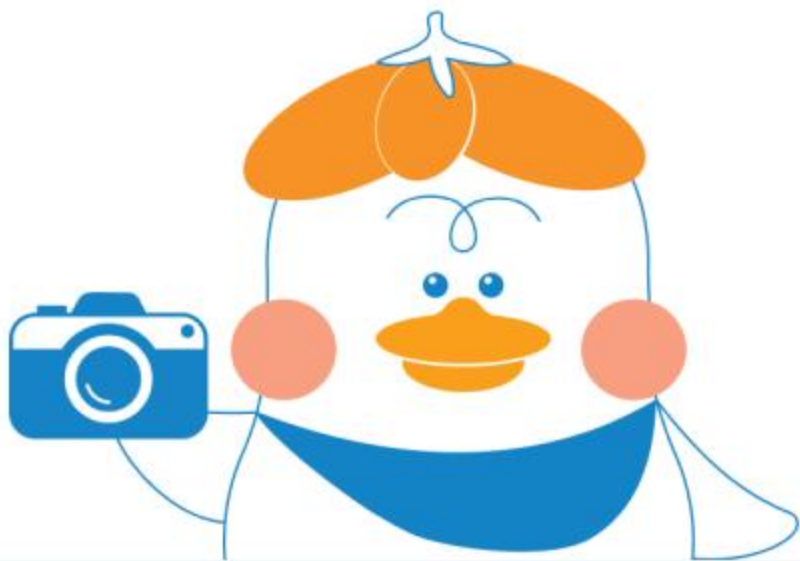
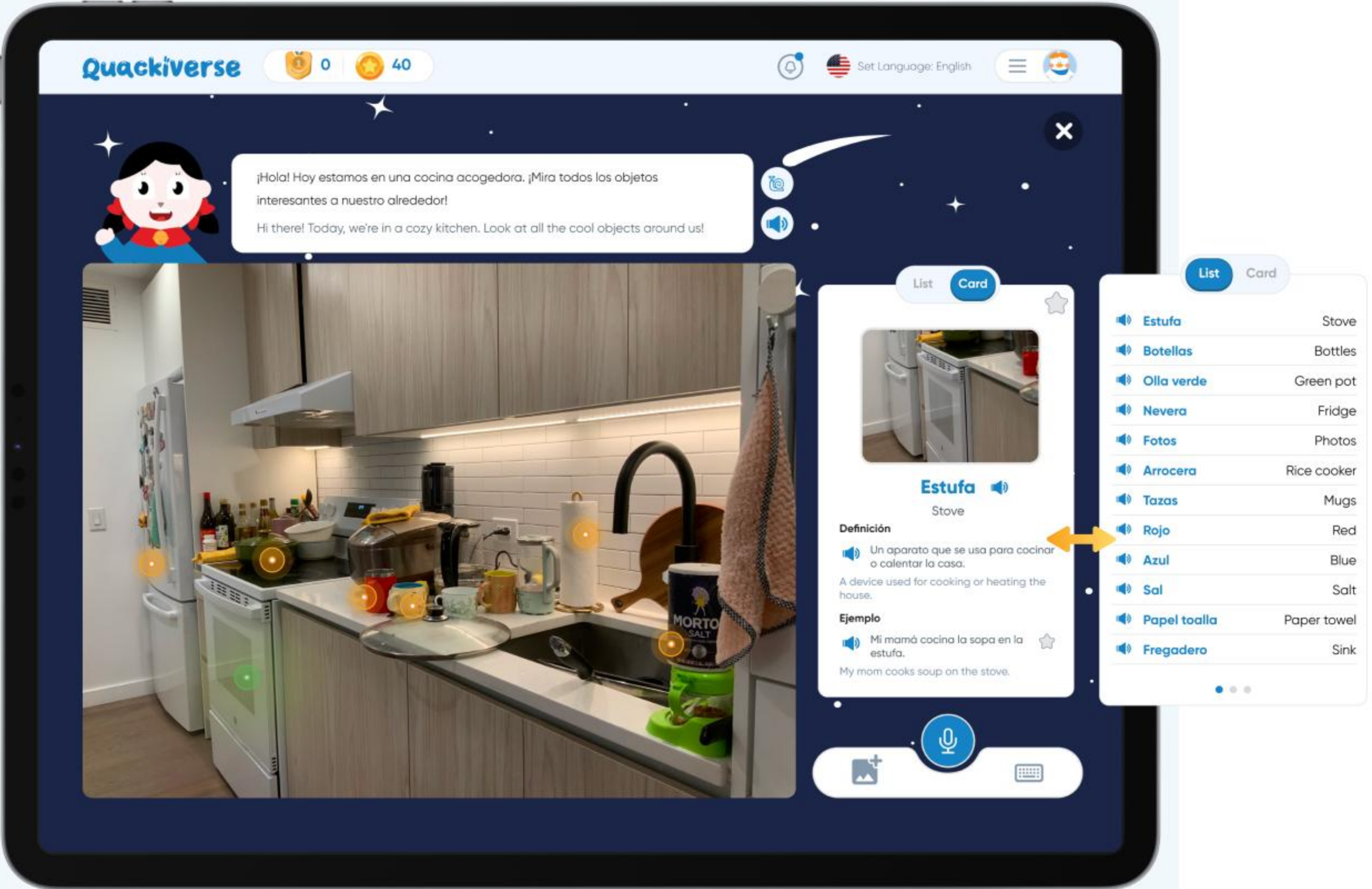
Quackiverse uses AR technology to recognize objects in real-world images or scenes, creating a unique language environment. Children can take photos or interact with scene images, and the system recognizes objects to generate relevant vocabulary and conversational prompts.

### Conersation Panel

Based on recognized objects, the system creates tailored, interactive stories or dialogues.

### Interactive Objects

AR recognizes objects (e.g., kitchen items, toys) and generates language prompts around each object, making vocabulary acquisition more intuitive and context-based. Vocabulary for recognized objects is presented in both List and Card formats, offering definitions, translations, and example sentences for deeper understanding and retention.



### My Vocabulary

Recognized objects and vocabulary can be saved to My Vocabulary for later review, allowing children to revisit and reinforce learning.



12 New

**My Vocabulary**

20 in total

### Sentences Collection

Sentences Collection is a repository where sentences saved during learning sessions. Children can review saved sentences, which helps them understand sentence structure and context.



**Sentences Collection**

2 sentences

### Scene History

Scene History keeps a record of the previous AR or real-world scenes that the child has explored using the "Object-Based Conversations" feature.



**Scene History**

2 scene



# Interactive Storybooks

Engaging reading experiences that support language development and personal growth

