

The ViewSonic® 21st Century Classroom Solution



In this paper we outline a model for successful implementation of a classroom that encompasses front-of-room display, classroom collaboration technology, AV device management, student response, and efficient teacher technology control.

— Michael Holstein, 09/30/15

INTRODUCTION

Today's K-12 classrooms are in a state of flux. A continuous stream of new ideas, technologies, teaching methods and testing requirements are all playing their part in the shifting educational landscape. One thing, however, is clear: the successful 21st century classroom will rely heavily on technology. In particular, interactive technology has been demonstrated to increase student engagement and positive learning outcomes. Teachers report increased student attentiveness and engagement when interactive whiteboards are used,¹ and a majority of educators – around 77% in one survey – believe that an interactive display in the classroom is very important or an absolute must.² One landmark study found a student achievement gain of 16 percentile points when IWBs were used; this jumped to 26 points when well-conceived graphs, charts, videos, and other visuals were used to reinforce information, and rose another 31 percent when teachers used “interactive reinforcers” and student response polling.³

THE VIEWSONIC® SOLUTION

ViewSonic has partnered with providers of the key components needed to deliver a comprehensive, interactive, and collaborative classroom technology solution. By offering pre-configured solutions that have been tested and confirmed to work well together, we take the guesswork out of defining and implementing a complete classroom system. All components are prepped, preprogrammed and preconfigured as needed to ensure a fully-compatible system.

"ViewSonic offers a range of interactive display options that include interactive projectors and large screen interactive LED displays"

KEY COMPONENTS

Each school or district's requirements are unique. While some may be looking for a complete soup-to-nuts upgrade of all classroom technology, many, if not most, will have pre-existing hardware and/or software with which the additional ViewSonic solution components will integrate. For either of these scenarios, our solution offers integration of the following components into a complete interactive classroom solution:

- Front-of-classroom display
- Instructional software
- Classroom collaboration technology
- Remote management software
- AV device management
- Auxiliary audio
- Student response system

Below, we take a closer look at each of these components.

Front-of-classroom Display

The most visible of the solution components is the front-of-classroom display, and in the 21st century classroom, interactivity is key. As demonstrated by research and supported by endless teacher testimony, a collaborative, editable classroom display increases student engagement and boosts learning outcomes.

ViewSonic offers a range of interactive display options that include interactive projectors and large screen interactive LED displays that facilitate classroom collaboration and sharing.

ViewSonic ultra short throw education projectors transform any surface into an interactive whiteboard. Included interactive pens and ViewDraw™ 2 software enable two users to simultaneously annotate, write, or draw on projected images. Additional user-friendly classroom projector features include background templates, a save copy feature, reveal curtain/spotlight, and the ability to use the interactive pens as a wireless mouse to drag or open files.

Pre-installed on ViewSonic large format interactive displays, ViewBoard™ software lets users write, highlight, edit, and transform documents and images on-screen in real-time. Classroom collaboration is further enhanced with features such as screen recording, magnification, and spotlight.

Instructional Software

Along with the collaboration software used to manage student computing devices (see below), the software used by instructors to develop and deliver lessons will determine the parameters for the balance of the classroom solution components. Typically installed and run on the teacher's laptop, at present the two most popular alternatives are SMART Notebook from SMART Technologies and ActivInspire by Promethean. Each delivers powerful tools for accessing and building engaging, interactive educational content.

Beyond these well-known providers, teachers and school districts have access to more sources than ever before for engaging educational content.



The burgeoning cloud-based market that includes Google for Education, Khan Academy, and digital resources from traditional education publishers like Pearson and McGraw-Hill, promises ongoing growth and the continued delivery of quality digital educational content.

"ViewSonic offers both wired and wireless collaboration technology"

Classroom Collaboration Technology

Whether working with a 1:1 student-to-device ratio or in a shared-use environment, teachers need a means of managing and interacting with student devices that may include Windows-based laptops, Apple- and Android-based tablets, Google Chromebooks, or other smart devices. Enabling this management is the purview of the solution's collaboration software. A critical piece in the puzzle, this hardware/software pairing must be seamless in operation and compatibility to ensure the efficiency of learning independent of the device type or operating system. To achieve this, ViewSonic offers both wired and wireless collaboration technology as part of its 21st century classroom solutions.

Wired Collaboration

In partnership with Extron Electronics, a leading manufacturer of professional AV system integration products, ViewSonic's classroom solutions ensure streamlined compatibility for each customer's collaboration software-student device pairings. Built around Extron TeamWork® collaborative AV systems, classroom "collaboration stations" deliver simple set up and intuitive ease of use. Featuring convenient, wired connectivity, TeamWork collaboration stations eliminate WiFi connectivity concerns due to legacy wireless infrastructures, WiFi incompatibilities or other potential WiFi problems. The intelligent, adaptable design also enables use with existing classroom furniture, eliminating the added integration complexities and costs introduced by systems that require the purchase of proprietary furniture. Easily customized to include everything needed for your unique classroom setting, pre-configured kits for up to eight users include switcher, "Show Me" cables/retractors, an Extron IP Link® control processor and Cable Cubbies®/ table mounts as required.

Quick and intuitive to use, BYOD or district-supplied mobile learning devices can be connected to a "Show Me" cable to start the system. A push of the cable's "Share" button lets students share content with one another or display it via the classroom flat panel display or projector.

Wireless Collaboration

For districts and schools with the infrastructure and budget to support a wireless solution, ViewSonic has partnered with Mersive, a company that specializes in delivering simple, affordable visual display systems that foster interaction and cultivate creativity. Easily installed on a standard Windows computer, Mersive's enterprise-class Solstice software requires no proprietary hardware and can run on an existing network or be deployed as a standalone Wireless Access Point. For large campuses or district-wide use, the intuitive Solstice Dashboard provides a centralized IT administrator interface that makes it easy to configure, manage and monitor multiple displays.

Enabling wireless visual data sharing from any device, Solstice Display software installs on a Windows computer connected to the front-of-room display, allowing multiple students to simultaneously connect devices running the free Solstice client app over WiFi or an Ethernet network. Among its robust sharing capabilities, Solstice delivers:

- Unlimited simultaneous users via WiFi and/or Ethernet connections
- Easy connectivity via Windows, Apple and Android devices, including laptops, tablets and smartphones (support for Chrome devices is also planned for the future)
- Multiple use modes for presenter-controlled sessions and "equal-access-for-all" sessions
- Real-time sharing of applications, documents, images, videos, and more, with content changes immediately visible on shared screens

Surrounding these three core components – front-of-room display, instructional software and collaboration system – are the ancillary pieces that enhance learning, such as audio and additional AV devices, and the components needed for easy and efficient control.

"Teachers' tablets or smartphones are transformed into convenient remote controls."

Remote Management Software

Along with the many advantages of interactive displays, this transformative technology can inconveniently confine teachers to the front of the classroom, requiring close proximity to their laptop in order to manage instructional

software and manipulate content on the front-of-room display. This can interfere considerably with teachers' ability to circulate throughout the room to interact with and assist students.

Recognizing the importance of instructor mobility, ViewSonic 21st Century Classroom Solutions feature Doceri remote AV control software from SP Controls, a leader in easy-to-use, cost-conscious audiovisual control technology for classrooms. Easily installed on an instructor's PC/laptop and their chosen mobile device, Doceri delivers the content on their PC/laptop directly to their smartphone or tablet. Effectively serving as remote desktop software, teachers' tablets or smartphones are transformed into convenient remote controls, providing real time management of their instructional software and front-of-room display along with the ability to move freely around the room. Teachers are thus empowered to deliver engaging, interactive lessons on the classroom display while retaining the mobility to assist students and ensure they're on task and meeting educational objectives.

"The students like that they can write on the screen from their desks."

– Kristine Marsden, Teacher

Feedback from teachers who had used Doceri for one year indicated that nearly all respondents (94 percent) felt that this mobility better enabled them to manage their classrooms, and 86 percent indicated that their students were more engaged. As one teacher noted:

"I love that I am not stuck behind my computer to use my computer," said Kristine Marsden from Ocoee Middle School in Ocoee, Florida. "With Doceri, I can teach and circulate to help with classroom management. The students like that they can write on the screen from their desks. They also like that I can sit or stand by them and still teach and write on the screen."⁴

AV Device Management

An effective classroom solution takes into account the need to support the variety of AV devices used by teachers to provide supplemental educational content. This includes older equipment such as VCRs along with DVD and Blu-ray players, digital cameras and the other multimedia equipment.

Teachers must be able to effectively manage these devices in a way that enhances – rather than interferes – with their lessons. While perhaps less glamorous than other solution components, an efficient, well-wired control system is vital to its overall success.

For accessible, easy management of all AV components, ViewSonic K-12 classroom solutions include an installed control center concealed by a convenient wall plate, developed in partnership with SP Controls. Connected

to a video switch box tied into the front-of-classroom display and the teacher's PC device, these controls are meticulously planned and executed to enable quick, easy management of all components at the touch of a button. Each custom solution clearly spells out the specific inputs, cables and switches needed and all devices are preprogrammed for streamlined installation and use. A wall plate conceals the complexity of the design and teachers see only the simple, intuitive controls.

Auxiliary Audio

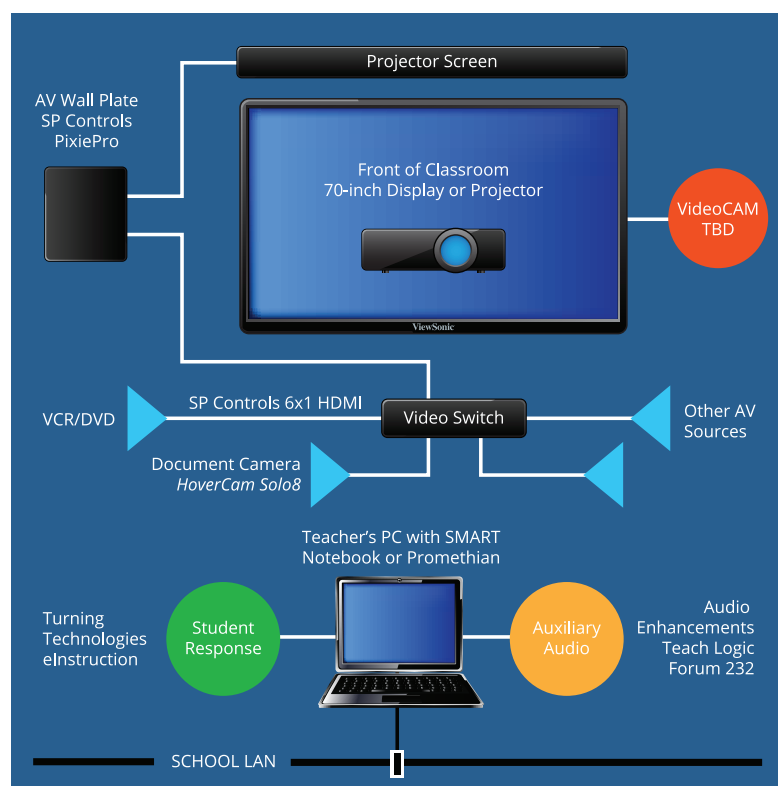
Larger classrooms can benefit greatly from the addition of an auxiliary audio system, which can spare the instructor from having to yell to be heard over chattering students and can improve student attentiveness and engagement. Recognized for revolutionizing cost-effective, easy-to-use audiovisual control technology since 1995, ViewSonic partner, SP Controls, offers a range of commercial-grade classroom audio products that can be included with any ViewSonic 21st century classroom solution.

The result of years of experience in the design and manufacture of quality electronics, SP Controls AmpliNc Systems offer a unique combination of performance and operational benefits not available with conventional amplifiers. Value-minded and seamlessly scalable, these solutions can be easily adapted to deliver the ideal audio system for any classroom.

Student Response

Once considered a fun, novel add-on, student response devices are finding their way into more classrooms than ever based on their impressive ability to increase student engagement and achievement. As noted above in this paper's introduction, the addition of audience response polling to a classroom's interactive front-of-room technology was shown in an early (2009) landmark study to increased student achievement by 31 percent.³ Since that time, not only has the use of response technology burgeoned, the demonstrated benefits of combining it with interactive displays have been astounding.

To deliver reliable integration of student response systems and software into our complete classroom solution, ViewSonic has partnered with Turning



Technologies, maker of elnstruction student response products, Combining the latest RF student response systems (known as “clickers”) with intuitive software, elnstruciton systems drive greater engagement, increase student participation, and provide educators with immediate feedback.

CONCLUSION

While perhaps the most visible component of classroom communication and collaboration, on its own an interactive display or projector is generally insufficient to meet the needs of most classrooms. ViewSonic’s 21st Century Classroom Solution offers a comprehensive, streamlined package that incorporates the key components shown to boost student success. Pre-configured to help our reseller and education customers easily implement classroom technology that includes front-of-room display, 1:1 device management, student response and efficient instructor control, the ViewSonic 21st Century Classroom Solution can also be adapted to meet unique classroom, school or district needs.

For more information, contact ViewSonic Sales at salesinfo@viewsonic.com or visit www.viewsonic.com

Sources:

¹ Interactive Whiteboards Enhance Classroom Instruction and Learning, Accessed 4.14.14 at: <http://www.neamb.com/professional-resources/benefits-of-interactive-whiteboards.htm>

² PMA Research Report. Survey of U.S. K-12 Educators Shows Strong Interest in Interactive Functionality for Classroom Projectors, Accessed 3.4.14 at <http://www.pmaresearch.com/press-releases/survey-of-u-s-k-12-educators-shows-strong-interest-in-interactive-functionality-for-classroom-projectors/>

³ Marzano, Robert J., The Art and Science of Teaching / Teaching with Interactive Whiteboards, November 2009 , Volume 67, Number 3 , Multiple Measures Pages 80-82, Accessed 2.25.14 from <http://www.ascd.org/publications/educational-leadership/nov09/vol67/num03/Teaching-with-Interactive-Whiteboards.aspx>

⁴ 94 Percent of Doceri Teachers Report Better Classroom Management 7,30,13, Accessed 4.24.15 at: <https://doceri.com/news/news11.php>