



**CREATING SAFE SPACES FOR
LANGUAGE AND MATH**

EKSTEP FOUNDATION

“

“EkStep was created with the idea that a billion people need access to learning opportunities — and the only way to do that is by building open, collaborative, and scalable infrastructure.”



— **Nandan Nilekani**,
Co-founder, EkStep Foundation

”



About EkStep

**“Digital infrastructure for learning,
at population scale.”**

EkStep Foundation is a non-profit organization dedicated to enabling equitable access to learning opportunities for every learner in India. Founded in 2015 by **Nandan Nilekani, Rohini Nilekani,** and **Shankar Maruwada**, EkStep builds inclusive, open digital public infrastructure that empowers governments, educators, and communities to drive large-scale learning improvements.

With a mission to support Foundational Literacy and Numeracy (FLN) for all, EkStep collaborates with public systems to co-create solutions that are empathetic, scalable, and system-aligned. The **AXL Program (Assisted Learning)** is one such initiative — combining AI-powered personalization with school-integrated design to help children strengthen reading and math skills through structured, joyful practice.

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01

USER STORIES

Voices From the Field

Testimonials from students, teachers, parents and school heads.



“

Now even the quietest children want to know when the next computer class is.

They come and ask—when is the next AXL session? They’re excited to hear their names read out loud by the system.

ANANTHALAKSHMI

Senior Teacher, Government School

Context & Impact

With over two decades of teaching experience, Ananthalakshmi uses AXL to support C-group learners. She organizes students in small groups due to limited systems, and sees steady improvement in math skills and Telugu reading.

Why It Matters

- Children feel encouraged by interactive feedback
- Regular participation from low-performing students
- Even students with headphone/language issues progress with support

“

Our children are now learning with interest—even without a teacher present.

Children are now turning computers on and off by themselves. Earlier, they used to be scared. Now they come and do math and reading on their own, and even look forward to the next day.

ARUN KUMAR

Headmaster, MPPS Aziznagar

Context & Impact

Arun oversaw the AXL pilot in his school, coordinating with local authorities and an NGO to ensure device availability. He observed significant improvement in student engagement, regularity, and self-learning capacity, especially among C-group students.

Why It Matters

- Attendance increased since the program began
- Students independently navigate learning content
- Equitable digital learning introduced at no cost in a government school

“

My son now comes home excited to show what he did in the computer class.

He tells me, “Daddy, I want to study better now. I learned this on the computer today!”

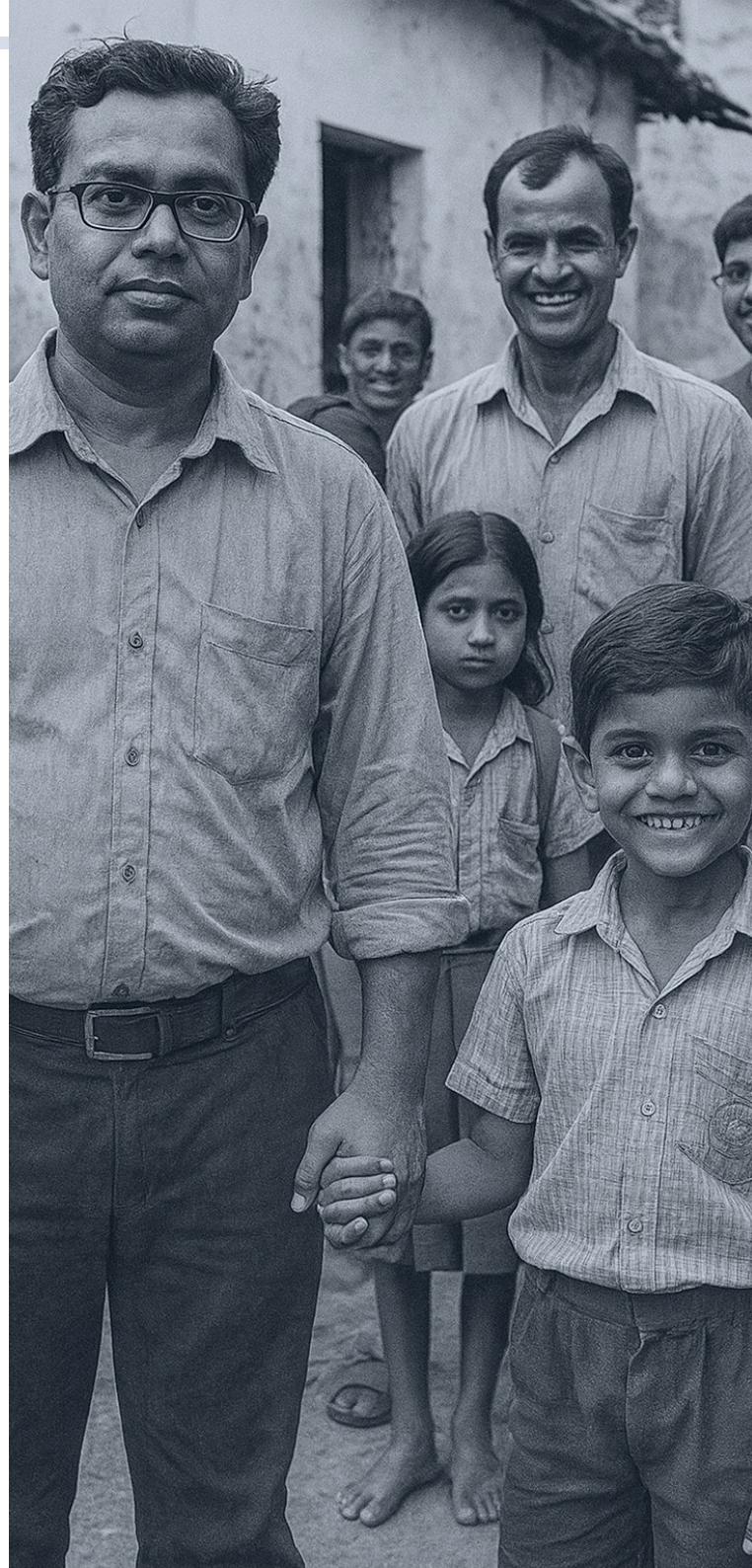
PARENT OF RISHIWARDHAN
5th Grade Student, Ajith Nagar

Context & Impact

Rishiwardhan's parent noticed a visible shift in motivation and aspiration. The AXL sessions sparked curiosity and a desire to excel, strengthening the belief that quality education can come from government schools.

Why It Matters

- Improves student self-esteem and learning enthusiasm
- Builds parental trust in public education quality
- Encourages continued attendance and engagement



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PURPOSE & SCOPE

This AXL (Assisted Language and Math Learning) Playbook is a strategic guide for education leaders, government officials, and school administrators committed to transforming foundational learning through AI-powered personalization.

It outlines AXL's mission, implementation roadmap, school integration model, stakeholder roles, business model, impact evidence, and future expansion strategy — enabling large-scale, sustainable adoption toward achieving universal foundational literacy and numeracy (FLN) by 2030.



Introducing AXL

An AI-Powered Learning System

AXL is a system-led, AI-powered, teacher-supported, state-of-the-art technology that helps children read and do math. AXL functions as part of the school system—children use AXL in their school lab for a certain amount of time every week. Through sustained, adaptive practice, AXL helps children improve their reading and numeracy skills.

AXL is available as a web-based platform and can also be accessed via mobile devices, enabling flexible deployment across diverse infrastructure setups.



Safe space free of judgement



Abundant, joyful, adaptive practice



System-led, embedded in existing ecosystem

Why AXL

Meeting an Urgent Need

Across the world, millions of children struggle with basic reading and math skills — not due to lack of effort, but due to systemic barriers: large class sizes, diverse learning levels within classrooms, and limited infrastructure.

India, in particular, faces deep-rooted challenges:



Overburdened Classrooms: Teachers have limited capacity for individual attention.



Learning Gaps: Students at vastly different skill levels within the same grade.



Infrastructure Constraints: Many schools lack functional labs, devices, or stable internet.

AI at the Core

Personalizing Learning, Powering Systems

AXL is not just a digital tool — it is a **system-led, AI-powered solution**.

AI is central to how AXL works:

- Tracks student performance in real time
- Identifies individual learning gaps
- Adapts content dynamically based on each child's level
- Provides targeted, confidence-building practice

This results in **precision at scale**, enabling systems to serve every child better — especially in diverse, under-resourced classrooms.

What AXL Offers to Learners, Teachers, and Systems :



FOR LEARNERS

Safe Learning Environment

Children learn at their own pace without fear or judgment, building confidence and ownership.

Adaptive Practice

AI continuously adjusts activity levels based on student performance.

Joyful Engagement

Gamified, milestone-based activities keep students motivated and consistent.

Foundational Mastery

Students gain competence in reading, comprehension, and numeracy through structured practice.



FOR TEACHERS

Real-Time Insights

Dashboards help teachers track progress and plan targeted support.

Efficient Classrooms

Reduces direct instruction load so teachers can focus on facilitation and remediation.

Support for Mixed Abilities

Teachers can manage multi-level classrooms without one-size-fits-all pressure.

Professional Growth

Teachers build comfort with digital tools and use data to guide their teaching.



FOR THE STATE SYSTEM

Aligned with National Missions

Content aligned with national standards

Light Infrastructure

Runs on basic desktops, shared devices, and works offline where needed.

Scalable Implementation

8-stage rollout model proven in states like TN and TS.

“Seeing” usage and progress

AXL provides deep insights on usage and progress through data

Components of AXL

AXL comprises two core AI-powered learning pathways — **Assisted Language Learning (ALL)** and **Assisted Math Learning (AML)** — each designed to build strong foundational skills through personalized, structured practice.



Assisted Language Learning (ALL)



ALL strengthens **reading and comprehension** by focusing on phonemic awareness, word recognition, sentence formation, and fluency.

AI continuously adapts content based on each child's proficiency, enabling self-paced, stress-free learning. Teachers receive real-time insights to guide support where it's needed most.



Assisted Math Learning (AML)



AML builds **numeracy and problem-solving** skills, covering number operations, patterns, and logic. AI identifies gaps and provides targeted practice to ensure conceptual clarity and procedural fluency, helping children progress confidently through core math competencies.

Both components are **designed for low-tech environments**, require minimal teacher facilitation, and are fully integrated into school timetables — making AXL practical, scalable, and impactful in real classrooms.

How AXL Works in Schools

At a Glance

Lab-Based or Shared Infrastructure Use

- Conducted in school labs or with shared devices (desktops, tablets, teacher phones)
- Works offline in low-connectivity areas using preloaded servers

AI-Driven Personalization

- AI adapts practice tasks to each student's level
- Automatically increases complexity as skills improve

Abundant practice through timetable-Integrated Sessions

- Specified number of sessions in a week per week per subject (Language and Math)
- Adequate time of active practice time: at least 20 minutes of active practice + setup time
- Conducted during regular school hours

Teacher as Facilitator

- Use session insights (e.g., student behavior, task completion) to identify learners who may need additional support
- Ensure students follow session protocols and stay engaged

Governance and Monitoring

- State can access data to derive insights, track usage, progress and engagement
- Oversight through review meetings at state and district levels ensures accountability and course correction

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DESIGNING AXL PROGRAM

Designing an AXL program begins with clearly identifying the key objectives it seeks to achieve. States must consider who the program is intended for—whether all students or only those needing additional support—the desired scale of the program, and the availability of necessary infrastructure. Developing an AXL program involves addressing these and other important questions. The following section outlines the key elements that should be included in the design of an AXL program.



Program Objectives

Context-driven, need-based

The AXL program is designed to be flexible and responsive to the specific needs of schools and education departments. Below is a set of **example objectives** to help schools, districts, or states align AXL implementation with their foundational learning goals. Schools can choose one or more objectives that are most relevant to their learner profiles and systemic priorities.

Objective Type	Example Program Objectives	Who It's Ideal For
 Remedial	Help students below grade level build core skills in reading or basic math. Close learning gaps caused by disrupted schooling or low instructional time.	Students struggling with foundational learning (Strugglers) Grades 3–5 or high-need clusters
 Complementary	Reinforce in-class concepts through additional structured practice in a digital format. Provide opportunities for extended, self-paced learning in language and math.	On-track students who need fluency and retention support Grades 4–8 across all school types
 Enrichment/Fluency	Accelerate learning for advanced or fast learners using adaptive tasks. Prepare students for higher-order comprehension and math problem solving.	“Warrior” learners aiming for mastery Grades 6–8 or English-medium schools
 Equity and Access	Offer a safe, inclusive space for learners from marginalized backgrounds to practice freely. Ensure all students receive equal access to digital foundational learning tools.	Rural/tribal areas, low-literacy communities Government schools with mixed abilities
 Community Engagement	Involve parents and community volunteers in the learning journey using home-practice tools. Improve home-school continuity through storytelling, bots, and progress tracking.	Schools with active SMCs or community interest Grades 1–5, especially in multilingual homes
 System Strengthening	Pilot or scale up use of data dashboards to improve instructional planning and governance. Align with state/national FLN missions using AI-led monitoring and reports.	District/block leaders and PMUs States running NIPUN Bharat or Vidya Samiksha Kendras

Key Elements of the AXL PROGRAM

An AI-Powered Learning System

The AXL program is designed to be flexible and adaptable to the needs of individual schools, districts, and states. This section outlines the **core design elements** that shape implementation. For each, we've included a practical **Planning Guide** to help local teams make informed decisions and begin execution confidently.

1. Program Objectives

AXL can serve different purposes depending on the learner profile and systemic goals.

WHAT THIS MEANS:

Before launching AXL, it's important to define the primary intent. Are you addressing learning loss (remedial)? Reinforcing what's taught in class (complementary)? Or accelerating strong learners (fluency)? This choice shapes the usage model and success metrics.

PLANNING GUIDE:

Question	Options
What is your program focus?	☐ Remedial ☐ Complementary ☐ Fluency
Who are you targeting?	☐ Strugglers ☐ Strivers ☐ Warriors ☐ All



RECOMMENDATIONS:

- ✓ *Focus on Strugglers and Strivers in Grades 3–5 where foundational gaps are most visible.*
- ✓ *Keep the focus tight — combining too many objectives can dilute program impact.*

2. Scope and Reach

Once program objectives have been defined, the scale, scope and size of the program have to be decided. Key questions here include the following:

- Which districts will be part of the program? The choice of districts usually depends on the nature of the district (aspirational, has deep need) or on infrastructure considerations (is physical infrastructure present). There could be other considerations too.
- Within districts, blocks and schools also need to be chosen. Again, this depends on the objectives and considerations such as availability of infrastructure and need (based on the distribution of children who need support).
- Finally, target grades need to be chosen. AXL is designed to work for Grades 2 to 7, but other grades are also included in some state-level adoptions.
- Within target grades, a choice of students has to be made. Are all children going to be part of the program? Will the program only address children that need support? Will there be a mix of students, reflecting how classrooms actually work?

WHAT THIS MEANS:

Clear definition of schools, grades, and students covered is essential. This informs planning around infrastructure, training, support, and budget.

PLANNING GUIDE:

Question	Inputs / Decisions
Districts/schools to participate	_____
Grades included	☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8
Approximate number of students	_____

RECOMMENDATIONS:

- Usually, states start with a pilot program aimed at a percentage of schools and scale up from there.
- Focus grades can be selected based on state objectives. A more focused program at the beginning is likely to see greater success - focus implies fewer students or schools but greater oversight.
- FLN data, NAS reports, or internal MIS can be used to identify priority clusters.
- Greater administrative oversight at the beginning stages of a program is a good predictor of good execution. Our experience shows that districts in which the highest levels of district administration, including DMs, are involved in initial roll-out and execution, do better than others.

3. Student Selection

The approach to student selection is guided by program objectives and contextual priorities.

In many states, internal classifications are already in place to identify students who require additional support and those who are progressing at expected levels. These categorizations—though named differently across geographies—are used to guide program targeting and determine the level of intervention required.

WHAT THIS MEANS:

Students may be grouped based on school inputs or existing academic observations. Once identified, appropriate levels of learning support—such as foundational reinforcement or fluency-building—can be planned. This ensures that AXL sessions are focused and meaningful for different learner segments.

PLANNING GUIDE:

Question	Response
How will students be grouped?	☐ Grade-level grouping ☐ Teacher-led
Learning levels to prioritize	☐ Foundational ☐ Fluency building

RECOMMENDATIONS:

- ✓ Start with Foundational and Fluency levels; introduce Application levels post-milestone gains.

4. Governance Structure

Put in place the teams that will drive and monitor the program.

WHAT THIS MEANS:

Assign clear roles at the state, district, block, and school levels. Strong governance ensures timely issue resolution, quality assurance, and sustainability.

PLANNING GUIDE:

Role	Assigned Person / Team
State-level PMU Lead	_____
District Coordinators	_____
Cluster/Block Coordinators	_____
School Implementation Lead	_____

RECOMMENDATIONS:

- ✓ Nominate dedicated nodal officers for tech, pedagogy, and M&E at state and district level.
- ✓ Use the existing FLN task forces for integrated oversight.
- ✓ Plan for weekly check-ins at district/block level during pilots and early scale.

5. Infrastructure and Devices

Ensure the right tools are in place for student access.

WHAT THIS MEANS:

AXL is designed to run on existing low-cost digital devices such as tablets, desktops, or laptops. However, certain basic enablers—such as reliable power supply, stable internet (where applicable), and functional audio equipment (headphones or speakers)—are essential to ensure uninterrupted sessions.

Schools are encouraged to assess current availability and identify any gaps in advance of implementation. For a program that works at scale, the procurement process could take several months and therefore should be started early.

PLANNING GUIDE:

Item	Minimum Requirement	Status / Action Needed
Devices per school	Min. 5 devices	_____
Internet speed	Min. 10 Mbps	_____
Headphones with mic	1 per device	_____
Server / hosting setup	☐ Cloud ☐ State server	_____

RECOMMENDATIONS:

- ✓ Existing ICT labs or shared digital facilities can be considered as a starting point for implementation, wherever available.
- ✓ Pooled procurement of headsets and routers may help achieve cost efficiencies at scale.
- ✓ Exploring multi-year maintenance arrangements (e.g., 3–5 years) could support smoother upkeep over time.



6. Training: Building Capacity for High-Fidelity Implementation

Once program scope and infrastructure are defined, an essential next step is ensuring that all stakeholders are **trained and ready** to implement AXL effectively. Training enables program sustainability, reduces friction in rollout, and fosters confidence at all levels.

WHAT THE TRAINING COVERS:

Focus Area	Content
 Program Orientation	Introduction to AXL's goals, learning approach, structure, and alignment with FLN objectives.
 Technical Setup & Usage	Hands-on walkthrough of how to access the platform (ALL/AML), managing devices, using offline servers, and session scheduling.
 Facilitation Techniques	Guidance on how to support learners without direct instruction, troubleshoot common issues, and maintain student engagement.
 Governance & Monitoring	How to track progress, report usage, and participate in review cycles at school and district levels.

PLANNING GUIDE:

Question	Inputs / Decisions
Who are the target participants?	☐ Teachers ☐ Lab Coordinators ☐ Head Teachers ☐ District/Block Officials ☐ PMU Teams ☐ All
What types of training are needed?	☐ Orientation ☐ Technical Setup ☐ Facilitation Skills ☐ Monitoring & Reporting ☐ All
Training Format	☐ In-person ☐ Digital/Self-paced ☐ Hybrid
Training Schedule & Duration	_____
Trainers/Facilitators Identified	_____
Refresher Plan	☐ Monthly ☐ Quarterly ☐ Term-wise

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RECOMMENDED PROTOCOL FOR AXL

The success of AXL is directly linked to how consistently and effectively it is used. To help learners make measurable progress, schools should follow a **minimum “dose” protocol**—structured around frequency, duration, and spacing of sessions.



Below is a recommended usage framework based on observed effectiveness across states and pilot programs:

Subject	Sessions / Week	Time / Session	Days / Week	Recommended Spacing	Minimum Program Duration
Language (ALL)	2 sessions	30-40 min	2 days	Every other day (e.g. Mon & Wed)	8 weeks
Math (AML)	2 sessions	30-40 min	2 days	Alternate days (e.g. Tue & Thu)	8weeks

Note : These are baseline recommendations intended to ensure minimum effective usage. **A minimum of 200 minutes per student** is recommended to observe meaningful learning progress. Schools with additional infrastructure or flexibility may choose to increase the number of sessions per week.

Timetabling and Session Spacing

To ensure successful implementation of AXL, schools are advised to:

1. Embed AXL into the School Timetable

- Allocate fixed lab periods during non-core subject hours (e.g., after lunch or during library/ ICT time)
- Ensure no class or group is left out due to scheduling conflicts
- Display the AXL timetable on classroom or lab walls for visibility

2. Space Out Sessions for Retention

- Spread sessions evenly through the week instead of back-to-back on consecutive days.
Example: Language on Mon & Wed; Math on Tue & Thu
- A minimum of one period per week per subject (ALL and AML) may be allocated for each child. Where feasible, this can be spread across two days to reinforce learning.
- Slotting AXL sessions between Monday and Thursday can be considered, allowing Fridays to remain open for milestone showcases.



3. Use a Grade Rotation Plan

- If multiple grades share a lab, rotate access by grade blocks (e.g., Grades 3–5 in the morning, Grades 6–8 in the afternoon)
- Build flexibility in scheduling around exam cycles, holidays, and remediation needs

Sample Program Design & Protocol Summary

This is a sample program design intended for reference and initial planning purposes. Actual implementation may vary based on local context, school readiness, infrastructure availability, and stakeholder inputs. The design parameters should be treated as indicative, not prescriptive, and should be adapted as needed.

COMPONENT	DETAILS	
 Target Grades	Grades 3 to 8	
 School Types	Public schools — urban, rural, and remote settings	
 Priority Regions	Aspirational districts and other underserved geographies	
 Student Selection	Inclusive approach recommended; final selection based on device access, grade-level readiness, and school input	
 Subjects Covered	- Literacy (ALL – Assisted Learning in Literacy) - Numeracy (AML – Assisted Math Learning)	
 Session Frequency	2 sessions per subject per week per student	
 Session Duration	20 minutes per session	
 Delivery Mode	- School computer labs - Teacher-owned devices - Shared digital devices	
 Device Types	- Desktops (preferred) - Tablets - Laptops - Teacher smartphones	
 Infrastructure Needs	- Basic digital access - Compatible with low-bandwidth environments	
 Timetable Integration	Embedded within regular school hours with flexible scheduling	
 Group Management	- Flexible groupings based on device availability - Staggered scheduling if needed	

05

AXL

IMPLEMENTATION

At a Glance



Why a Staged Approach?

Rolling out AXL across a system requires more than just technology — it needs clarity, coordination, and momentum. This seven-stage roadmap offers a tested and user-friendly blueprint to guide states from early curiosity to full-scale adoption and long-term integration. Each stage builds toward sustainable implementation, with clear ownership across stakeholders.

The Seven Stages of Implementation



Stage 1: Awareness & Orientation

Objective: Build initial interest and familiarity

This stage focuses on introducing AXL to key stakeholders using decks, walkthroughs, videos, and peer-sharing. It sets the tone for collaboration and generates curiosity about how AXL works in real classrooms.



Stage 2: Stakeholder Alignment & Engagement

Objective: Secure buy-in and co-create the roadmap

Leaders come together to define the program's scope — including target grades, infrastructure needs, and metrics. Deep-dive sessions and planning workshops ensure everyone is aligned before rollout.



Stage 3: MoU Signing

Objective: Formalize roles and responsibilities

This is where intent becomes commitment. A multi-year MoU is signed, detailing governance, data use, and implementation roles — ensuring institutional clarity and long-term accountability.



Stage 4: Implementation Preparation

Objective: Get schools and teams ready

Key groundwork happens here — labs are refurbished, nodal officers are assigned, teachers are trained, and dashboards go live. This stage ensures operational readiness across all levels.



Stage 5: Pilot Execution

Objective: Launch in selected schools and learn

AXL is introduced in a focused set of schools. Sessions are run, dashboards monitored, feedback gathered, and implementation tweaked. This helps build confidence and surface key learnings.



Stage 6: Scale-Up & Stabilization

Objective: Expand adoption and streamline operations

Based on pilot insights, AXL is rolled out in phases across all target schools. Backend systems are stabilized, refresher trainings are conducted, and support structures are strengthened.



Stage 7: Optimization & Evolution

Objective: Institutionalize and innovate

AXL is now part of the system. This stage focuses on curriculum alignment, localization, expanding subjects, and using insights from dashboards to drive continuous improvement.

Summary of the Seven Stages

The table below provides a quick-reference view of all seven stages — with clear objectives, key actions, responsibilities, timelines, and expected outcomes. This can serve as your checklist while planning or reviewing implementation progress.

Stage No	Name of the stage	What we want to accomplish	Key Activities
01	Awareness & Orientation	Introduce AXL and build curiosity among key stakeholders	- Share decks, walkthroughs via allekstep.org - Use webinars, newsletters, and peer-sharing
02	Stakeholder Alignment & Engagement	Secure buy-in, finalize scope, co-create rollout strategy	- Conduct meetings with SPD, SCERT, PMU, IT - Host workshops to finalize scope (grades, infra, metrics) - Platform and pedagogy demo
03	MoU Signing	Formalize the partnership	- Sign multi-year MoU - Define governance, data use, DPG commitments
04	Implementation Preparation	Build operational readiness	- Set up PMU, assign nodal officers - Refurbish labs, procure & test infra - Train teachers & coordinators - Launch governance structures and dashboards
05	Pilot Execution	Test AXL and gather insights	- Run AXL in select schools (Grades 3–8) - Monitor sessions (2–3/week) - Collect feedback, resolve issues
06	Scale-Up & Stabilization	Expand footprint and stabilize adoption	- Roll out in phases to additional schools - Migrate to state servers - Deliver refresher training, live support
07	Optimization & Evolution	Deepen impact and institutionalize AXL	- Use AI insights to refine learning - Localize content and expand subject coverage - Integrate with VSK and national missions

Roles & Responsibilities	Suggested Timeline	Outcome
- EkStep: Share materials, host demos - SPD/SCERT: Promote across departments - NGOs/Partners: Nominate schools	Week 0–4	Stakeholder understanding & interest generated
- SPD/SCERT: Lead alignment - IT/NIC: Assess infra readiness - Districts: Identify pilots - EkStep: Run deep dives, support planning	Week 4–8	Scope, model, and stakeholder roles finalized
- SPD & Legal: Finalize and sign - EkStep Legal: Share draft, finalize terms - SCERT/IT: Confirm role distribution	Week 8–10	Strategic agreement secured
- State PMU: Coordinate readiness - IT: Infra and server prep - SCERT: Lead training, pedagogy - Districts: School monitoring - EkStep: Provide tools, templates, training	Week 10–16	Schools equipped, teams trained, dashboards live
- Teachers: Deliver sessions - District Teams: Track adoption - MIS: Aggregate data - State : Analyze and generate report	Week 17–23 (45 days)	Pilot learnings documented, report generated
- PMU: Manage expansion - IT: Oversee infra transitions - Districts: Review regularly - Teachers: Run sessions independently	Week 24–40	AXL scaled up and stabilized across system
- SCERT: Curriculum alignment - M&E/IT: Dashboard-driven improvement - EkStep: Support integration and innovation pilots	Week 40+ (Ongoing)	AXL embedded in state's digital learning ecosystem

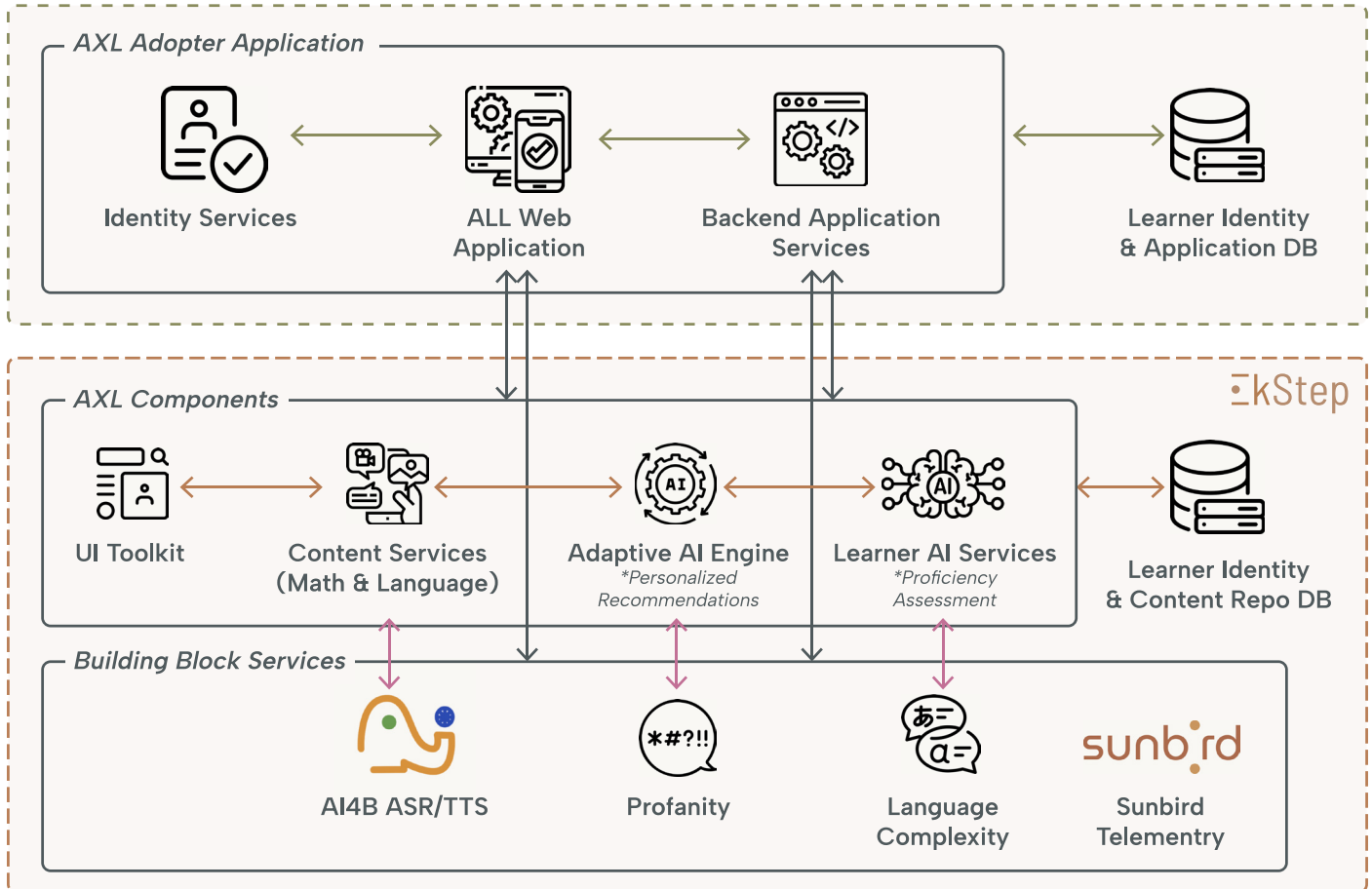
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INFRASTRUCTURE REQUIREMENT FOR AXL

A well-functioning digital learning environment is critical to the success of AXL. This section outlines the **minimum technical specifications, recommended setup**, and **procurement considerations** for both school-side and server-side infrastructure.

AXL PRODUCT ARCHITECTURE MAP

This Product Architecture map visualizes how AXL works “under the hood”



Key Components at a Glance

A robust infrastructure is key to ensuring smooth and scalable AXL deployment. The infographic below summarizes core infrastructure categories, while the highlights offer a quick reference for planning and procurement.



DEVICES

Minimum 5 per lab, 2GHz dual-core processor, 4 GB RAM, Windows 10+, Chrome/Firefox browser.



SERVER-SIDE (IF SELF-HOSTED)

r6i.xlarge app servers + db.r6g.xlarge (MongoDB) for backend.



AUDIO EQUIPMENT

Durable headsets with mic (volume-limited, noise-canceling), e.g., Zebronics 1001 HMV.



AUTHENTICATION

Prefer state SSO; fallback to Google or AXL login.



INTERNET & POWER

Minimum 10 Mbps; UPS backup recommended for lab continuity.



PROCUREMENT

5-year maintenance, vendor-installed setup, logging & validation required.



07

ROLES & RESPONSIBILITIES

Successful implementation of AXL requires coordinated efforts across all levels of the education ecosystem. This section outlines the key stakeholders and their core responsibilities to ensure smooth, high-fidelity program execution.

State-Level Leadership

Stakeholder	Key Responsibilities
State Secretary	- Provide strategic oversight - Approve budgets and rollout plans - Facilitate cross-departmental coordination
SCERT Director / Academic Nodal Officer	- Align AXL content with FLN goals and curriculum - Oversee training design, quality and champion implementation - Support content localization and validation
IT Director / State IT Cell Lead	- Ensure digital infrastructure readiness - Oversee deployment, integration, and server-side hosting - Troubleshoot platform issues in coordination with tech teams
PMU lead/ IT nodal officer/SCERT representative	- Set up dashboards and reporting systems - Track usage and learning progress metrics - Organize monthly review meetings with districts

District & Block-Level Teams

Stakeholder	Key Responsibilities
District Project Coordinators (DPCs)	- Drive on-ground coordination - Monitor lab readiness and session schedules - Facilitate teacher support and escalation
ICT Coordinators / DIET Faculty	- Conduct site visits and troubleshooting - Support lab coordinators and collect feedback - Share monthly status updates with the state PMU
Block Education Officers (BEOs)	- Track program adoption across clusters - Lead monthly district-level review meetings - Identify gaps in training or infrastructure and escalate

School-Level Stakeholders

Stakeholder	Key Responsibilities
School Principal / Headmaster	- Ensure integration of AXL into the timetable - Nominate lab coordinators and assign teacher facilitators - Engage with parents and local stakeholders
Lab Coordinator / ICT Teacher	- Facilitate regular AXL sessions (2–3/week) - Maintain lab infrastructure and report issues - Track student usage and support onboarding
Subject Teachers (Grades 3–8)	- Use AXL dashboards to inform instruction - Encourage student progress through Showcase Weeks - Provide feedback on content and platform usage

Community Stakeholders

Stakeholder	Key Responsibilities
Parents & Guardians	- Encourage home-based AXL practice - Review progress reports and support learning habits - Participate in school-led Showcase events
School Management Committees (SMCs)	- Help sustain infrastructure and learning continuity - Advocate for consistent use and celebrate local success stories

Program Support Team

Stakeholder	Key Responsibilities
EkStep Core Team	- Provide platform access and technical support - Conduct training, onboarding, and program walkthroughs - Monitor adoption through real-time dashboards - Initial assistance in reports and help adapt the model based on feedback

Summary View: Who Does What, When

#	Stage	Key Stakeholders	Example Responsibilities
1	Awareness	EkStep, SPD, NGOs	Dissemination, promotion
2	Alignment	SPD, SCERT, IT Department, District Administration	Planning, scoping
3	MoU	Legal, SPD, EkStep	Formal agreements
4	Preparation	PMU, SCERT, IT	Setup, training
5	Pilot	Teachers, MIS, Districts	Execution, monitoring
6	Scale-up	PMU, IT, Districts	Expansion, stabilization
7	Optimization	SCERT, EkStep	Long-term integration

08

BUDGETING NOTES FOR AXL IMPLEMENTATION

AXL is built to be cost-effective, scalable, and aligned with existing education budgets. Here's how to think about planning and structuring your investment.

What Are You Paying For? How Can You Pay for It?

These are indicative numbers. The AXL initiative constantly seeks to optimize costs, and these indicative numbers could change substantially in the future

Component	Description	Cost borne by	Cost Estimate	Pricing model
Core Platform & Tools	Access to ALL and AML platforms, AI engine, dashboards	EkStep (platform); State (dashboards)	Included in partnership / licensing	Subscription-based / one-time license
Infrastructure Setup	Devices, audio equipment, offline servers, lab setup	State	₹50,000–₹1,50,000 per school (varies by setup)	One-time
Server & Hosting	Cloud or on-premise server setup and maintenance	State	₹200–₹300 per child/year OR ₹25,000–₹50,000 per server	Per child/year or server/year
Training & Capacity Building	Training for teachers, lab coordinators, admin teams	State	₹500–₹1,000 per teacher (per cycle)	Per training cycle
Implementation & Field Support	PMU setup, SOPs, field support, monitoring tools	State	₹2,00,000–₹5,00,000 per district (one-time)	One-time
Add-Ons (Optional)	Customization, printed materials, bots, community tools	Optional - State or Partners	Custom – based on need and scale	Custom/Optional

Smart Budgeting Tips

- ✓ Use Samagra Shiksha funds under ICT, FLN, Teacher Training, or Digital Infrastructure heads
- ✓ Start small: Pilot in a few districts or blocks, then scale based on results
- ✓ Leverage existing school labs to minimize capital expenditure
- ✓ Plan shared usage of infrastructure to optimize device utilization
- ✓ Consider total cost per child — AXL has shown strong ROI in early pilots through learning improvements and reduced remediation needs

09

PRACTICES FROM STATE IMPLEMENTATIONS

Field-Tested Strategies from Telangana,
Tamil Nadu & Karnataka

AXL's impact has been shaped by strong execution practices across states. Below are stakeholder-specific best practices, with real examples from the ground that helped anchor success.



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At the State Leadership Level

Best Practices

- Active ownership by SPD, SCERT, and IT Departments
- Formal designation of nodal officers for tech, pedagogy, and M&E
- Regular state-level review meetings integrated into FLN governance
- Alignment with national/state priorities (e.g. NIPUN Bharat, NEP, Samagra Shiksha)

Examples

- Telangana: Appointed nodal officers across 33 districts with weekly PMU calls for review
- Tamil Nadu: Included AXL sessions into the Mozhiyal program and integrated them into the state timetable policy
- Karnataka: Budgeted for AXL under Kalika Deepa, ensuring funding continuity for 2,000+ schools



At the District & Block Level

Best Practices

- Identify “Champion Districts” to pilot and learn before scaling
- Phase-wise rollout with early lab setup and tech readiness
- Weekly usage tracking, school visits, and local escalation mechanisms

Examples

- Telangana: 6 Champion Districts launched first with PMU support before expanding to all 33
- Tamil Nadu: Districts used Google Sheets-based logs for infrastructure and training status tracking
- Karnataka: DIET faculty led localized training and site visits, building feedback into SCERT reporting



At the School & Teacher Level

Best Practices

- AXL sessions timetabled: 2–3 per week per subject
- Teachers facilitate, not teach — reducing burden
- Trainings focused on facilitation and troubleshooting, not technical depth
- Peer motivation through milestone showcases

Examples

- Telangana: Teachers used printed milestone charts to recognize student progress in assemblies
- Tamil Nadu: School heads ensured rotation plans were printed and displayed in labs
- Karnataka: Teachers received refresher training every term, organized by the SCERT academic team



At the Community & Parent Level

Best Practices

- Involve SMCs in lab setup and rollout
- Engage parents with student showcase events
- Highlight student achievement in school and local events

Examples

- Telangana: PMUs reported that parents began inquiring about milestone levels — a first-time engagement with digital learning
- Tamil Nadu: Community volunteers supported lab maintenance in rural blocks during early scale-up
- Karnataka: Local school events included AXL certificate distribution, which improved program recall



At the Student Level

Best Practices

- Encourage consistent usage (~200 minutes per child across weeks)
- Let AI personalize the pace — no comparisons across students
- Celebrate milestone achievements
- Begin early in primary grades for maximum impact

Examples

- Telangana: Students who completed 10+ sessions had 4x milestone growth
- Tamil Nadu: Class 3 students showed phoneme improvement after just 4 weeks of structured use
- Karnataka: Younger learners were grouped for early sessions and supported by peer monitors in labs



Good-to-Have Enablers to Strengthen AXL Implementation

While AXL functions well within existing school setups, the following suggested practices can help enhance the experience, smoothen implementation, and deepen learning outcomes:

DEDICATED LAB COORDINATORS OR SUPPORT STAFF

Having a point person to manage devices, logins, and session setup can ease day-to-day operations and reduce teacher workload.

EARLY BASELINE DIAGNOSTICS

A simple diagnostic in the first two weeks can help tailor support and establish a clear starting point for tracking progress.

VISIBLE TIMETABLES & ROTATION PLANS

Displaying lab schedules and student rotations in visible areas supports better planning and consistency—especially in resource-constrained schools.

STUDENT PROGRESS TRACKERS

Wall charts or notebook-based milestone trackers can motivate students and highlight small wins.

SHARING MOMENTS IN CLASS

Periodic sharing moments in class or assembly can foster motivation and a culture of recognition.

STUDENT SHOWCASES & PEER CELEBRATIONS

Plan for Milestone Weeks and Set aside weeks at the end of each 4–6 week cycle for “Showcase Sessions” to track learner growth.

Use these sessions to celebrate progress and engage parents and school staff

WHATSAPP GROUPS FOR IMPLEMENTATION TEAMS

Informal WhatsApp groups at school or cluster levels enable quick troubleshooting and peer-to-peer learning.

OFFLINE BACKUP KITS

A basic offline content backup (e.g., USB drive or local cache) can help ensure continuity during internet downtime.

MENTOR TEACHER NETWORK

Encouraging strong teachers to support peers as informal “AXL mentors” can sustain momentum and promote collaborative learning.

10

BEYOND SCHOOLS

AXL can work beyond school environments. This section details how AXL can work across communities.

Expanding the Scope of AXL

While AXL is rooted in strengthening foundational learning within schools, its flexible, AI-powered design also supports broader lifelong learning needs. It is being explored in vocational settings to build workforce readiness — particularly in spoken English and digital literacy — and within communities, where schools can serve as hubs for self-paced learning accessible to parents, youth, and out-of-school learners.

AXL demonstrates that foundational learning is not limited to classrooms — it's a critical enabler of social and economic inclusion. With the right infrastructure and collaboration, India is well-positioned to lead the way in achieving universal FLN by 2030.

This extended application of AXL demonstrates that foundational learning is not just a school objective—it is a societal imperative.

For any additional ideas or suggestions on expanding the scope of AXL, please reach out to us.

India has the opportunity to lead the world in building an AI-powered foundational learning model. With the right infrastructure and collaboration, the goal of universal FLN by 2030 is not only possible—it is within reach.



**ASSISTED LANGUAGE
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