Asha for Education Chennai

From First Clicks to Confident Classrooms: The ACE Impact Story

IMPACT ASSESSMENT REPORT

ASHA CHENNAI

This report has been compiled by an independent third party consultancy.

This Impact Assessment Report has been researched, compiled, and written by AuxoHub (refer to Annexure B), an independent third-party consultancy specialising in communication-led research and evaluation for the social sector. AuxoHub was engaged to provide an external perspective on the ACE programme's implementation.

The analysis, findings, and recommendations presented here are based on a systematic evaluation that included surveys, in-depth interviews with teachers, trainers, administrators, students, and parents, as well as classroom observations and a review of programme documentation. By combining these multiple sources, AuxoHub has sought to provide a balanced and evidence-based account of the programme's progress, challenges, and outcomes.

This report is intended to capture voices from the field and reflect emerging changes as impartially as possible. While it highlights the successes of the ACE model, it also documents areas for improvement, offering recommendations grounded in stakeholder feedback and on-ground realities.

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EXECUTIVE SUMMARY

The Asha Computer Education (ACE) programme, launched by Asha Chennai in October 2023, set out to answer a bold question: Could rural government schools, long left behind in the digital age, become spaces where students not only access technology but feel at home with it? ACE's answer, after one year, is a resounding yes.

Rather than depend on external instructors or short-term interventions, ACE trains in-service government teachers to independently conduct computer classes using everyday tools like Paint, Word, PowerPoint, and Scratch. With a focus on sustainability, the programme has been rolled out across over 50 schools in Thiruvallur, Thoothukudi, Thiruvannamalai, and Villupuram districts of Tamil Nadu, reaching hundreds of students through two distinct phases: ACE V1 and V2.

This impact assessment, conducted over February–March 2025, draws surveys conducted with 13 trainers and 37 teachers, on surveys conducted with 13 trainers and 37 teachers, 95 interviews with teachers, trainers, students, parents, and administrators, alongside classroom observations and lesson plan reviews. Using the Kirkpatrick Model to analyse stakeholder responses, the evaluation captures how ACE has shifted not only what is taught but also how learning happens, and who is empowered in the process.

KEY FINDINGS

Teachers began the programme with visible hesitation; many had never used a laptop before and feared they would fall behind. However, the training's paced, hands-on nature, delivered in Tamil, helped them overcome their fears. They did not just learn new skills; they reimagined their roles in the classroom. Slowly, the chalk-and-talk teacher became a facilitator, letting students lead the way, try, fail, and try again. For many, it felt like becoming a student again, and that humility became their strength.

Students took part in the programme with contagious enthusiasm. Computer class became the most anticipated part of the week. They typed, drew, created animations, and crafted birthday cards for parents. They showed siblings what they had learned. They started dreaming of becoming teachers, coders, and designers. For some, it was the first time school felt like a place where they could shine.

The ripple effects travelled further. Attendance improved. Teachers started using ACE-inspired methods in other subjects. Parents who once felt disconnected from their children's education began engaging more. In many schools, ACE even found its way into the weekly timetable, not by mandate, but because teachers and school leaders made space for it.

CHALLENGES

Still, the programme is not without its hurdles. Infrastructure remains a concern: too few laptops for too many students, unreliable electricity, and internet access that depends on personal data packs. Teachers, while motivated, begin at very different levels of digital readiness. Class time is limited, often squeezed in between exam prep and core subject duties. While ACE has brought learning alive, the existing assessment tools could benefit from greater nuance to assess that learning in age-appropriate, language-accessible ways.

CONCLUSION: A STORY STILL BEING WRITTEN

ACE is not a finished product; it is a living, growing effort shaped by feedback, reflection, and community trust. What it proves, already, is powerful: that digital learning does not need to be expensive to be transformative. That capacity built from within the system is more sustainable than parallel interventions. That even in schools with one laptop and forty children, curiosity can flourish.

This is a story of teachers who dared to try, of students who taught their parents, of schools that unlocked dusty labs and gave children something new to look forward to. It is a story of firsts: first files saved, first emails sent, first dreams voiced out loud.

Though ACE is still in its early chapters, it has shown us what is possible when we trust people over products, and potential over polish. The road ahead towards scale, system integration, and deeper learning is long, but the foundation is solid. With continued mentorship, infrastructure support, and a vision for inclusion, ACE can become more than a programme. It can become a movement.

> **This is the first time I feel we are not being left behind.**
>
> **– ACE V2 Teacher, Thiruvannamalai**

ABOUT THE ACE PROGRAMME

The Asha Computer Education (ACE) programme is an initiative by Asha Chennai to improve access to computer education in rural government schools by equipping in-service government teachers to deliver foundational digital literacy to their students. Launched in October 2023, ACE is rooted in the belief that sustainable, scalable digital education must come from within the system, not through externally placed instructors or temporary interventions.

ACE builds on Asha Chennai's earlier experience with the Explore project, a long-running programme in which Asha-appointed computer instructors directly taught computer science in government schools. While Explore yielded strong learning outcomes, its reliance on external staff made long-term integration and scale challenging. ACE represents the next step: a shift from delivery to capacity building, from substitution to empowerment.

> **We did not want to just keep filling the gap. We wanted to close it by making government teachers the owners of digital education.**
>
> **– Asha Team Member**

PROGRAMME OBJECTIVES

ACE was designed around four core goals:

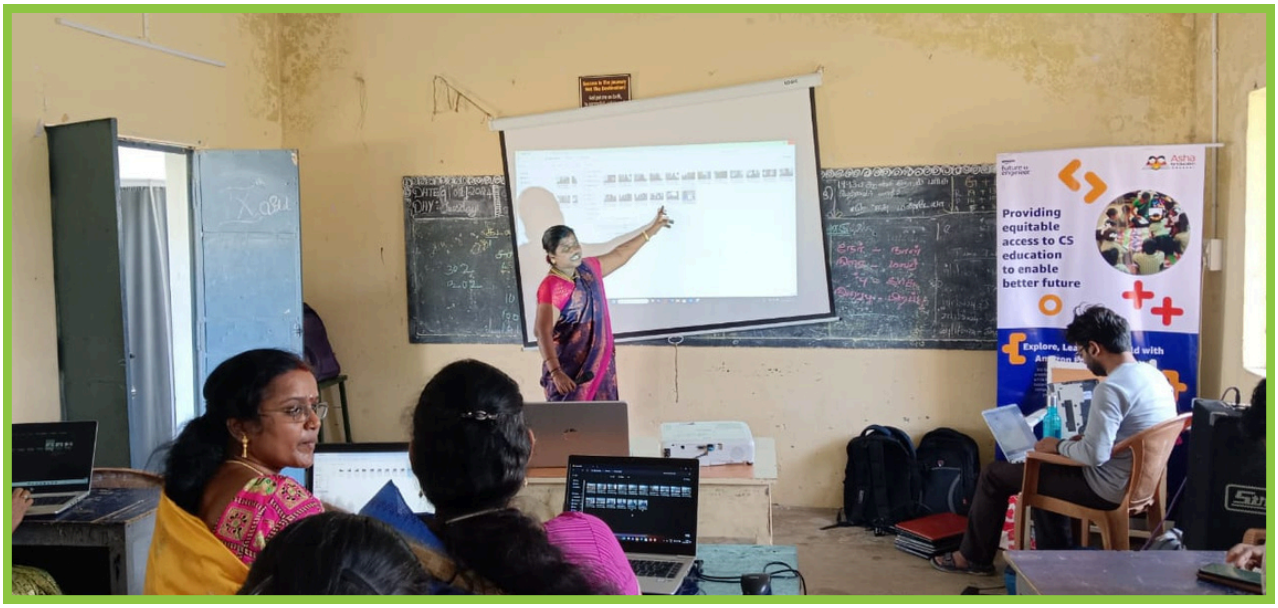
1. Train in-service government school teachers in essential digital tools and child-friendly pedagogies
2. Enable these teachers to deliver regular computer classes in their own schools independently
3. Ensure students develop basic digital literacy and confidence through hands-on engagement
4. Create a model that is low-cost, scalable, and system-aligned, capable of long-term adoption by schools and departments

The programme is focused on sustainability: it builds skills into existing teacher roles, works with limited infrastructure, and supports flexible classroom implementation.

DELIVERY MODEL: TRAIN-THE-TRAINER

ACE follows a train-the-trainer approach. Asha Chennai's in-house trainers conduct structured, in-person workshops in Tamil for selected government school teachers. These sessions focus on:

- Basic computer operations (typing, navigation, file handling)
- Use of common software like Paint, Word, Excel, and PowerPoint
- Introduction to block-based programming using Scratch
- Classroom management strategies for teaching with shared or limited devices



The workshops are designed to be hands-on, supportive, and iterative. Teachers are encouraged to explore, make mistakes, and ask questions, mirroring the spirit they are expected to carry into their own classrooms.

Following the training, teachers receive:

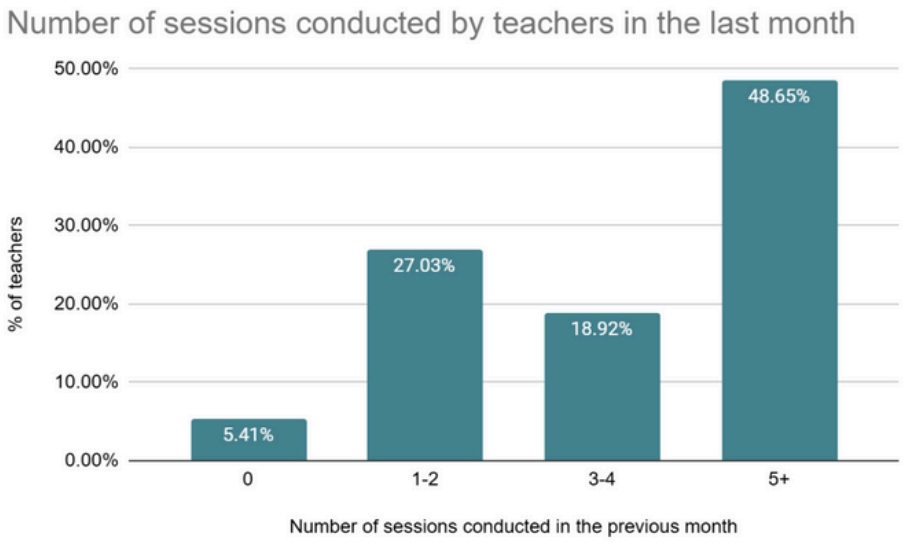
- A curated curriculum and lesson plans
- Ongoing remote support via WhatsApp or calls
- Periodic school visits by Asha trainers for in-class observation and feedback

IMPLEMENTATION IN SCHOOLS

Once trained, teachers begin conducting weekly computer classes in their own schools. In the teacher survey, over 62% of teachers reported conducting 5+ ACE sessions per month, often adjusting their own timetables to do so. 38% of the respondents reported formal timetable inclusion, with classes often held during borrowed periods, lunch, or PT slots. This highlights strong ownership but points to sustainability concerns. Most schools were provided 2–5 laptops by Asha, often shared across classes. Teachers create their own rotation systems, design lessons based on student readiness, and integrate basic digital tools into other subjects when time allows.

For example:

- Students use Paint to illustrate science diagrams.
- Teachers encourage students to use subject-related topics to aid holistic learning.
- Advanced projects are used to introduce logic and sequencing.



This embedded, flexible implementation allows ACE to function even in low-resource contexts and makes digital literacy a natural part of the school week, not a one-off event. This is further supported by a digital dashboard where teachers report which sessions were conducted, how many students participated, and any feedback or repetition notes. The tracker, accessible through mobile-friendly links and QR codes, allows for regular documentation and provides the programme team with a real-time view of progress across all schools. This system has helped ensure consistency while reducing dependence on in-person supervision.

FROM ACE V1 TO V2: ITERATIVE LEARNING

ACE V1 was first piloted in the Thiruvallur district. Insights from this phase were used to refine the programme before its expansion to additional districts such as Thoothukudi, Villupuram, and Thiruvannamalai, as part of ACE V2. Building on the confidence and learnings from V1, the programme was expanded from a 1-year digital literacy curriculum to a 2-year model that incorporated both digital literacy and programming.

Survey responses highlighted clear differences between the two cohorts. Drawing from the responses of the teacher and trainer surveys, V1 teachers were perceived to be more confident and better prepared, likely due to longer training duration and more in-depth exposure. V2 was described as more streamlined but condensed, leading to slightly lower confidence in classroom delivery. These insights reinforce the need to strike a balance between curriculum simplicity and time for practice.

Rolling out the programme in phases helped the organisation understand the requirements of each school and district better. As a result, the programme was better refined with each version. One significant upgrade between versions was the shift from Google Sheets to a more structured, server-based dashboard. This was developed based on feedback from trainers and lead teachers who had struggled with duplicate entries and data loss in the earlier system. The improved dashboard enabled easier data validation, lesson tracking, and integration of feedback loops, thereby informing curriculum realignment and enhancing field-level accountability.

METHODOLOGY

EVALUATION PURPOSE AND APPROACH

The primary purpose of this impact assessment was to understand the on-ground impact of the ACE programme after its first year of implementation. The evaluation focused on:

- Teacher preparedness and experience during and after training
- Effectiveness of classroom implementation
- Student learning and behavioural shifts
- Organisational-level effects on schools and community perception
- Challenges and enablers that shaped the programme's rollout

This assessment was conducted by an independent third party and used a mixed-method, participatory approach, combining in-depth qualitative interviews and classroom observations with structured survey data from teachers and trainers. Together, these methods offer both depth and breadth, grounding the analysis in real classroom experiences while also capturing broader patterns across implementation sites.

STAKEHOLDER INTERVIEWS

A total of 95 interviews were conducted across four districts in Tamil Nadu where ACE had been implemented. Interviews were carried out by a two-member evaluation team over a period of two months (February–March 2025).

BREAKDOWN OF INTERVIEWS:

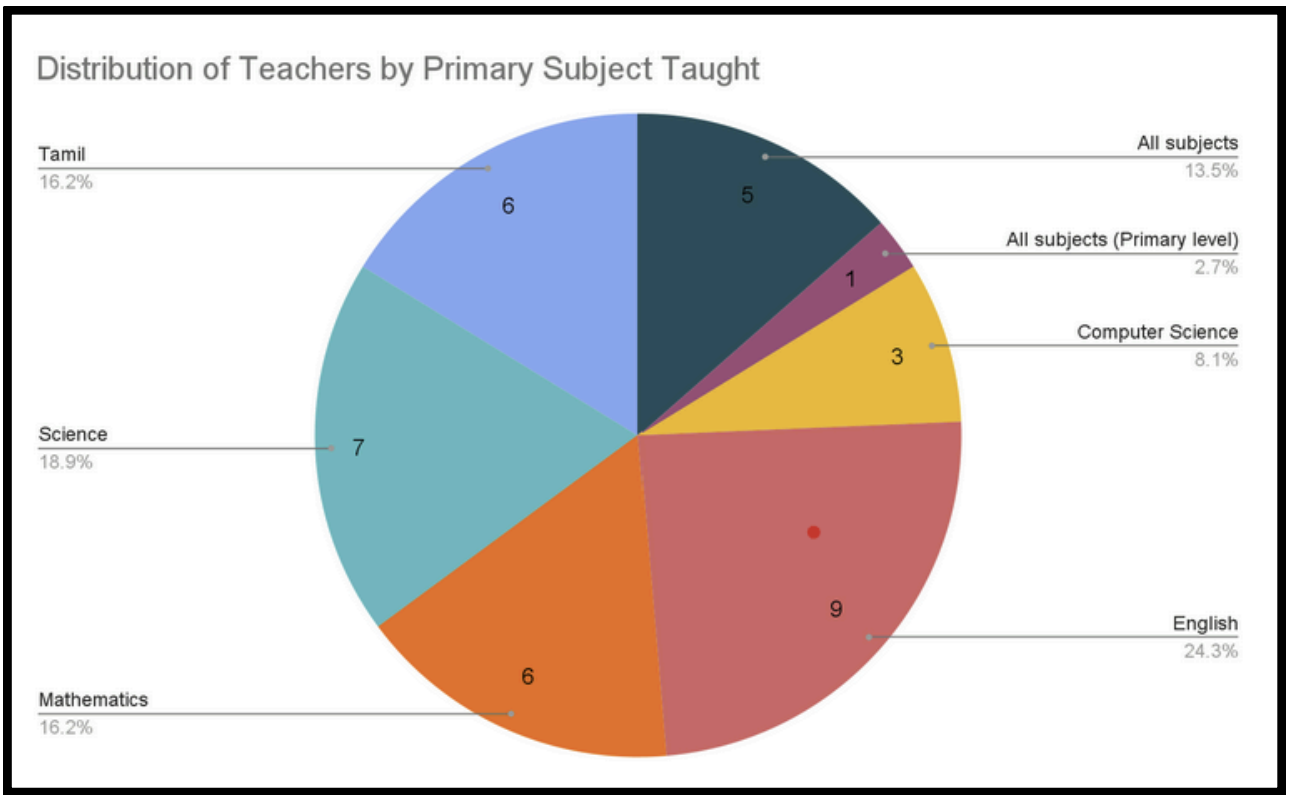
- 30 Government School Teachers (ACE-trained)
- 5 Asha Chennai Trainers (who conducted the training)
- 10 School Administrators (Headmasters and Block-level officials)
- 40 Students (Grades 5–8, across ACE classrooms)
- 10 Parents (whose children were attending ACE-based computer classes)

Most interviews with teachers, students, and parents were conducted in Tamil to allow for open, uninhibited conversation. Interviews with Asha trainers and some administrators were conducted in English or a mix of Tamil and English, depending on comfort. Interviews were semi-structured, with guiding questions tailored to each stakeholder group but allowing flexibility for exploration and storytelling.

SUPPLEMENTARY SURVEY TOOLS

In addition to 95 stakeholder interviews, two structured surveys were conducted with 37 ACE-trained teachers and 13 Asha trainers. These surveys captured self-reported skill improvements, classroom implementation practices, and program-level challenges, offering quantitative validation for the qualitative insights presented in this report.

The trainer survey presents insights from 13 ACE trainers. Of these, five worked exclusively on Version 2 (V2) of the programme, while the remaining eight trained teachers were involved across both Version 1 (V1) and V2. The teacher survey included 37 government school teachers. Respondents had teaching experience of an average of 17.5 years. These teachers represented both V1 and V2 training cohorts and offered insights on training effectiveness, student learning, digital tool usage, and operational challenges during classroom implementation.



CLASSROOM OBSERVATIONS AND DOCUMENTATION REVIEW

The evaluation team conducted school visits in each district to observe ACE classes in action. These visits allowed the team to observe teacher–student interaction during computer periods and understand how classes were managed with limited resources. The field visits enabled understanding of how much time was allocated, how class rosters were maintained, and how students responded to digital tasks.

Observation notes were recorded with a qualitative template that prioritised:

- Engagement levels
- Use of classroom language (Tamil/English balance)
- Hands-on time vs. demonstration time
- Student participation (gender-wise, where noticeable)
- Challenges faced in real-time implementation

The team also reviewed:

- Training materials used in ACE V1 and V2
- Lesson plans that are shared with teachers
- A few samples of student work (PowerPoint slides, typed stories, animations)
- Notes from Asha trainers on post-training visits

This approach ensured that interviews were not the sole source of insight and allowed the team to corroborate claims with classroom reality.

ANALYTICAL FRAMEWORK: THE KIRKPATRICK MODEL

To structure the qualitative data, the evaluation used the Kirkpatrick Model for Training Evaluation, which examines impact at four levels:

1. Reaction – How did teachers and students respond to the training and programme?
2. Learning – What new knowledge or skills were gained by teachers and students?
3. Behaviour – Did teachers change how they taught? Did students behave differently in class?
4. Results – What were the broader outcomes, academic, social, or systemic?

Each interview was coded by theme and stakeholder group, and quotes were mapped to the most relevant evaluation level. Observations were also aligned to the same structure. Where possible, patterns were drawn across schools and districts to identify commonalities and variations.

This framework ensured a structured, multi-dimensional view of ACE's outcomes, moving away from anecdotal storytelling in favour of thematic insight grounded in real classroom practice.

LIMITATIONS

The evaluation was not designed to produce standardised learning outcome data or statistically generalisable findings. While structured surveys were conducted with teachers and trainers to capture patterns and perceptions at scale, these were self-reported and not independently verified. The assessment remains primarily exploratory and reflective, with an emphasis on qualitative depth and lived experience. It focused on teacher-led implementation rather than delivery by Asha trainers. The findings should therefore be read as a narrative of emerging change, grounded in diverse voices rather than definitive metrics.

FINDINGS

REACTION: INITIAL RESPONSE TO THE ACE PROGRAMME

The immediate response to the ACE programme across all stakeholder groups (teachers, trainers, students, parents, and school administrators) was largely positive, shaped by a combination of curiosity, cautious optimism, and eventual confidence. These early reactions played a significant role in the programme's successful implementation.

Teacher Reactions: Hesitation to Confidence

For many government school teachers, ACE was their first structured exposure to computer science, both as learners and prospective educators. Several teachers began the training with apprehension. A common sentiment was:

> **I did not even know how to switch on the laptop. I was worried I would not be able to keep up with the others.**
>
> **– ACE V1 Teacher, Thiruvallur**

However, as training progressed, these hesitations gave way to enthusiasm. According to the survey conducted with teachers, the average self-rated digital skill score rose from 2.51 (Low–Moderate) to 3.85 (High) after training, an average gain of 1.34 points. 77% of teachers reported improvement, with no decline reported. This affirms the strong learning curve captured in interviews. Trainers frequently commented on the commitment shown by teachers:

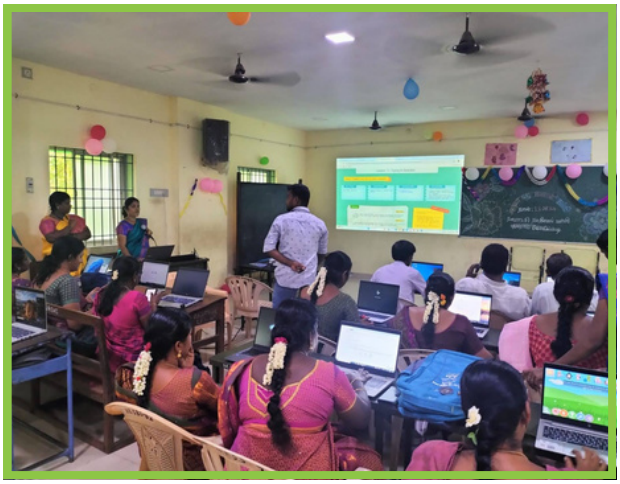
> **Even those who were hesitant at first started putting in more time to practise after sessions. They wanted to make sure they could teach properly when they went back to school.**
>
> **– ACE V1 Teacher, Thiruvallur**

Teachers especially appreciated the hands-on, paced structure of the training. Rather than theory-heavy instruction, they were introduced to computers by doing everything from basic typing to creating Scratch projects. Several described the experience as being

"like a student again," which helped them reconnect with the challenges their own students face.

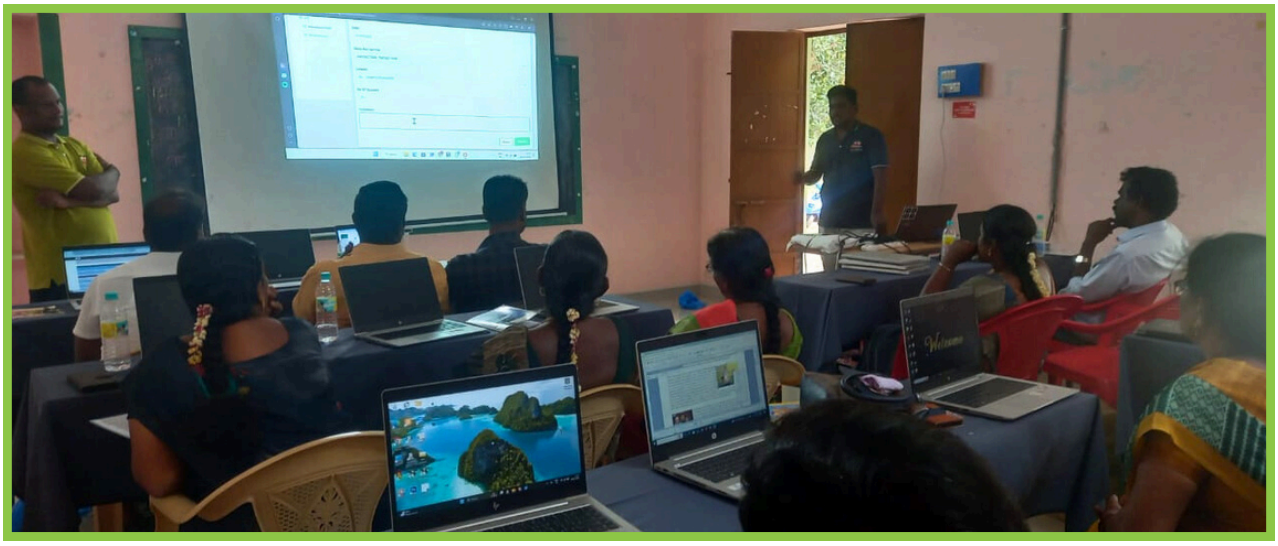
The reaction also varied slightly between the ACE V1 and V2 cohorts:

- V1 teachers sometimes struggled with pacing and clarity during training.
- V2 teachers reported that the training was smoother and more responsive, owing to improved materials and a more structured schedule, changes made based on V1 feedback.



Trainer Observations: Emergence of Ownership

Asha ACE trainers, many of whom had extensive experience conducting digital literacy programmes, were impressed with how quickly teachers embraced the programme. Initially, many were shy to ask questions, especially in group settings. However, by the second week, trainers noticed teachers were testing out new tasks on their own, sharing doubts openly and discussing classroom adaptations for specific age groups.



"In the first week, I had to coax people to come forward. By the end of the month, teachers were creating their own variations of classroom games using PowerPoint. That shift was incredible to watch.

– Asha ACE Trainer

Student Enthusiasm: The 'Favourite Class' Effect

Students expressed excitement and joy at having computer classes in their schools, many for the first time. The novelty of hands-on, visual learning was a major draw.

> **This is the only class where we get to touch something and do it ourselves.**
>
> **– Student, Class 7, Thiruvallur**

In several interviews, students described the computer period as their favourite class of the week. This excitement was not limited to academically high-performing students; even those less engaged in other subjects participated more eagerly in computer sessions. Teachers reported that on computer class days:

- Attendance improved
- Students arrived earlier
- Discipline issues reduced

> **Some of the boys who usually make trouble were suddenly sitting quietly, waiting for their turn at the laptop.**
>
> **– ACE V2 Teacher, Villupuram**

Parental and Community Responses: From Curiosity to Pride

Initial community reactions ranged from curious support to quiet scepticism. Many parents admitted they did not fully understand what their children were doing in computer class, but they were happy that "something new" was being taught.

Over time, however, parents began to notice visible changes. Children started to explain tech terms at home. Students started to teach siblings or elders how to use smartphones and other electronics around the house. Engagement in computer classes led to growth in confidence in academic discussions.

> **She came home and told me she could make a PowerPoint Presentation. I did not even know what that was!**
>
> **– Parent, Villupuram**

As these stories spread, community perception of the programme shifted from indifference to admiration. Several parents described ACE as "a chance for our children to catch up with city students."

LEARNING & BEHAVIOUR: FROM LEARNERS TO FACILITATORS

Teacher Learning: From Novices to Confident Digital Instructors

Teachers were at the heart of the ACE programme's strategy. Most began with limited to no computer literacy, a fact they openly shared. Several interviewees had never used a laptop before the training.

> **"I did not even know how to open a file. I used to ask my son for help with my phone. Now I can teach my students how to make presentations.**
>
> **– ACE V2 Teacher, Thiruvannamalai**

Key Skills Gained

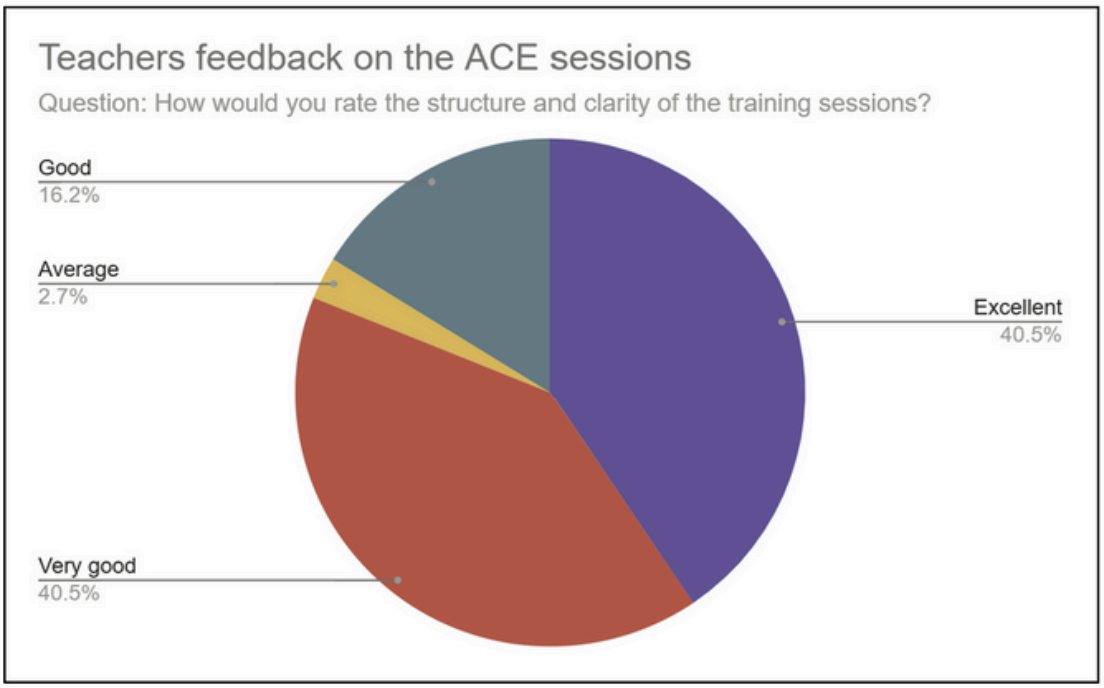
- Operating a laptop independently (basic shortcuts, file navigation)
- Using the corresponding OpenOffice Tools (Text Doc, Calc, Impress) and TuxPaint
- Teaching step-by-step digital tasks
- Managing a small group of students around shared devices

The learning experience was often described as humbling and empowering. Teachers appreciated that the training was in Tamil and allowed for repeated practice. They also mentioned that the training encouraged peer support within batches.

> **I was afraid I would be laughed at. But everyone was learning together. Even the trainer helped us one by one without any irritation.**
>
> **– ACE V1 Teacher, Thiruvallur**

By the end of the training cycle, teachers were not just learning passively; they were starting to think like facilitators, asking questions like:

- How do I explain this to a 5th grader?
- How do I keep eight students engaged when only one laptop is working?
- How can I link this to their science or maths lesson?



Shift in Teaching Behaviour: From Lecture to Facilitation

Perhaps the most profound change was in how teachers taught after the training. Almost every teacher interviewed spoke about moving away from lecture-based instruction to a more hands-on, student-led approach. This was especially evident in computer classes, where many:

- Created a rotation system so each student could try the laptop
- Used group work and peer learning to cover skill gaps
- Asked students to present what they had created

> **Earlier, I used to stand in front of the class and talk. Now, I ask them to try first. If they get stuck, I ask the next student to help. Sometimes they find answers before I do.**
>
> **– Teacher ACE V1, Thiruvallur**

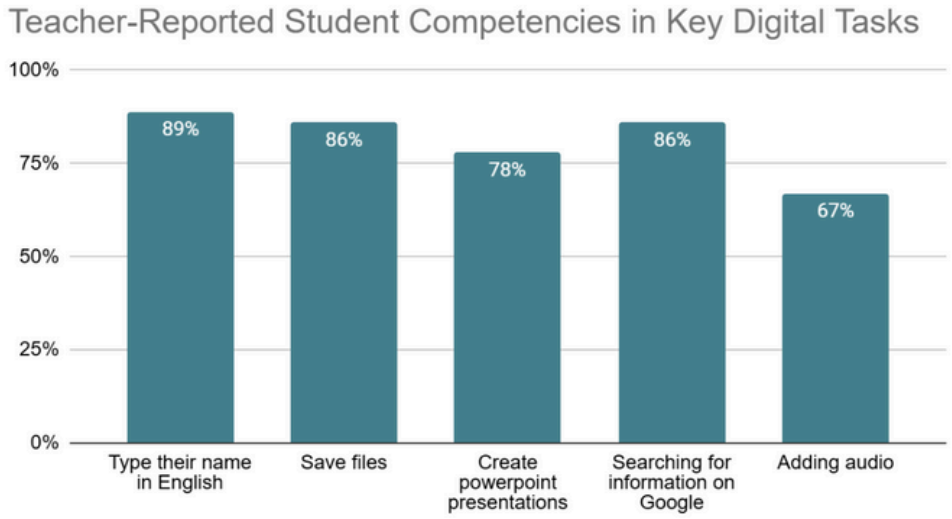
This shift to facilitation rather than instruction aligned strongly with ACE's design, and trainers noticed it too.

> **By the second month, teachers were calling us not for help with content, but to show us what their students had made.**
>
> **– Asha ACE Trainer**

In several cases, teachers began applying the same exploratory approach to non-computer subjects: showing videos for science lessons, asking students to create diagrams using Paint and typing English comprehension passages as a group. This indicates that ACE's pedagogical impact extended beyond the computer period, nudging teachers to adopt more interactive techniques across their teaching.

Student Learning: Curiosity, Confidence, and Conceptual Clarity

While students were not the direct recipients of the ACE training, they were undoubtedly its most visible beneficiaries. Across all interviews, teachers and trainers described a marked transformation in how students engaged with learning once computer classes were introduced. 89% of teachers reported that their students could type their name in English, 86% said their students could save files, and 78% said their students were confident in creating PowerPoint presentations. However, only 67% mentioned that their students were confident adding audio, indicating a need for more support in multimedia tasks. 86% of teachers reported that students were comfortable using Google for information search.



> **When I take a notebook class, only five hands go up. In computer class, all thirty students want to try."**
>
> **– ACE V1 Teacher, Thiruvallur**

Examples of Skills Acquired by Students:

- Typing names and short sentences in Tamil and English
- Navigating basic programs like Paint and Word
- Creating presentations on their selected topics using PowerPoint
- Creating simple greeting cards or animations in Scratch[1]
- Opening folders, inserting images, and saving files
- Explaining basic concepts like input-output, drag-and-drop, and program logic

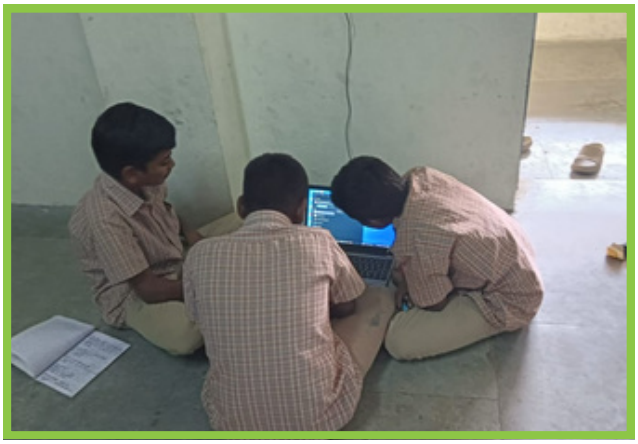
Students often described their learning in terms that reflected both technical comprehension and emotional investment.

> **I made a card for my mother's birthday using colours and shapes. I wrote 'Happy Birthday' and showed it to her on the laptop.**
>
> **– Class 6 student, Thiruvannamalai**

1 Only some V1 students got to this point in the last year

In several cases, students started helping their peers, especially younger ones or those less confident. Teachers encouraged this peer-teaching model, which allowed faster, more organic learning.






Changes in Student Behaviour: From Silence to Self-Expression

Many teachers reported that students who were previously shy, disengaged, or irregular began showing improved attendance and participation once computer classes began.

> **They come to school even when they have a cold, just so they do not miss the computer period.**
>
> **– Student, Class 7, Thiruvannamalai**

Common behaviour shifts noted:

- Increased attendance in schools on computer class days
- Students arriving early or asking for extra time in the lab
- Improved teamwork and sharing, especially when devices were limited
- Growing patience and perseverance (e.g., trying again after a failed attempt)
- More questions are asked during and outside class

Some students began relating digital concepts to other areas:

> **Some students in my class use Google to understand their doubts in their Maths and Science classes.**
>
> **– ACE V2 Teacher, Thiruvannamalai**

Teacher Reflections on Student Growth

Teachers were particularly moved by how quickly students adapted to and excelled at using technology, especially those from homes without digital exposure. In the survey, 84% of teachers reported using ACE tools in other subjects - PowerPoint for science, Google for grammar, and mind maps for content review - demonstrating cross-curricular integration of digital tools.

> **These children had never touched a laptop before. Now they make something new each week. That gives them pride. It gives me pride.**
>
> **– ACE V2 Teacher, Thiruvannamalai**

The trainers echoed this sentiment of shared pride and transformation, noting that teachers often became the most enthusiastic advocates for their students' progress once they saw the impact of digital learning firsthand. Many remarked that the change in student behaviour was their strongest indicator that ACE was succeeding.

> **When I visited a school and saw a Class 6 girl confidently typing her name and explaining what she did, I knew this programme was working.**
>
> **– Asha ACE Trainer**

RESULTS: VISIBLE IMPACT IN CLASSROOMS, COMMUNITIES, AND FUTURES

While the ACE programme is still in its early stages, there is already substantial evidence of meaningful change on the ground. Teachers, trainers, and parents spoke about clear outcomes in student confidence, participation, aspirations, and the broader perception of government school education.

Student Growth: Skills, Confidence, and Aspiration

Across all ACE schools, teachers consistently reported that students have developed stronger digital literacy (basic typing, navigation, saving files), improved problem-solving and logical thinking and a greater sense of initiative and ownership in learning.

> **They no longer wait for us to tell them what to do. They start experimenting. One child made a small presentation without even being asked.**
>
> **– ACE V2 Teacher, Thiruvannamalai**

The students' confidence in using digital tools was seen as a gateway to greater self-expression, particularly for quieter or less academically inclined children.

> **I helped my father restart his phone when it was stuck. I told him, "Wait, I will do it."**
>
> **– Student, Class 7, Thiruvannamalai**

> **Now my daughter types English messages and corrects me if I make a spelling mistake.**
>
> **– Parent, Thiruvallur**

Emerging Academic Spillover

While ACE is not formally integrated into the academic curriculum, teachers observed signs of indirect academic improvement. Students who struggled with rote learning became more confident through hands-on tasks. Logical reasoning from coding tasks began to show in math problem-solving. Visual and interactive tools helped with language learning and conceptual clarity in science.

> **My students started using the laptop to write small paragraphs for presentations. Their English writing is improving without them even realising it.**
>
> **– ACE V1 Teacher, Thiruvallur**

These connections, while anecdotal, were echoed across districts and are strong indicators of cross-subject engagement sparked by the ACE approach.

Teacher Recognition and Peer Learning

The programme also produced professional outcomes for teachers. Those who completed ACE training found themselves viewed as more valuable staff members in their schools and were frequently called on to support colleagues with tech-related work. Sometimes, they even mentored peers on basic digital tasks.

This recognition has improved morale and encouraged teachers to keep practising and refining their skills. In some schools, the ACE-trained teacher is now helping two or three others informally, expanding the programme's reach.

> **Now everyone calls me 'Computer Miss'. The other staff member asked me to help with the projector setup or printouts. I never expected that.**
>
> **– ACE V2 Teacher, Thiruvannamalai**

Aspirations Among Students

One of the most meaningful outcomes has been the shift in student aspirations. Several teachers reported that students now say they want to become computer teachers, software engineers, animators or designers.

> **I want to make my own game and put it on YouTube.**
>
> **– Class 7 Student, Thiruvallur**

> **I will become a 'Computer Akka' like my teacher.**
>
> **– Class 6 Student, Thiruvannamalai**

While these are early expressions, they mark a powerful change in self-perception and ambition, particularly among first-generation learners.

Community Validation of Government Schools

Finally, ACE has helped reshape how the local community sees government schools. In interviews, parents repeatedly expressed surprise and pride that their child could use a laptop. They recognised that the school is offering something private schools often do not and hoped that digital skills would open up better career options.

> **We never thought our children would get this kind of chance in a government school.**
>
> **– ACE V1 Teacher, Thiruvallur**

This growing trust in the system is an important cultural outcome and key to long-term community investment in education.

ORGANISATIONAL IMPACT: EMBEDDING DIGITAL LEARNING IN SCHOOL CULTURE

While the primary goals of ACE are centered around classroom-level change, its implementation has begun to influence how schools operate, how programmes are designed, and how digital education is perceived at a systemic level. This section captures the early institutional shifts resulting from the ACE rollout.

Integration Into School Routines

A key organisational achievement of ACE is that computer classes have been normalised in many participating schools. Previously, if computers were available, they were often locked up or used sporadically. Now:

- Teachers schedule weekly computer periods for each class.
- Teachers use computers to conduct classes for other subjects.
- Some school heads have adjusted timetables to ensure digital learning is not sidelined.
- Students and teachers try to treat computer education as a core subject, even though it is not mandated by the state curriculum.

> **Earlier, we used the computers only when someone from outside came. Now, the lab is open every Thursday for my Class 7 students. It is part of the timetable.**
>
> **– Teacher, Thiruvallur**

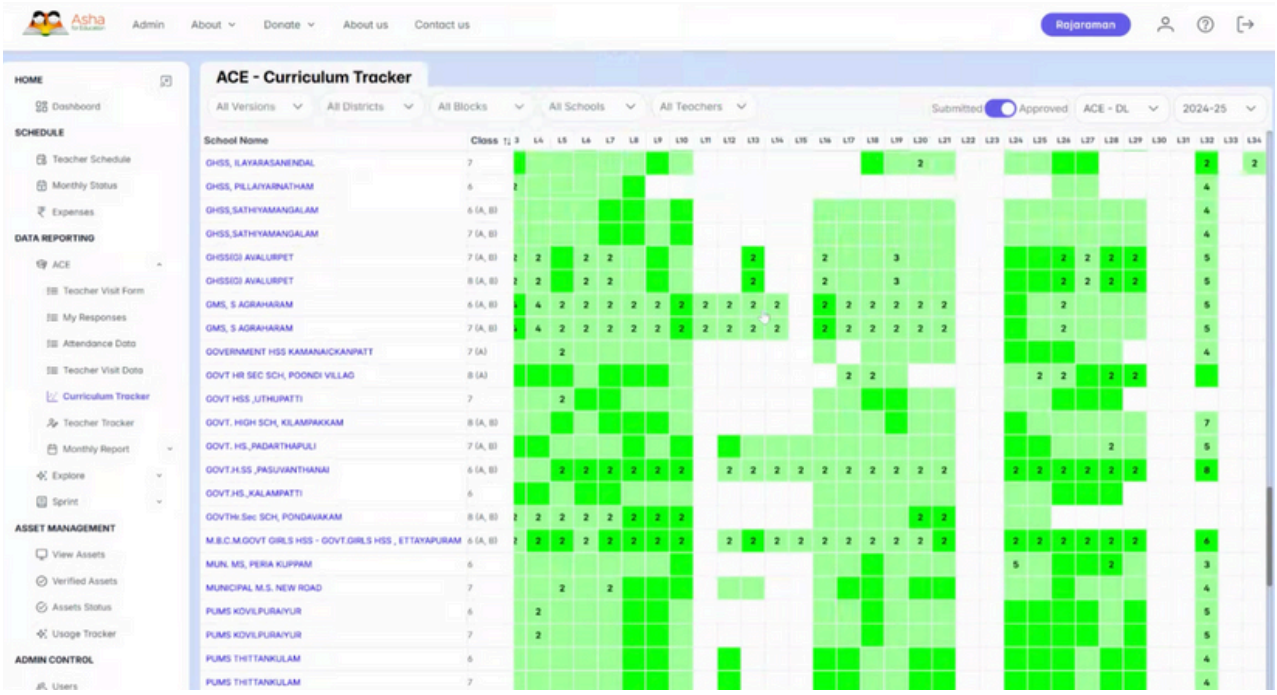
In some cases, physical spaces were repurposed (e.g., storing laptops in the HM's office, using the staff room during off-hours) to ensure secure and consistent access.

Strengthened Institutional Ownership

Unlike many NGO-led interventions that rely on external facilitators, ACE was designed to empower government school teachers as implementers. This approach has led to stronger ownership. Teachers do not wait for trainers; they initiate sessions themselves. Trainers report minimal need for follow-up once training is complete. Schools independently troubleshoot and adapt classroom arrangements when challenges arise (e.g., splitting classes, rotating groups)

This autonomy contributes to programme sustainability, ensuring that digital education does not fade once external support tapers. Another important aspect of growing ownership is the consistent use of a digital monitoring dashboard developed by the ACE team. This server-based tool allows teachers and trainers to track session completion, lesson repetition, and student attendance across all participating schools. Teachers submit reports via a simplified online form, shared through QR codes and WhatsApp links, which syncs to a central dashboard used for real-time monitoring. The colour-coded interface provides a clear visual of progress, helping trainers follow up on gaps, missed sessions, or out-of-order lesson delivery. As a result, both teachers and trainers are better equipped to manage implementation on the ground.

> **We do not need someone from Asha every week. I know what to do now.**
>
> **– ACE Teacher,Thiruvallur**



Infrastructure Strategy and Hardware Partnerships

A significant enabler of the ACE programme's success was its deliberate focus on infrastructure provisioning, particularly access to laptops. Unlike many digital literacy programmes where hardware is an afterthought, ACE integrated device distribution into its core design. Each ACE teacher received a dedicated laptop, which they were expected to take home, and every school was provided with two additional laptops for classroom use. In total, over 400 laptops were distributed across ACE V1 and V2, with intentional strategies to ensure continuity and reduce dependency on external infrastructure.

In ACE V1, the 50 laptops provided to the teachers were new, a result of a strategic collaboration with Amazon, facilitated through IIT Madras.

> **In the case of ACE V1, we were able to convince Amazon to purchase brand-new laptops for the teachers. Across V1 and V2, we got about 350 laptops from Amazon.**
>
> **– Rajaraman Krishnan, ACE Programme Lead**

In ACE V2, the model shifted to include refurbished laptops, reflecting a move toward scale and sustainability. The provisioning strategy continued to prioritise equitable access but has now adapted to resource constraints while preserving programme intent. Despite the shift to refurbished devices, each teacher continued to receive their own laptop, and schools lacking infrastructure were allowed to retain the laptops upon programme completion. This move incentivised schools with low resources to sign up for the ACE programme and ensure its completion with conscious efforts.

> **In schools which did not have infrastructure, Asha gave the laptops to the school and said that the laptops would belong to the school at the end of the programme.**
>
> **– Lead Asha ACE Trainer**

Importantly, the lead trainer noted that a spare-device system was implemented to ensure that learning continued even when devices malfunctioned.

> **"If a laptop develops an issue, we are able to immediately give them a spare so that their classes continue without disruptions.**
>
> **– Lead Asha ACE Trainer**

These logistical and strategic decisions reflect a strong operational backbone and a commitment to minimising classroom disruptions. By embedding device access into the programme's DNA, ACE went beyond just delivering training and ensured teachers could apply what they had learned, and students could experience digital hands-on learning consistently.

Community Perception and Engagement

At the community level, the presence of ACE in schools has led to a subtle shift in how parents and local leaders perceive government education. Several school heads and teachers shared that parents try to visit more often to see their children's projects, consistently inquire about computer classes, and advocate for additional laptops or internet access.

> **One parent said her son taught her how to open Google and search for something. That made her realise how much the school is doing.**
>
> **– Teacher, Thiruvannamalai**

This shift strengthens the public school's position as a centre of opportunity, helping reverse some of the distrust and neglect associated with rural government education.

Programme Evolution Within Asha Chennai

Internally, the ACE V1 and V2 led to major learnings and adjustments within Asha Chennai itself:

- Training design was restructured between V1 and V2 based on feedback and time availability: The training duration for V2 was comparatively shorter than for V1. However, there was no difference in the teachers' ability to conduct ACE classes for the students due to this change in training duration.

- Mentorship models improved based on the periodic school visits and WhatsApp-based support groups: Based on the responses and needs presented by the V1 teachers, trainers were able to better anticipate the requirements of the V2 trainees post-training.

> **Version 2 training period was shorter than Version 1, but we were able to cover all relevant material in the short time span. This was because we listened to the teachers. They told us what worked, what did not, and we changed it.**
>
> **– Asha ACE Trainer**

ACE also deepened Asha's experience working directly with government school teachers, rather than placing its own teachers. This has helped build institutional credibility and could pave the way for future government-NGO collaboration.

Conversations About Scale and Sustainability

According to Asha members, the visible success of ACE has sparked interest in expansion, both within Asha and in local education departments. Several officials expressed informal interest in integrating digital skills into mainstream training institutes and bringing ACE-style training to other clusters.

> **We did not expect this much progress so quickly. Now we have to think about how to reach more schools.**
>
> **– Asha Team Member**

CHALLENGES

While the ACE programme has achieved wide appreciation and visible impact, stakeholders across the board highlighted several implementation challenges. These barriers were not unique to one geography or group; they appeared consistently across interviews with teachers, trainers, administrators, and occasionally parents.

SUMMARY OF KEY CHALLENGES

Challenge	Description
Infrastructure	Few devices, inconsistent power/internet
Teacher Preparedness	Varied starting points, uneven confidence
Timetabling	Irregular periods, especially during exams
Student Diversity	Different readiness levels, literacy gaps
Curriculum Fit	No standard progression, limited assessment utility

INFRASTRUCTURE GAPS: TOO FEW DEVICES, TOO MANY STUDENTS

The most common challenge cited by teachers and trainers was the lack of sufficient computers in classrooms. While Asha provided laptops to many schools, the ratio was often 1:5 or more, making hands-on learning difficult, especially in large government schools.

> **We have three laptops and forty students. Even if we break them into groups, not every student would get a chance to use the laptop.**
>
> **– ACE V1 Teacher, Thiruvallur**

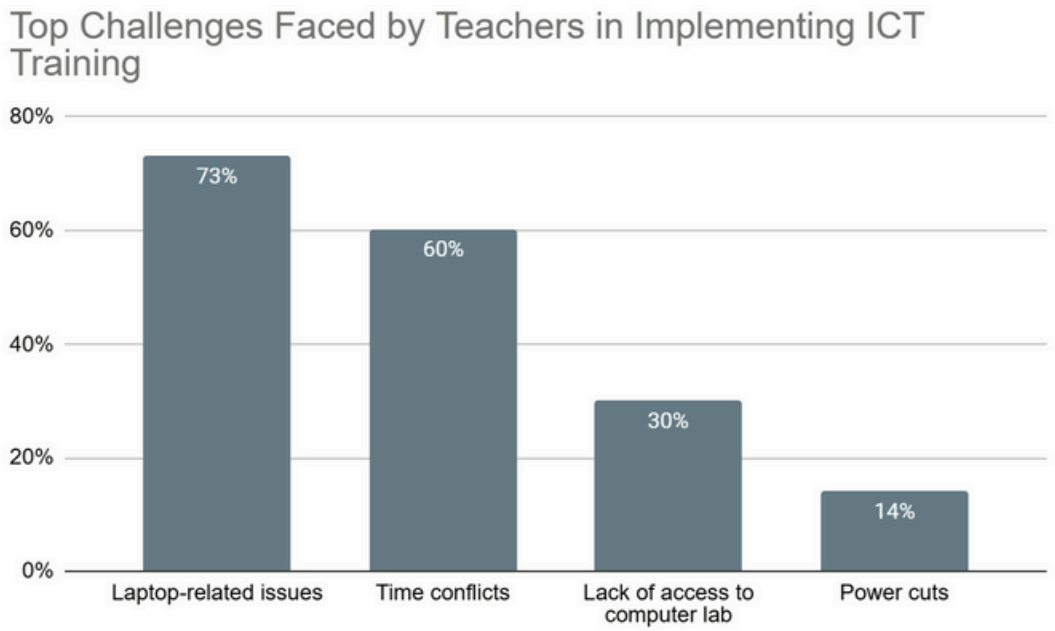
Many schools lacked the infrastructure to support long-term maintenance. Power backups were missing in remote blocks, and internet connectivity (even for basic reference use) was unavailable, leading to teachers using their personal hotspots for computer classes. Storage and security for devices were often makeshift (e.g., stored in the Headmistress's cupboard or staff room shelves).

Trainers shared that this often led to classroom adaptation fatigue. Teachers had to create elaborate rotation systems or run semi-demonstration sessions instead of actual hands-on classes.

> **One teacher told me she just shows the student how to do it on her laptop because there's no time to let everyone try.**
>
> **– Asha ACE Trainer**

Although a computer lab is present in most schools, the ACE teachers do not have access to the lab as it is reserved for students of higher classes, or they are not given time slots to conduct ACE classes in the lab. 73% of teachers cited laptop-related issues as their biggest barrier. Additional challenges included time conflicts (60%), lack of access to computer labs (30%), and power cuts (14%). These issues often disrupted hands-on access, despite high motivation.

> **Even though we have a computer lab, it is only meant for high school students. It does not help us in any way.**
>
> **– ACE V2 Teacher, Villupuram**



VARIABILITY IN TEACHER PREPAREDNESS

While most teachers were motivated, there was a wide range of prior exposure and digital comfort. Some had used smartphones or typed before, while others had never touched a keyboard or moved a mouse. This made it difficult for trainers to maintain a single pace.

> **In every batch, there are some who finish fast and some who need extra sessions just to click confidently.**
>
> **– Asha ACE Trainer**

Even after training, teachers' ability to troubleshoot basic errors, modify lesson plans for different grades, and manage multiple students on one device varied significantly. This variability can lead to uneven implementation across schools, even though motivation remains high amongst teachers and students alike.

TIME AND TIMETABLE CONSTRAINTS

Many teachers struggled to fit computer classes into their weekly schedule, especially when they were also responsible for other school subjects and administrative duties.

> **The computer classes get cancelled during exam weeks. If we have sports or any event, it's the first to go.**
>
> **– ACE V1 Teacher, Thiruvallur**

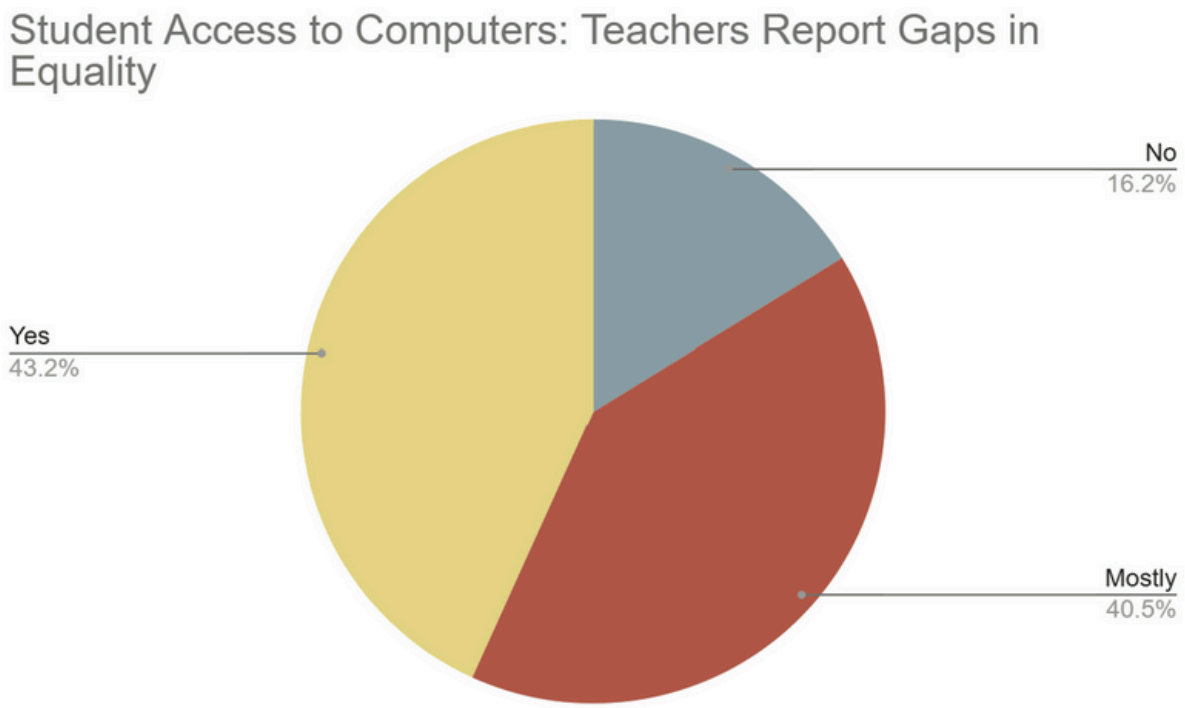
Without formal curriculum recognition or timetable slots from the Education Department, ACE classes sometimes became an optional extra, dependent on the teacher's availability and the HM's interest. Even in committed schools, class time was often limited to once a week for 30–45 minutes, split periods for different grades, during lunch or after-lunch slots, which can affect attention spans. Additionally, teachers resort to using time allotted for their school duties (teaching subjects) to conduct ACE classes; therefore, they fall behind on their work. Teachers and trainers acknowledged this, and some expressed concern about long-term sustainability unless ACE was integrated more formally into the school system. These findings align with the 60% of teachers who identified timetable conflicts as a key challenge in the survey.

STUDENT DIVERSITY AND UNEQUAL READINESS

Students entered ACE classes with widely varying levels of preparedness. Some had never seen a laptop, others had used a parent's smartphones, and a few were already digitally curious or self-taught. This created a learning gap that teachers had to manage within one session.

> **Some children were scared to even touch the keyboard. Others were already familiar with the material, and some got bored waiting for their turn.**
>
> **– ACE V1 Teacher, Thiruvallur**

In multi-grade schools, it was difficult to design age-appropriate lessons on shared devices. Some tended to rush or click aimlessly, while other students hesitated to take the lead. This difference in their approach to learning, paired with the shortage of time and devices, poses a significant challenge. Students with lower literacy levels struggled with English-based interfaces. In such cases, teachers had to translate software terminology into Tamil, simplify instructions, or switch to more demonstrative sessions rather than hands-on sessions. In the survey, 43% of teachers said all students had equal access. The rest identified exclusions, particularly low-performing students (41%), students with disabilities (14%), and disengaged or younger learners (5%).



LANGUAGE, CURRICULUM, AND ASSESSMENT GAPS

The ACE content was well-received overall, but teachers and trainers both flagged curriculum alignment and language limitations as emerging areas for improvement.

> **I know the children enjoy the sessions. But how do I know if they've understood the concept, or just followed the steps?**
>
> **– ACE V2 Teacher, Thiruvannamalai**

While assessments are conducted at the end of the year, the results are used for internal training and administrative purposes; students do not gain access to the learning. An inclusion of grade-wise learning benchmarks to track the students' progress and the sharing of these results with the students would be beneficial. There are also challenges in translating technical terms for young learners or those who are weak in English. Additionally, teachers expressed uncertainty about how to introduce the topics to young children in Tamil-medium schools.

> **PowerPoint is fun, but a lot of it is in English. I explain the concepts in Tamil, but it takes them time to understand and learn.**
>
> **– Teacher ACE V1, Thiruvallur**

Trainers echoed this, saying there was scope for age-differentiated lesson plans, simple assessment rubrics and most importantly, Tamil-language interfaces or instruction manuals. Despite these barriers, most stakeholders displayed a strong commitment to making the programme work, often finding workarounds, adapting methods, and using peer support where available. These challenges represent growth opportunities, not failures, and are addressed in detail in the next section: Recommendations.

RECOMMENDATIONS

This section presents practical, evidence-based suggestions to strengthen the ACE programme going forward. These recommendations draw directly from teacher, trainer, and administrator feedback during the assessment. Every recommendation is mapped to its respective stakeholder, who has the onus of implementing it. Please refer to the key below for the stakeholder mapping:

1. CSR / External Partners
2. Government Representatives
3. Trainers/Asha Chennai
4. Teachers
5. Parents
6. Local Community

STRENGTHEN INFRASTRUCTURE AND ACCESS

The most urgent need across ACE schools is more devices and better classroom infrastructure. Here are a few recommendations to address this:

- Target a maximum of 1:3 device-to-student ratio in each school.
- Provide low-maintenance charging and WiFi options or solar backup where power and network systems are unreliable.

These recommendations are supported by the teacher survey, where 27% of teachers requested more devices and 22% sought improved infrastructure. This will reduce bottlenecks during class, increase hands-on time, and boost the quality of learning.

> **Even one more laptop per class will help us give every child some real practice.**
>
> **– ACE V1 Teacher, Thiruvallur**

CONTINUOUS TEACHER DEVELOPMENT

When asked how the experience could be improved, 46% of teachers requested additional training. While the initial training builds strong foundations, teachers expressed a need for continued support to sustain momentum, particularly when faced with in-class doubts or technical challenges. Although monthly training sessions and WhatsApp groups are already in place, both teachers and trainers consistently highlighted barriers to accessing these systems.

Based on teacher and trainer interviews and observations of the current monitoring dashboard systems, we recommend the inclusion of a dedicated Training Tracker within the existing dashboard. While training attendance is currently recorded manually, integrating this into the digital tracker would improve visibility, follow-up, and alignment with classroom progress. A tab showing which sessions a teacher has attended, along with frequency and region-wise participation data, would enable trainers to provide targeted support and ensure no teacher is left behind.

According to the trainer survey, 61% of trainers reported receiving 1–5 queries per week from teachers after formal training concluded, indicating a sustained demand for just-in-time support. Additionally, several teachers shared that they found it difficult to attend monthly refresher sessions due to clashes with school duties or travel constraints.

> **If a student asks me a question that I'm not able to answer, I try to Google it, or I wait for the trainer to visit, and I take her help to clarify these doubts.**
>
> **– ACE V1 Teacher, Thiruvallur**

To improve teacher confidence and implementation quality, the following are recommended:

- Coordinate with school administrations to schedule training sessions that do not conflict with academic calendars, exam periods, or core teaching responsibilities. In turn, schools should actively support teacher participation by making necessary adjustments and enabling them to attend the sessions with no distractions or stress.

- Leverage existing WhatsApp groups more effectively, expanding beyond session planning to encourage peer learning and real-time sharing. Based on trainer feedback, the following strategies may enhance engagement:

    - Weekly peer-sharing prompts, such as "Share one thing that worked well in your class this week" or "Post a photo or file from a student activity you're proud of."

    - Monthly mini-challenges, such as "Use PowerPoint in a science lesson" or "Try a new tool this week and share a screenshot."

These suggestions are supported by survey responses, where trainers recommended extending training duration (46%) and creating more flexible, teacher-driven support systems (30%). Together, they can ensure that teacher development continues meaningfully beyond the existing training opportunities.

FORMAL INTEGRATION INTO SCHOOL TIMETABLES

To protect ACE classes from being deprioritised, digital periods need formal space within the school schedule. A few recommendations to address this include:

- Coordinate with Principals to assign fixed, protected time slots for computer education (at least once per week per class).
- Ensure Computer Lab access to all ACE teachers and students uniformly across schools.
- Position ACE as a foundational skills class linked to Science, English, and Maths, encouraging school administration and teachers to prioritise ACE classes.
- Involve higher officials such as Block Education Officers (BEOs) in formally recognising the slot, even if not examinable.

> **If it's not in the timetable, it's easy to skip. But if it's written down officially, it becomes real.**
>
> **– ACE V2 Teacher, Thiruvannamalai**

Where timetables are already stretched, digital tools can be integrated into other subjects (e.g., using Paint for drawing in Tamil, PowerPoint for lessons in English and Science, Excel for basic maths and logic).

SIMPLE, LOCALISED ASSESSMENTS

To help teachers measure progress and to show students what they are achieving, introduce non-threatening, low-risk, task-based assessments. Some recommendations to address this are as follows:

- Create a bank of age- and level-appropriate tasks (e.g., typing a sentence, making a greeting card, creating a Scratch animation).
- Use portfolios of student work (screenshots, printouts, saved files) as progress evidence.
- Train teachers on using rubrics or checklists instead of marks, e.g., "Can the student type their name?", "Can they use two colours in Paint?"

While 73% of teachers maintain records (e.g., attendance, screenshots), only 3% maintain student portfolios. This supports the recommendation to introduce simple, scalable assessment formats. This will allow teachers to monitor learning without needing formal exams or grading systems.

Additionally, feedback from these assessments should be shared with students directly. Since ACE is intended as an introductory program for classes 6-9, such feedback is essential to help students understand where they currently stand and how they can further strengthen their digital skills. Providing even simple, checklist-based feedback can boost student motivation and encourage reflection on their learning journey.

BUILD A PEER NETWORK FOR ACE TEACHERS

Many teachers expressed interest in sharing tips, asking questions, or seeing how others manage challenges like group rotations or device shortages. They also shared that they felt isolated while dealing with the stress of handling school and ACE workloads. Given that only 35% of teachers rated the workload as "manageable," and nearly 30% found it somewhat stressful, peer support groups could help reduce isolation and pressure. A recommendation to address this is:

- Strengthen the existing virtual platform support systems by encouraging teachers to share tips with each other, collaborate and work together regularly through WhatsApp or other virtual platforms.

> **Sometimes just knowing another teacher has the same problem makes it easier. We can solve it together.**
>
> **– ACE V2 Teacher, Thiruvannamalai**

CSR Govt Reps Trainers/Asha Teachers Parents Locals

Peer networks also offer a pipeline for mentorship and scaling. Experienced ACE teachers can eventually train or support others in new schools. However, preliminary trials of this model did not work due to classroom dynamics between teachers.

STRENGTHEN COMMUNITY ENGAGEMENT

Parents and local communities are important enablers of student learning, especially in first-generation contexts. Their support reinforces student confidence and ensures that digital learning is seen as valuable. Here are a few recommendations to address this:

- Allow the students to take samples of their work home (printouts, videos of presentations on mobiles) so parents can see students use computers and share what they've created.
- Involve School Management Committees (SMCs) in supporting basic infrastructure (e.g., arranging furniture, improving power access)
- Provide simple "digital literacy at home" leaflets in Tamil to help parents understand the relevance and importance of computer education.

Several parents said they were proud but still confused about what exactly their child was learning:

> **She talks about projects, but I have not seen anything. I am just happy she is learning something new and doing well.**
>
> **– Parent, Thiruvannamalai**

When students demonstrate skills to parents, it validates their effort and encourages future attendance and learning.

PLAN FOR STRATEGIC SCALE AND SUSTAINABILITY

Finally, ACE's success has generated organic demand across clusters. However, scaling effectively requires planning, partnerships, and process discipline. A few recommendations to address this are as follows:

CSR Govt Reps Trainers/Asha Teachers Parents Locals

- Partner with CSR funders or government bodies to supply infrastructure to new schools, co-train new batches of teachers, and embed digital skills into official in-service training

- Strengthen the existing monitoring and reporting dashboard that tracks lessons completed, student attendance, and repeat sessions across schools. Potential improvements to the dashboard include adding dropdown options to specify reasons for repeating sessions (e.g., power cuts, low attendance), creating dedicated tabs to track teacher training participation, and refining the user interface to prevent confusion when both Digital Literacy (DL) and Computer Science Fundamentals (CSF) lessons appear under the same class or login view for teachers. These enhancements could improve usability, ensure more accurate reporting, and support better decision-making as the programme scales.

- Conduct periodic external reviews or learning audits to strengthen credibility and gather evidence for scale

> **ACE is working because it is simple and teacher-led. If we expand too fast without support, we might lose that.**
>
> **– Asha ACE Trainer**

The model is well-positioned to grow. With the right mix of teacher development, school-level support, and system engagement, ACE can become a statewide template for low-cost digital literacy in government schools. These changes will not only deepen ACE's impact in current schools but also ensure that, as it expands, the quality of transformation remains just as powerful.

ANNEXURES

ANNEXURE A:

ABOUT ASHA CHENNAI AND THE ACE PROGRAMME

Asha for Education is a global volunteer-driven organisation committed to catalysing socio-economic change in India through the provision of quality education. The Chennai chapter has been working for over two decades in Tamil Nadu, supporting under-resourced government schools through direct teaching, curriculum design, capacity building, and infrastructure support.

The Asha Computer Education (ACE) programme was launched in 2023 as part of Asha Chennai's broader mission to integrate 21st-century skills into everyday schooling. ACE focuses on building digital capacity from within the system by training in-service government school teachers to independently run computer classes in their own classrooms.

ANNEXURE B:

AUXOHUB: COMMUNICATION-LED RESEARCH & IMPACT FOR THE SOCIAL SECTOR

Founded in 2018 | Based in India

Who We Are

AuxoHub is a social sector consultancy that specialises in communication services tailored for NGOs and non-profits. Since 2018, we have collaborated with grassroots organisations committed to driving systemic change. Our core philosophy is to work closely with partners, strengthening their internal systems and supporting them across a wide range of functions.

AuxoHub's core team is supported by a network of 200+ external consultants based in locations across India, which has helped us expand our geographical, sectoral, and linguistic reach.

What We Do

Our services span four key verticals:

- **Linguistic Accessibility:** Making programmes and documentation accessible across languages and formats
- **Documentation**: Capturing the essence of programmes and organisational journeys through strategic writing and design
- **Funder-Driven Projects:** Developing high-quality, tailored communications and reports for donor engagement
- **Research & Assessments:** Conducting contextual and collaborative evaluations and studies for funders or organisations

Sectoral Expertise

AuxoHub has supported organisations across a **wide range of thematic areas,** including:

- Education (across K-12, with projects focusing on M&E, and impact and process documentation)
- Gender & Adolescent Rights
- Disability & Inclusive Development
- Disaster Management & WASH
- Healthcare & Livelihoods
- Community Development

Impact-Driven Research

Our research and assessment vertical has completed nearly 30 impact reports and evaluations. We believe that effective impact reporting is hands-on, participatory, and context-specific. Our approach includes:

- Adapting global research frameworks to localised NGO goals
- Conducting transparent, rigorous, and ethical data analysis
- Telling stories of change with authenticity and nuance

ANNEXURE C:

INTERVIEW EVALUATION TOOLKIT

I) Students
Introductory Questions 1. Name 2. Age
Engagement and Motivation 1. Which is your favourite subject at school and why? 2. Do you find Computer Science classes interesting, and why? 3. What do you enjoy most about the classes and content taught here? 4. Which subjects/concepts do you dislike learning here, and why? 5. What do you do when you don't understand a concept taught in class? 6. Have you thought about college? What do you want to pursue in college?
Academic Growth & Critical Thinking 1. How are your marks in computer science in school? 2. Do you feel you are more willing to ask questions to your teachers at school? 3. What skills have you learned through the ASHA classes? (For example - Presentation, logical thinking, problem-solving, etc.) 4. How do you approach a new problem in computer science? Can you give us an example? 5. How do you apply the concepts you learned in class to your tasks? Can you give me an example? 6. What concepts do you find easy, and what concepts do you find difficult?
Independent and Collaborative Learning 1. Have you learned anything on your own that was not taught in the class? What resources do you use to learn on your own? 2. How did you decide on the topic of your project? Did you share your ideas with your teacher or teammates? (Follow up with what they were) 3. Can you talk about your project, how you worked on it, and who you worked with? 4. What did you learn from doing your project? (Can be conceptual, working together, hands-on learning insights) 5. Did you learn anything from your peers in school? If yes, what did you learn? 6. Have you had any disagreements about how to proceed with your projects with your teammates? If yes, how did you resolve this? 7. Have you had any challenges in attending the classes, grasping the concepts, or completing the projects?

ii) Parents

Introductory Questions

1. Name
2. Age
3. How old is your child?
4. What is your profession?
5. What is your monthly income?

Engagement and Motivation

1. Does your child enjoy attending the ASHA classes? If yes, what does your child like most about the classes?
2. What are your hopes for your child's college and career?
3. Do the ASHA classes touch upon college or career options?
4. Do the classes give students any homework?

Academic Growth & Critical Thinking

1. Have you noticed any positive changes in your child's academics since attending the ASHA classes? If so, what?
2. Do you see any changes in how your child solves problems at home? (With technology, machines, homework)
3. What does your child struggle with at school?

Independent and Collaborative Learning

1. Is your child motivated to learn new concepts on their own? How do you know?
2. Does your child share any of their ideas about their project with you?
3. Has your child spoken to you about the projects they are working on? Can you tell us about the process?
4. How can the classes better support you and your child?
5. What challenges do you face in helping your child pursue a career in computer science?

iii) Teachers

Introductory Questions

1. Name
2. Age
3. How many years have you taught at the school?
4. What is your educational background?

Learning, Behaviour, Engagement

1. What do you do to make students interested in computer science?
2. How are your computer science classes different from other classes?
3. Do all students participate actively in the classes?
4. Do any of the students want to pursue computer science in the future after joining the classes?
5. Have you noticed an improvement in children's confidence after they started attending the classes?
6. What is your relationship like with your students?

Academic Growth & Critical Thinking

1. Do you keep track of students' performance in schools? By and large, how do your students perform in Computer Science?
2. Do you think studying computer science has helped your students with allied subjects like Mathematics and Sciences?
3. What academic growth have you seen in your students since they started attending the classes?
4. Are your students curious about learning new concepts? If yes, how can you tell?

Independent & Collaborative Learning

1. Are children able to learn new concepts on their own? How do you know?
2. Do children help each other study in class? If yes, what do they usually help each other with?
3. Do older children help younger children study in class?
4. Have there been cases where students have learned something that you did not teach on their own, or from each other? Tell us about it.

IV) ASHA Trainers

Introductory Questions

1. Name
2. Age
3. What is your educational qualification, and what job have you held in the past?
4. What does your training consist of?

Engagement and Motivation

1. How do you help teachers make students interested in Computer Science?
2. How can student interest be sustained so that they pursue computer science in the future?
3. Has the teacher training contributed positively to the teacher's interest in Computer Science? If yes, please provide an example.

Academic Growth & Critical Thinking

1. Is the syllabus for teacher training constantly updated? What changes have been made so far?
2. How do you standardise the knowledge of teachers from various streams?
3. How do you ensure that the teachers develop logical and critical thinking skills?
4. How do teachers encourage logical and critical thinking among their students?
5. What challenges do you face in teacher training?
6. How are teachers trained to help their students and projects?

Independent & Collaborative Learning

1. Does the teacher training involve training for classroom management? Elaborate.
2. How do teachers encourage students to learn new concepts on their own?
3. How do teachers manage any conflicts in class?
4. How can teacher training be expanded?
5. How can the RTC programme be expanded?

V) ASHA Members

1. Can you tell us the major milestones of the ACE project so far?
2. Is there scope for the project to expand and include other schools?
3. What have been the major challenges in implementation? How do you plan to handle them?
4. Do you think there is scope for engagement with students post 8th standard?
5. Do you think the ACE project has had an impact on the community? (For instance, encourage parents to support their children with education, etc.)
6. Can you tell me a little bit about Amazon's involvement with the ACE Project?
7. What was the reason for the differences between V1 and V2 of the project?
8. How are schools chosen for this project?
9. What are some common feedback you have received from teachers and trainers about the implementation of ACE?
10. What is your vision for the ACE project?
11. Is there anything else you would like to add?

ANNEXURE D:
SURVEY QUESTIONNAIRE

Trainer Survey:

Section A: Background Information

1. Name (Optional): _____
2. How long have you been involved in the ACE programme? _____ years _____ (months)
3. Which version(s) of ACE have you trained for?

□ V1 only □ V2 only □ Both

Section B: Training Delivery

1. How many teacher batches have you trained? _____
2. On average, how many sessions did you deliver per batch? _____
3. Approximately how many teachers in your batch needed extra support after training?
4. _____ out of _____ teachers
5. What were the most common challenges teachers faced after training? (Select all that apply)

□ Handling devices
□ Managing the classroom
□ Timetable conflicts
□ Low confidence
□ Difficulty explaining technical terms in Tamil
□ Other: _____

6. How would you rate the overall engagement of teachers during training?
7. □ Very Low □ Low □ Moderate □ High □ Very High

Section C: Post-Training Support

1. How often do you visit schools after training?

□ Weekly □ Fortnightly □ Monthly □ Rarely

2. Do teachers reach out to you regularly (via WhatsApp, phone, etc.)?

□ Yes □ No

3. On average, how many questions/issues do you receive from teachers per week?

□ 0 □ 1–2 □ 3–5 □ 6+

4. Have you seen improvement in teacher performance over time?

□ No change
□ Some improvement
□ Significant improvement

Section D: V1 vs. V2 Comparison

1. In your experience, how did the V1 and V2 teacher batches differ in preparedness or confidence?
2. How did v1 differ from V2?
    - Preparedness of the teachers
    - Confidence of the teachers
    - More rigorous coursework
    - Easier to understand
3. What changes did you or the team make between V1 and V2 training?
    - Curriculum
    - Way of explaining
    - Points of emphasis
    - Application over theory
    - Other (specify)
4. Which version of the training was easier to deliver?
    i. V1
    ii. V2
5. Why was the version easier to deliver?
6. Who implemented ACE classes more quickly after training?

□ V1 teachers
□ V2 teachers
□ No major difference
□ Not sure

Section E: Reflection and Recommendations

1. What is one training session or activity that worked especially well?
2. What is one suggestion you would make to improve ACE training in the future?

Section F: Workload and Wellbeing

1. How manageable has your ACE training work been alongside your other responsibilities?

□ Very difficult to manage
□ Somewhat difficult
□ Manageable
□ Easy to balance

2. What would help you manage ACE training better?

Teacher Survey:

Section A: Background Information

1. Name: _____
2. School Name and District: _____
3. What subject(s) do you primarily teach in school?
4. □ Tamil □ English □ Maths □ Science □ Social Science □ Computer Science □ Other: _____
5. How many years have you been a teacher? _____ years
6. How many years have you been involved in the ACE programme? _____ years/ _____ months
7. Which version of ACE training did you attend?

□ ACE V1 □ ACE V2 □ Not sure

Section B: Training Experience

1. How many ACE training sessions did you attend? _____
2. Rate your computer literacy before ACE training:

□ Very Low □ Low □ Moderate □ High □ Very High

3. Rate your computer literacy after ACE training:

□ Very Low □ Low □ Moderate □ High □ Very High

4. Rate your confidence in the following tasks:

Task	Not confident	Somewhat	Confident	Very confident
Opening and shutting a laptop	□	□	□	□
Typing and saving a file	□	□	□	□
Creating a PowerPoint presentation	□	□	□	□
Adding audio to the presentation	□	□	□	□
Searching for information on Google	□	□	□	□
Teaching students to use a laptop	□	□	□	□

5. How would you rate the structure and clarity of the training sessions?
□ Poor □ Fair □ Good □ Very Good □ Excellent
6. How easy was it to apply what you learnt in your classroom?
□ Very difficult □ Somewhat difficult □ Neutral □ Somewhat easy □ Very easy

Section C: Implementation

1. For which grade(s) do you conduct regular computer classes?
□ Grade 5 □ Grade 6 □ Grade 7 □ Grade 8 □ Other: _____
2. Number of students in each grade: _____
3. Number of students attending regularly: _____
4. Classes conducted last month:
□ 0 □ 1–2 □ 3–4 □ 5+
5. Class duration:
□ <30 min □ 30–45 min □ 45–60 min □ >1 hr
6. Are ACE classes on your timetable?
□ Yes □ No
7. When do you conduct ACE classes in school? (Select all that apply)
□ During computer period
□ By borrowing class time from other teachers
□ During lunchtime
□ During the PT period
□ During your subject period
□ Other, please specify: _____
8. Software/tools used regularly:
□ Paint □ Word □ Excel □ PowerPoint □ Scratch □ Other: _____

Section D: Student Learning

1. On a scale of 1-5, with 1 being the lowest and 5 being the highest, how comfortable are the students with the following skills:

- Type their name in English: _____ / _____
- Save a file: _____
- Make a PowerPoint: _____
- Adding audio to a presentation: _____
- Searching for information on Google: ____
- Explain "input" and "output": _____

Section E: Records & Challenges

1. Do you keep records? □ Yes □ No
If yes:
□ Attendance □ Screenshots/files □ Portfolios □ Other: _____
2. Challenges faced:
□ Power cuts □ Device issues □ Time conflicts □ Student hesitation □ No lab access □ Other: _____

Section G: Work-Life Balance

1. How has ACE affected your workload?
□ Very stressful □ Somewhat stressful □ Manageable □ Enjoyable

Section H: Equity & Final Reflection

1. Do all students get equal access to computers? □ Yes □ Mostly □ No
2. If no, who is left out more often?
□ Girls □ Younger students □ Students with low performance □ Students with disabilities □ Other
3. Describe ACE in one sentence: _____

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