



ASSISTED LANGUAGE AND MATH LEARNING

A philanthropic initiative of kStep

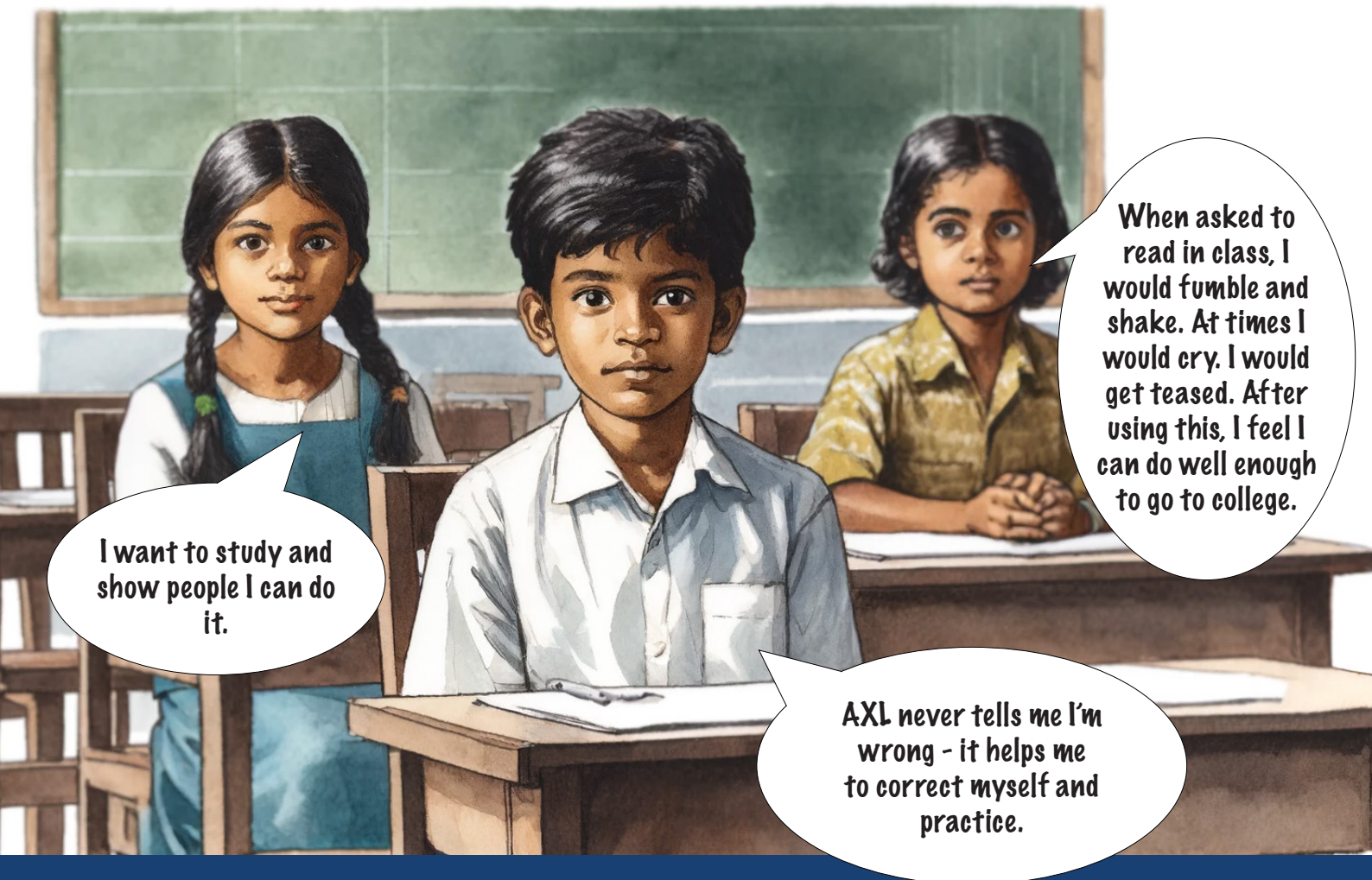


Equips teachers with an AI-powered teaching aid that can improve teaching efficacy.

Provides AI-based personalized guidance to help children learn & practice at their own pace.

Helps communities, children at home & school, and teachers achieve literacy and math competency.

The ability to read and do basic math are foundational skills that go beyond the classroom. Being literate and numerate endows individuals with the power to reach previously unattainable goals. School administrators and teachers work with the single aim of achieving this outcome, and their efforts can be augmented with the power of AI.



AXL (Assisted Language and Math Learning) is a system-led, AI-powered, teacher-supported, state of the art technology initiative that helps children read and do basic math.

WHY DO CHILDREN STRUGGLE TO LEARN TO READ AND DO MATHS?



These children lack an empathetic “safe space” that allows them abundant practice at their own pace

HOW CAN WE GET THEM OUT OF THIS CYCLE: CREATING A SAFE SPACE

A safe space allows children to get as much practice as they need, without assessment, comparison or judgment. It allows children to learn at their own pace, not at the pace of the class.

AXL AIMS TO CREATE “SAFE SPACES” AT SCALE

AXL: HELPING EVERY CHILD READ AND DO MATHS JOYFULLY

Helping children read and do maths joyfully requires deliberate design.



AXL is a system-led, AI-powered, teacher-supported, state-of-the-art technology initiative that helps children read and do math.

-  Safe space free of judgment
-  Abundant, joyful, adaptive practice
-  Embedded in existing ecosystem

COMPONENTS

AXL consists of a reading module in Indian languages and English (ALL), a Math module (AML), and a phone-based teacher-assistant called AXL Companion. AXL is available on desktop or mobile devices.



With AXL, school systems have the power to design their own institutionalized literacy and numeracy initiatives



Offers complete data sovereignty



Plug-and-play



Low resource use & operations



Robust and scalable



State syllabus-based content

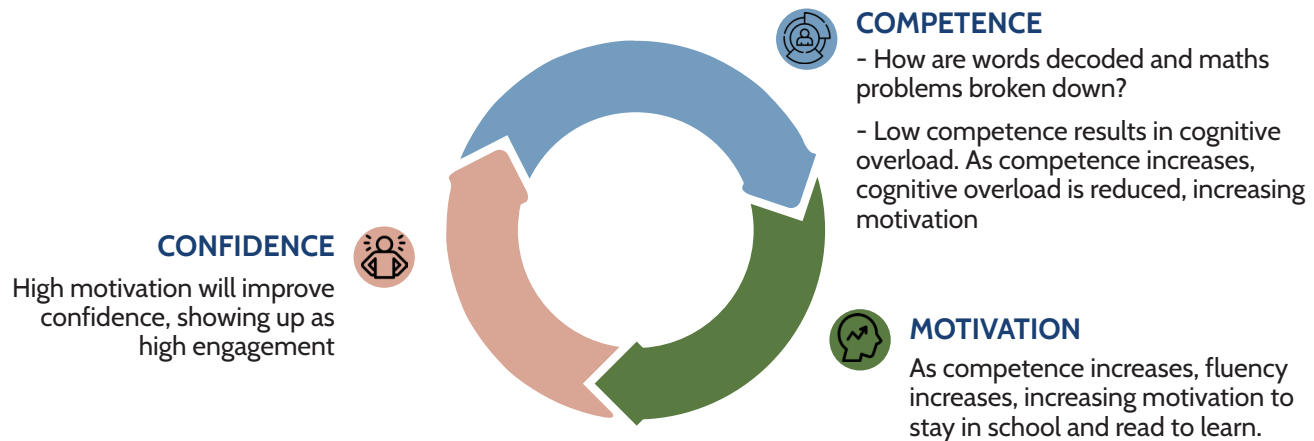


Configurable architecture

An initiative that leverages AXL would create a world where children across elementary grades have access to non-judgmental learning spaces. This would empower them with motivation, self-belief and the ability to realize their potential.

THE SCIENCE OF LEARNING

Learning science tells us about the Competence - Motivation - Confidence cycle of learning. Competence results in fluency, reducing cognitive overload and anxiety, and increasing motivation. Neuroscience shows that repeated, successful learning strengthens neural pathways, making future learning more efficient. This results in higher confidence which helps in increasing competence in a positive spiral.



This positive cycle is established through hours of deliberate practice and through clear pathways, and as competence increases, motivation and confidence follow in a virtuous cycle.

READING GRAPH

The child already has some base knowledge

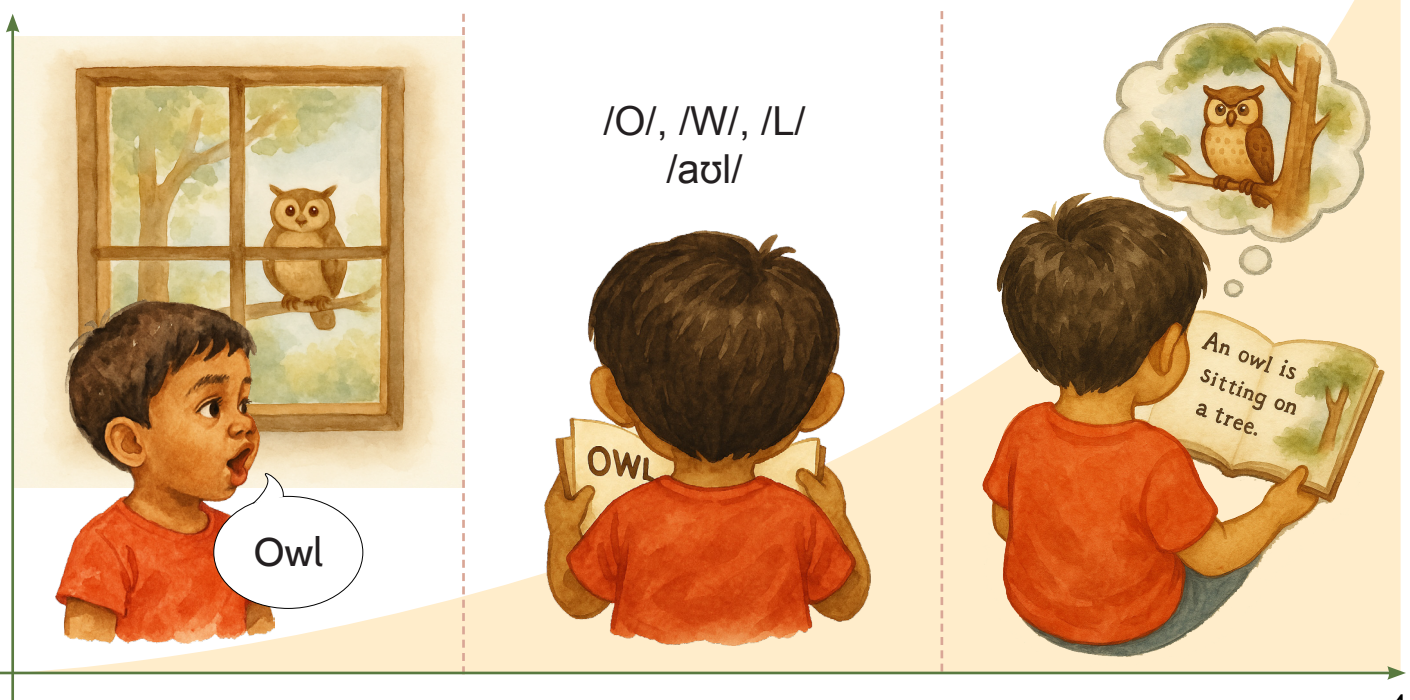
Children develop a basic vocabulary before they start learning to read

Learning to read

Learning to read starts with associating sounds to symbols

Reading to learn

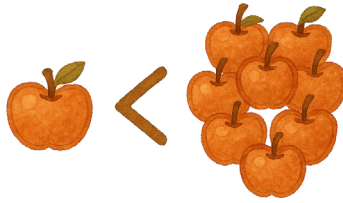
As this association is made stronger, fluency develops, and children can read to learn



MATHS GRAPH

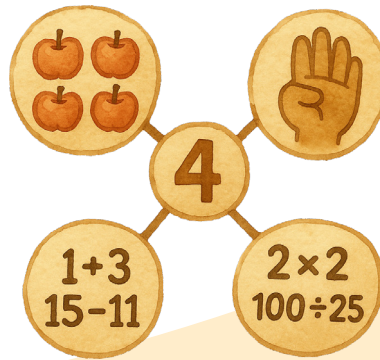
The child already has some base knowledge

Children have a sense of larger and smaller amounts and other such facts



Mapping number sense

Mapping 'number sense' consists of associating this sense with symbols and understanding how symbols and operators come together



Making sense with numbers

Finally, they can use their 'number sense' to make sense of the real world and improve their understanding of it



AXL BRINGS THE SCIENCE OF LEARNING TO EVERY CHILD THROUGH PRECISION DIAGNOSTICS

Reading Diagnostics

Precision diagnostics that provide phoneme-level adaptive learning

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Maths Diagnostics

Diagnosis of specific learning gaps within each operator for pin-pointed practice.

Concept	+	-	x	÷
Addition	Subtraction	Multiplication	Division	
Forgetting Carry/Borrowing	Forgetting carry	3 - 3 = 3	x into x = x	Forgetting tables
Incorrect Order	Incorrect order of addition	x - 0 = 0	0 into x = x	61 ÷ 6 = 1 (ignoring 0 in quotient)
Misuse of Zero	Adding 0: 3 + 0 = 0	Incorrect placement of numbers	Forgetting tables	0 in divisor
Repeated Digit Misconception	Adding same digits: 3 + 3 = 3	Incorrect order of subtraction	Misplaced 0 in procedure	0 in dividend

Red- Frequently occurring misconceptions

Black- Less frequently occurring misconceptions

WHO IS IT FOR/ WHERE CAN IT BE USED

AXL can be deployed at scale across school systems (state governments)

AXL is also available for use in smaller setups: communities with several hundred or fewer students, or even individual schools. All it needs is basic computer hardware and an internet connection. AXL is best employed within an existing school setup (school computer labs for example).

AXL is currently adopted by several state school systems and communities across India, covering thousands of students.

FOR CHILD AT SCHOOL



For the child in school, personalized learning through AI can create a safe space in a lab environment to practice their reading skills. A computer equipped with an internet connection and a microphone can be used to practice reading and maths several times a week.

FOR TEACHER AT SCHOOL



For a teacher at school, giving each student individual attention is difficult. The AXL Companion app gives each teacher inputs on daily action, using real student data. Teachers no longer have to wait for assessments or exams - they can see where each child is struggling and provide support right away, every day.

FOR CHILD AT HOME



AXL's mobile application allows children to keep practising even when at home

FOR COMMUNITIES



AXL is available for community adoption - NGOs, individual schools, any organization helping children become better at reading and mathematics can use AXL within their school/ organization set-up.

AXL AS DPG

The building blocks of AXL are designed as Digital Public Goods. They offer the following flexibility:

- Plug in a new language
- Plug in your own digital content
- Match the learning goals to your curriculum
- Integrate into existing systems
- Create your own communities

HOW AI IS USED IN AXL



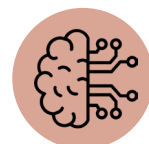
Voice AI

Enables speech-based interactions for guided reading and feedback.



Conversational AI

Creates engaging, interactive learning experiences.



Machine Learning

Adapts to learners' needs using real-time data

Would you like to chat about India's experience with AXL?

Please call or write to us using the details below-

Jagadish Babu,

COO, EkStep Foundation

Phone: +91-9845194267

Email: jagadish@ekstep.org

Website - all.ekstep.org



Literacy and numeracy improvement in low resource digital environment

System led + teacher accepted + AI powered + DPG enabled

Motivated learners

