## Ed Tech: Discovering the Future of Connected Classrooms

The media often portrays technology as a divisive phenomenon, however K12 classrooms across the country are employing educational technology to promote collaboration and give students more access to the world than they've ever had before.

Computers or tablets for each student. Multimedia lessons streamed right to children's desks. Collaborative, virtual discussions between classes, guest speakers, and even students at other schools. Real-time data on student performance. The classroom of the
past has gone up in a cloud of chalk dust, while the classroom of the future is cloud-based and chalkless. Public schools spend more than $3 billion a year on digital content. Thirty-four cents of every instructional dollar is allocated to integrating technology, according to Ed-Fi Alliance President Troy Wheeler.  Players in the $8 billion education technology industry are rapidly developing new software and hardware to equip classrooms that will support children growing up in the information age. All of this leaves parents, students and educators asking the multibillion dollar question: What does the classroom of tomorrow look like?

## Top 10 Innovations of Tomorrow's Classroom

### 1. 1:1 Devices

One-to-one means each student receives a device such as a [Chromebook](#), iPad, tablet, [wireless slate](#), or other mobile learning solution, to use for school. Elementary, [middle](#) and high schools across the country are investing in blended learning initiatives that combine online learning with traditional face-to-face teaching. Whether the devices are district-supplied or students are allowed to bring their own, the idea behind 1:1 devices is that they build students' technological skills and allow for 24/7 access to learning, while enabling schools to deploy learning management systems, student information systems, and/or other software used to assign work, schedule, communicate and track student progress.

## 2. Device Management Systems

The Notorious B.I.G. said "mo' money, mo' problems," and school administration may be worried the same is true for "mo' devices." However, with a device management system, overseeing 1:1 devices for students is no problem at all!

Schools rely on comprehensive management systems like [Google Device Management](#) or Lightspeed Systems to make device utilization simple and easy for admin and teachers. IT admin have total network control with comprehensive device management and elaborate reporting. Teachers appreciate system functions like screen monitoring, video libraries, class device monitoring, and the ability to easily disseminate and filter content.

## 3. Interactive Boards and Displays

[Smart boards](#), also called interactive whiteboards, come in a variety of styles. Some are upright on casters, which allows for mobility, break-out sessions, and height adjustment. Others are in the style of a table, like the [KidzBoard Multi-Touch Table](#), which is built at a kid-friendly height and ideal for group collaboration or workstation.

Regardless of the style, smart boards are a brilliant marriage of classic whiteboard instruction and projector presentations, affording teachers and students alike the ability to deliver an interactive and compelling presentation or create a cooperative workstation.

## 4. Video Conferencing & Augmented Reality Software

Google Hangouts, Skype and other [video conferencing software and devices](#) allow students to learn from experts, teachers and even other students located anywhere. For example, a [classroom in Denver](#) area was remodeled to include Skype Mountain. From Skype Mountain, students connect with guest speakers around the globe.

Augmented reality technology takes students anywhere. For example, it will allow classes in rural areas to tour museums across the country or explore geographic areas around the globe. Thanks to video conferencing software and augmented reality like Google Explorer, students will no longer be limited by geography or financial ability to travel. Instead, the virtual field trip comes to them.

## 5. Student Response Systems

[Student Response Systems](#) equip teachers to project questions for the class to view. Then students "click in" their answer with small, handheld devices or on their 1:1 mobile devices. Student Response Systems can be used for warm-ups to bigger exams - taking the stress out of the test for students - or for end-of-day review sessions. Answers can be set to record anonymously so only a percentage populates showing the number of correct and incorrect answers without naming who chose what. Thus, students are able to assess their grasp of the material without facing a loss of points or fear of failure. Additionally, teachers can measure whether their students have mastered a topic. If understanding is low, the teacher can work out the problem or discuss the issue in the moment. Plus, they give the classroom a fun, game show feel that makes learning interesting and exciting for students!

### 6. Interactive Projectors
Spock would be so proud! [Interactive projectors](#) are making appearances in schools across the country, and some even offer [3D projection](#)! Interactive projectors allow educators and students to interact with projected lessons to facilitate a more reciprocal learning environment while still giving teachers full control. They have built-in speakers for audio support. Imagine biology class with 3D animal dissection guidance or learning the planets by "visiting" them in 3D. This innovation has us wishing we could return to school!

### 7. Malleable Work Spaces
The classroom of tomorrow will incorporate [flexible workspaces](#), rather than rigid, immovable row of desks. Teachers and students will be able to adapt classrooms to fit the day's activities or pedagogical methods. A [study](#) by the Herman Miller Company revealed that when classroom furniture may be moved for comfort and practicality, student learning experience was heightened. Standing desks, private workstations, collaborative workspaces, [interactive whiteboards](#), and moving walls are some of the ways classrooms will better serve the students of tomorrow.

### 8. Interactive Monitors
In not-too-distant school days, Bill Nye the Science Guy was the most modern, hip way to learn about topics like erosion and atoms and molecules. Now, modern kids can do more than just watch videos. With interactive monitors, students can not only learn about any topic under the sun, they can actually interact with the content. On interactive monitors, students may rotate, manipulate, navigate and zoom in and out of every detail of holographic images. In cooperation with programs like zSpace Studio Software, these monitors allow students to import, view and interact with architectural, mechanical engineering, scientific lessons and more in 3D!

### 9. Digital Classroom
Many modern classrooms will have a digital version of the classroom that will closely replicate what happens in the physical classroom. Here, students may find assignments, instructions, syllabus with class calendar, links to online materials, and more. This cloud-based classroom will be accessible from anywhere anytime (with an internet connection, of course). Some may allow for group collaboration, and assignments may even be submitted through digital classrooms. The days when students got away with "my dog ate my homework" are limited.

### 10. Data & Analytics
In-classroom technology, such as learning software and digital games, will help teachers analyze student progress and make necessary modifications. Real-time data means real-time adjustments when students need them. Other data, such as academic performance and attendance, can drive operational changes and even decisions at the district level.

While the vision of top-to-bottom analysis of students' every move in the classroom heralded by [Max Ventilla, CEO of AltSchool](#) may be far off, there is no question that technology will take assessments to a whole different level. No. 2 pencils and bubble tests have some serious competition.

Five years ago, the question was whether or not to employ technology. Now, that *if* has shifted to *how*. Forward thinking school districts are already making changes to provide students the technological tools to succeed in the information age. Will yours be at the back of the pack or leading the charge?

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