

# BEYOND THE SPEC SHEET: WHAT ACTUALLY MAKES CLASSROOM AV SUCCESSFUL

**Manoj Sundaram**, Education Technology Consultant and Founder & CEO, C3 iT Xperts, has worked in education technology since 2004. Here, he reveals why specifications rarely predict classroom success. Drawing from implementations spanning 11,000+ classrooms and professional development with 50,000+ educators, he explores why understanding teaching workflows, room dimensions, and educator needs matters more than hardware specifications when selecting classroom technology.



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For more than two decades, I have been involved in technology decisions inside schools. I have sat through product demonstrations, technology committee meetings, classroom observations, teacher training sessions, and post-installation reviews. One pattern keeps repeating.

When schools evaluate classroom AV, the conversation usually starts with specifications? How much RAM? How many touch points? Which Android version? How bright is the display? What processor is inside? Does it have 4K resolution? These questions matter. But they are not what ultimately determines whether the technology will work in the classroom.

After working with classroom technology since 2004 and implementing solutions across thousands of classrooms, I have become convinced that the specification sheet is a poor predictor of actual classroom success. I have seen excellent technology underused. I have seen expensive interactive displays become little more than presentation screens. I have also seen relatively simple classroom systems work extremely well because somebody first understood the teacher, the room, and the workflow. That difference matters.

I have recommended schools buy less technology. This may sound strange coming from someone whose business implements classroom technology. But there have been situations where my recommendation to a school was simple: Do not buy all the hardware you are planning

to buy.

In one project, the original thinking involved deploying interactive technology across roughly 50 classrooms. After understanding what the school actually wanted teachers and students to achieve, it became clear that buying hardware for every classroom immediately was not the best starting point. A software-first and phased approach could achieve much of what the institution wanted without making the full hardware investment upfront.

The school avoided spending approximately ₹20 lakh. That experience reinforced a principle I had already begun to believe in. A consultant's job is not to find a reason to sell technology. It is to find out whether technology solves the problem. Sometimes the answer is a larger display. Sometimes it is better audio. Sometimes it is teacher training. Sometimes it is network infrastructure. And sometimes the right recommendation is simply: don't buy this yet.

## CLASSROOM SIZE COMES BEFORE DISPLAY SIZE

One of the first questions I ask when someone says they need an interactive display is not about the brand. I ask about the classroom. How large is it? How many students? How far is the last row? What is the seating layout? What is the ambient light like?

A 65-inch panel can work perfectly well in a smaller classroom with around 20 to 25 students. Put the same display into a

typical 450 to 500 square-foot classroom with 35 or 40 students and experience changes. The teacher standing next to the display may see everything clearly. The child sitting in the last row may not. For many Indian classrooms of that size, I am more comfortable recommending a 75-inch display.

Once classrooms become larger or student numbers move beyond 40, I start looking seriously at 86-inch displays. This is not about selling the larger product. It is about visibility and viewing distance. Yet display selection is often done backwards. Schools receive quotations with 65-inch, 75-inch, and 86-inch models and then choose according to budget. The classroom should decide the display size. The catalogue should not.

## FORTY TOUCH POINTS? I HAVE YET TO SEE THAT LESSON

Interactive display manufacturers love touch-point numbers. Twenty touch points. Forty touch points. Sometimes fifty. It makes a fantastic comparison table. But I have spent enough time inside classrooms to ask a very simple question What exactly are 40 children going to do on a

75-inch screen at the same time? In normal teaching, perhaps one teacher is writing. Maybe two students are solving something together. Occasionally, a small group collaborates at the display. That is the real requirement.

What matters far more is whether the writing feels natural. Is there noticeable latency? Can the teacher rest a palm on the screen without creating unwanted marks? Can annotations be saved? Can they be shared? Can the teacher move between content and whiteboarding without fighting the interface? Those things affect a lesson. The difference between 40 and 50 touch points rarely does. Not every larger number represents greater classroom value.

## **STOP BUYING ANDROID SPECIFICATIONS AS THOUGH YOU ARE BUYING A SMARTPHONE**

Another discussion I regularly hear is about Android specifications. 8 GB RAM. 16 GB RAM. 128 GB storage. 256 GB storage. Eight-core processor. The comparison starts sounding like a smartphone purchase. But an interactive display is not a

giant smartphone. The better question is: What computing environment does the teacher actually need?

Most teachers I work with already have an established digital workflow. PowerPoint.

Word. PDFs. Chrome. Google Classroom. Google Drive. YouTube. Educational software. Windows applications. Files accumulated over several years. Then a new interactive display enters the classroom, and suddenly we expect that teacher to abandon the familiar workflow and operate entirely inside the panel's Android environment. That is where friction begins.

Android has its place. For whiteboarding, quick browsing, media playback and certain classroom applications, it is extremely useful. But for many schools, I still recommend an OPS or a properly integrated teacher computer. Why? Because technology should adapt to the teacher's workflow wherever practical. The teacher should not have to rebuild the workflow simply because a new display has arrived. This is especially relevant in Indian schools, where Windows remains deeply embedded in teaching and administration.

A feature can be technically impressive and still be operationally inconvenient. The OPS question is usually a workflow question I am frequently asked: "Do we really need the OPS?"

My answer is rarely based on the specification of the panel. I ask how teachers work. If teachers regularly use Windows applications, desktop resources, specific software, or files stored in familiar environments, an OPS can simplify classroom use considerably. The teacher walks in, turns on the display, and sees a familiar desktop.

There is another advantage that schools often underestimate: consistency. If every classroom works differently, teachers lose confidence quickly. One room uses one connection method. Another needs a different one. A third cannot open the same application. Before long, teachers develop workarounds. A good AV system reduces those variations.

Consistency may not appear prominently on a specification sheet, but it has a major effect on adoption.

*Don't miss the next edition of AV-ICN Expo Magazine for Part 2 of this feature.*