

Rocket Learning | AI Powered Worksheet Autocorrection



Rocket Learning is one of India's leading early childhood development non-profits, working to ensure that every child achieves full brain and body development by age six. We partner with governments in **11 states**, reaching **4 million children** and **300,000 Anganwadi workers** across **180 districts**.

As a key advisor to the national government, Rocket Learning co-developed Navchetana (ages 0–3) and Aadharshila (ages 3–6) curricula, and builds scalable, technology-led solutions for joyful, community-driven early learning.

Problem Statement

Across India's 1.4 million Anganwadi Centres, children complete paper worksheets daily, but most are never corrected due to time constraints and low digital capacity. This leads to weak reinforcement and widening early learning gaps.

AI offers a scalable solution to provide instant, high-quality feedback without requiring one-on-one teacher intervention. By leveraging computer vision and automation, Rocket Learning's system converts routine worksheet use into an active, data-driven learning loop — supporting millions of children and caregivers equitably and efficiently.

AI Solution Description

Rocket Learning's AI-powered Worksheet Autocorrection system enables instant, personalized feedback for millions of children using basic smartphones. Parents or Anganwadi workers send images of completed worksheets through WhatsApp. The AI system automatically grades them using deep learning models and returns corrected sheets with tick/cross markings and feedback in local languages. We also send personalised nudges to improve their response rate.

This real-time reinforcement helps children learn faster, boosts parental involvement, and reduces Anganwadi workers' manual workload.

Our user type:

- **Children/Parents:** Receive instant, voice-supported feedback.
- **Anganwadi Workers:** Save time on corrections and get analytics on child performance.
- **Supervisors/Program Managers:** Access dashboards tracking learning engagement and progress.

Tools and Techniques

Used

- **AI Techniques:** Computer Vision, Optical Character Recognition (OCR), Neural Networks for handwriting recognition.
- **Platforms:** Google Cloud (Vertex AI, Gemini), WhatsApp Business API.
- **Languages:** Hindi, English, and regional languages via Google TTS and Bhashini.
- **Frameworks:** TensorFlow, PyTorch, OpenCV.



Key Features of Tech Solution

- **Automated Grading:** >90% accuracy across diverse worksheet formats.
- **Instant Feedback:** Visual (✓/✗) easy to understand feedback
- **Multilingual & Voice-first:** Supports 10+ Indian languages.
- **Scalable Architecture:** Cloud-native, modular, and adaptable for multiple geographies.
- **Integration-ready:** Can plug into existing government systems such as Poshan Tracker or DIKSHA.



Impact (Qualitative and Quantitative)

- **Scale:** 50,000+ worksheets auto-corrected daily across multiple states.
- **Accuracy:** >90% grading accuracy.
- **User Engagement:** Higher repeat participation from parents and teachers.
- **Workload Reduction:** Significant time savings for Anganwadi workers.

One feature, three big shifts:

- Increase in daily active users by 5%
- Increase in average message per user by 5%
- Increased parental involvement in home learning.



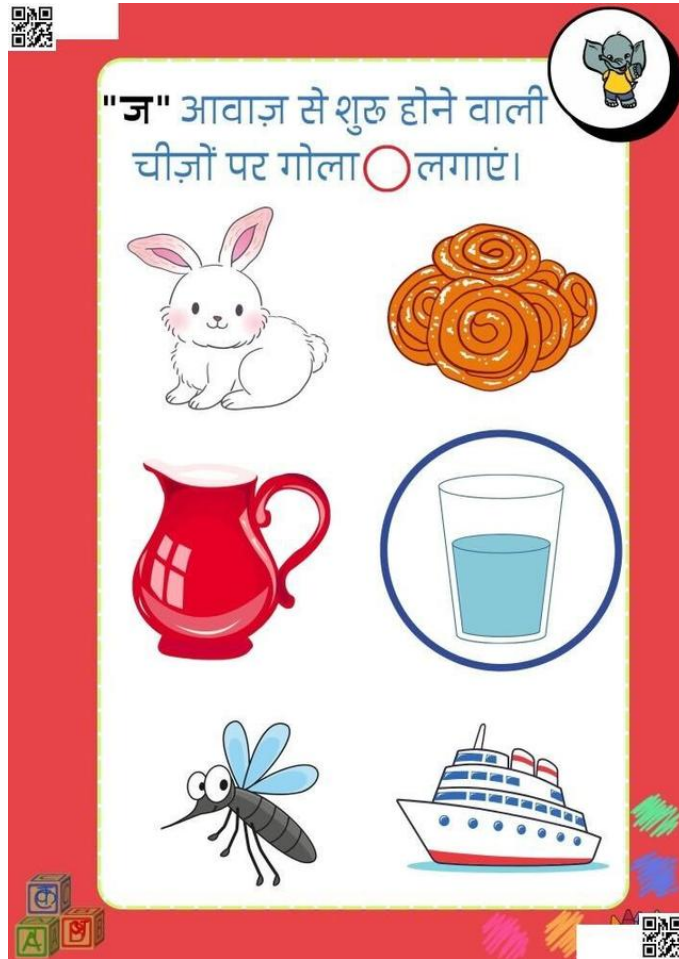
Plan for Roll-out and Sustainability

- Currently ~ 1.2 million children complete 2 worksheets each day and uses the worksheet autocorrection to gain feedback.
- Partnering with governments to host and maintain to reduce recurring costs and increase ownership.
- Enabling NGOs, CSR partners, and EdTech innovators to plug into the ecosystem and use the same AI backbone.
- As our user base expands, the marginal cost per beneficiary continues to fall.

Testimonial

"I am very happy to be getting real time feedback. My children are learning a lot. Now even mistakes are fun and learning doesn't stop. They really enjoy doing the worksheets." Parent, Agra, Uttar Pradesh

Worksheet is sent to the child via WhatsApp



"ज" आवाज़ से शुरू होने वाली चीज़ों पर गोला लगाएं।

Illustrations: Rabbit, Jalebi, Pitcher, Glass, Mosquito, Ship.

QR code in top-left and bottom-right corners. A cartoon character in a circle in the top-right corner.

Child completes worksheet through WhatsApp annotation



"ज" आवाज़ से शुरू होने वाली चीज़ों पर गोला लगाएं।

Illustrations: Rabbit, Jalebi, Pitcher, Glass, Mosquito, Ship.

Annotations: Green circles around the glass and the ship.

QR code in top-left and bottom-right corners. A cartoon character in a circle in the top-right corner.

The worksheet autocorrection checks the worksheet and sends back the corrected worksheet



सही जवाब = 2 गलत जवाब = 1

"ज" आवाज़ से शुरू होने वाली चीज़ों पर गोला लगाएं।

Illustrations: Rabbit, Jalebi, Pitcher, Glass, Mosquito, Ship.

Annotations: Green circles around the glass and the ship. A red 'X' over the pitcher. Labels 'सही' (Correct) and 'गलत' (Wrong) are placed near the respective items.

QR code in top-left and bottom-right corners. A cartoon character in a circle in the top-right corner.