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Supporting Active Learning with Interactive Displays

Experts discuss how interactive displays can enhance instruction



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Employers need workers who are critical thinkers and creative problem solvers, and K-12 learning is becoming more hands-on and collaborative in response. Direct instruction still has its place in the classroom, but teachers are spending less time delivering content and more time having students assume an active role in their education.

Interactive displays are an effective tool for supporting this hands-on, collaborative approach to learning. Interactive displays allow students and teachers to easily navigate applications, edit and annotate digital content, manipulate images, brainstorm ideas, and present, share, and save information. With multi-touch capacity, groups of students can collaborate with each other by marking up the same file on the display.

In interviews with *eSchool News*, three educational technology experts discussed the benefits of interactive displays as instructional tools, what to look for in an interactive display for the classroom, and how the technology is having an impact on teaching and learning.



Ignacio Rodriguez is the technology director for the Childress Independent School District in Texas, a highly rated school system with three schools and about 1,100 students.



Miguel Guhlin has served as a classroom teacher, director of instructional technology, and director of technology for various school systems. He currently facilitates professional learning for K-12 technology leaders for the Texas Computer Education Association (TCEA).



Adam Swinchock is the director of technology for Peters Township School District in Pennsylvania, a high-performing suburban school system about 12 miles south of Pittsburgh.



Why do you think interactive displays are becoming a key part of schools' ed-tech plans?

Ignacio: Interactive displays are the modern replacement for classroom projectors. They provide the end-user with a better overall experience. Interactive displays do not require the changing of bulbs, resulting in less downtime—which is always good for educators.



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Miguel: I think what has made the difference for interactive displays was moving to a 70-inch size. Anything smaller just wasn't getting the job done. Not having to calibrate an interactive display is a significant advantage, as is not having to deal with replacing light bulbs or cleaning the filter out like you have to do with projectors. An interactive display is generally less expensive over time, because you don't have to replace a lamp. Those are very powerful selling points.

Adam: It's about the experience in the classroom. They give us a better experience than a projection system; the quality of the image is significantly greater than that of a projector. Our interactive displays have allowed us to leave the lights on in our classrooms. I know that doesn't sound like a big deal, but in an elementary classroom, being able to leave the lights on and make sure students are engaged is a big deal.

We found that a projection system and an interactive whiteboard would constantly need recalibration, so teachers had to spend a great deal of time just getting the solution ready to be used. Now, our staff members don't lose valuable instructional time trying to get prepped for the day. They're able to just turn on the display and teach.

Our interactive displays serve as hubs for classroom instruction. They allow teachers and students to connect multiple technologies and do many different things. I don't want to say they are completely hardware agnostic, but they're pretty close. They're like a Swiss army knife for the classroom.



How are educators using interactive displays to enhance teaching and learning?

Ignacio: Interactive displays have anywhere from 10- to 20-point simultaneous touch. This allows teachers to bring students up to the front of the class and have them interact with the display and the lessons being presented. Split screens and the large size of the displays allow for multiple users to interact and collaborate on work.

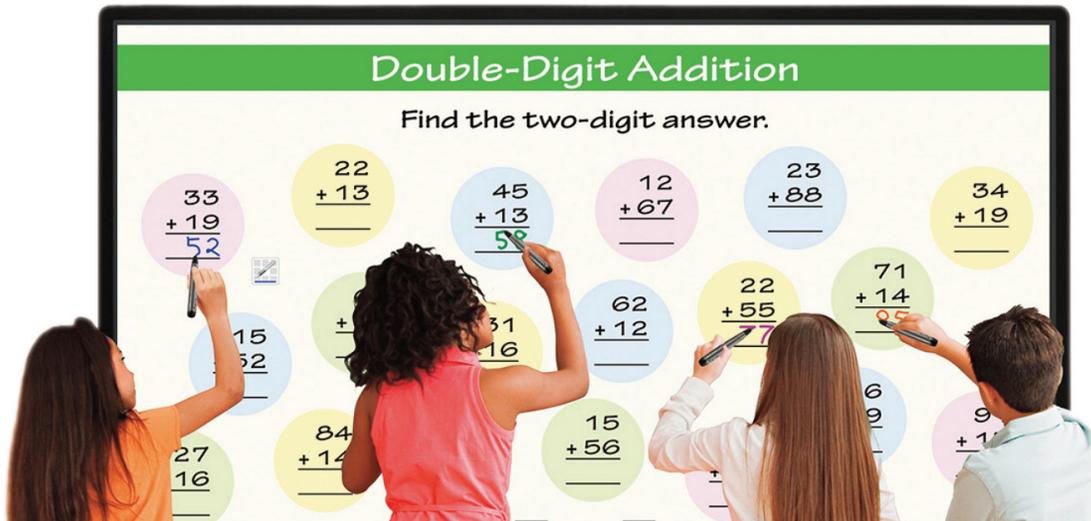
Miguel: Interactive displays can be used to introduce students to concepts, skills, and strategies, model how to do something, or have students demonstrate their learning. They can also help students gain a deeper conceptual understanding of a topic by physically manipulating the information on the display. Students can use the technology to co-construct a concept map, anchor chart, or document. In addition, students or their teacher can easily share and amplify their work for the class as a whole.

Adam: In our primary grades, teachers use them with a lot of virtual manipulatives, especially with our math content. We use Pearson enVision for that. We also use Study Island from Edmentum. Students can come up to the display and manipulate counters if they're doing math problems and then instantly reset the screen for the next student. With physical manipulatives, you have to clean up everything when you're done.

Because the displays support multiple touch points, multiple students can be working on problems at the same time—either collaboratively or competitively. We also have the ability to join the displays together and have educators team teach with multiple classes. We can hook document cameras or microscopes up to them through an HDMI connection. The sky's the limit in terms of the things we can do.

Our students can connect their device wirelessly to the displays and show or stream content from their device, and the class can interact with them and give them feedback.

Having the ability to do multiple functions from one device is extremely important to us. Our interactive displays can do so many different things; the content and the teacher's imagination are the only things limiting us from what we can do with the technology.



What features do you think are important in an interactive display for K-12 education? What should buyers be looking for?

Ignacio: Buyers of interactive displays should do comparison shopping and find a company that can provide them with a solution that is most appropriate for their districts. I recommend looking for a company that has experience in interactive whiteboards and now interactive flat panels. What consumers will find is that most of the hardware is very similar. The software and support are what can make one panel superior to the next.

Miguel: When shopping for an interactive display, I would be looking for something that allows for student interaction without needing third-party apps or hardware. Hopefully I wouldn't have to plug a USB stick into it to use it or connect devices to it; it would just work seamlessly without needing any intermediary device. Whenever you have a lot of attachments that go with it, those things tend to get lost easily.

The display should be wireless and able to be managed remotely. Brightness is another key feature. I would request a demo version and see how bright it is within the environment where it would be installed.

In terms of interactivity, I would want to be able to quickly zoom in, zoom out, and save what I'm looking at to a default location. Sometimes the software you're running gets in the way of what you're trying to do instead of enhancing it. When I'm working with a display, I want the features to be built in and easy to use.

Adam: We looked for something that was as hardware agnostic as possible. We wanted to make sure we could take whatever solution we decided to dream up and attach it to the display, and that's what really drew us to the Sharp AQUOS BOARD interactive display.

We looked for high resolution, crispness in the display, and portability. The warranty was another factor, as was local and manufacturer support in case we ran into an issue.

Fortunately for us, these displays have been built with such high quality that support has been minimal over the years.



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Multitouch capability also was important. We knew the limitations with traditional interactive flat panels at the time. Having a minimum of 10 points of touch gave us a lot more flexibility in the classroom and the ability to engage more students at the same time. In the past, we would have to have multiple pens, or students would have to wait their turn—and students can get restless quickly.





What impact are interactive displays having on student outcomes?

Ignacio: I think students are more likely to be interested in the topics at hand when they are excited about the way the material is being presented. Students are going to want to be more involved and interact with the lessons being presented to them on an interactive display instead of a traditional textbook.

Miguel: It really depends on the amount of professional learning that teachers have on the use of these tools.

One of the challenges with any kind of interactive technology is that teachers might not feel comfortable using it in the classroom. In that case, they often default to what's been modeled for them in the past or what they're most familiar with.

The power of an interactive display is the software that makes it work. It's got so much functionality that it can be intimidating to learn. For those teachers who do make the effort, it enhances their teaching. But teachers also need professional learning that aligns the use of the display with solid pedagogy, such as evidence-based strategies that put students in charge of their own learning. Students aren't going to love the technology if they can't use it for themselves, and the teacher won't let them use it if he or she isn't well versed in student-centered learning techniques.

Adam: We had traditionally done what every other district did—made the front of the room the focus. We were looking to change that. We wanted to remake how our classrooms functioned.

Having students sit in fixed positions facing the front of the room isn't conducive to student-centered learning. We were looking for something that allowed us to support more active learning environments, and that's what we found with the Sharp interactive display.

We put 70-inch AQUOS BOARD interactive displays on carts rather than mounting them in a fixed position. Teachers can use the displays as learning centers for students or deploy them however they'd like. Because our students are more engaged in the learning process, they are learning content more deeply. They're also learning higher-order skills by collaborating on projects.

While the ABCs are still important, we're hearing from industry that the four Cs—communication, collaboration, creativity, and critical thinking—are just as essential. The interactive displays allow us to create activities that focus not only on academics, but also those four qualities. They allow us to bring students into a shared workspace where they can develop those skills.

Powerful tools for supporting active learning

In summary, interactive displays offer a number of important advantages over projectors, whiteboards, and other solutions for presenting and interacting with content, these edtech leaders say—including brighter, crisper images without any need to calibrate the display, clean filters, or replace lamp bulbs.

When buying an interactive display for use in the classroom, features such as flexibility, versatility, and ease of use are important. Educators and students should be able to connect any device to the display instantly, with no lost instructional time and without requiring any special software or equipment. The interactivity should be responsive and simple to use, allowing for seamless sharing and collaboration.

When teachers are aided with ongoing training and mentoring, interactive displays can become powerful tools for supporting active and collaborative learning.

“We were trying to get students out of their seats and become active participants in their learning,” Swinchock concludes, “and the interactive displays allowed us to do that.”

To learn more about the Sharp AQUOS BOARD interactive display and how it can enhance teaching and learning, visit <https://business.sharpusa.com/AQUOS-BOARD>.



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About SHARP

Sharp Imaging and Information Company of America, a division of Sharp Electronics Corporation, offers a range of content management and workflow solutions to help educational institutions enhance traditional printing and scanning with emerging technologies. Additionally, Sharp AQUOS BOARD® interactive display systems provide advanced features to make lessons more creative and collaborative. <https://business.sharpusa.com/AQUOS-BOARD>

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