

Choosing the Right Technologies to Transform Learning



No question about it: Technology can — and does — enhance learning at every stage from kindergarten through high school. School districts have access to more learning resources, services, tools, and products than ever before, including a wide range of highly portable devices. Increasingly, laptops, tablets, and other devices are helping districts transform education from a rigid one-size-fits-all experience to a flexible environment in which students become independent, self-directed learners in the classroom and beyond.

“We passionately believe that if students have access to the vast amount of information out there and they know how to discern what information is useful, and are then able to produce something that’s meaningful to them, they will deepen their own learning,” says Dr. Steven Ebell, Deputy Superintendent for Curriculum and Instruction for the Clear Creek Independent School District (ISD), a 39,000-student district in Texas.

Technology is also expanding how students can prove what they’ve learned. Rather than taking multiple-choice tests in a particular subject, for instance, students might create individual personal projects that reflect their knowledge. “The use of technology as a tool helps to engage and reinvigorate the classroom because students now have control over the manner in which they’ll demonstrate mastery of the content that they have to learn,” Ebell says.

Ultimately, the right technology enables students to individually understand *how* they learn — and why that knowledge matters not just in the classroom, but in life. “Technology is a great way to present problems to students that are authentic, that they would see in the real world, and to give them the tools that they need to find the information to solve those problems,” explains Dr. Eric Levitt, Assistant Superintendent for Instruction for Spartanburg County School District 6, a 10,000-student South Carolina district. Problem-solving helps students develop critical thinking, collaborative abilities, and communication skills — all important for their eventual transition to college and careers.

However, experts emphasize that it’s a big mistake to start the journey to personalized learning by focusing on the technology. “The choice of device should be the last decision you make,” advises Adam Garry, manager of Global Education Strategy at Dell. “Focus first on what you want learning to look like. Then shift to thinking about the device.” Following is a five-point checklist for doing exactly that.

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Deputy Superintendent for
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Creek Independent School District

1. Create a Shared Vision for Learning

First, define and create a shared vision for the learning experience. Key to a unified definition and vision is including the perspectives of all stakeholders: administrators, teachers, curriculum developers, information technology managers, board members, business leaders, parents, and, yes, students. “Too often, districts make decisions about technology based on the way adults use it, not the way students use it,” notes Garry, a former elementary-school teacher. “You have to involve students. They should have a voice in the learning process and a role in the decision.”

Ideally, that process should start with a Visioning Day, when all those stakeholders gather to define what learning should look like, determining together exactly what their district needs. It’s important to fully address those issues up front rather than taking shortcuts or simply replicating another district’s approach.

Stakeholders should consider these questions as they craft a shared vision of learning:

- What do we want learning to look like?
- What types of activities will best help us achieve our objectives and goals?
- How do we ensure that the new model takes advantage of the way information is organized for this generation of learners?
- What do students need to be able to do?
- What do teachers need to be able to do?
- How will we engage students? How will we personalize learning?
- What types of collaboration do we want to enable?
- What do we want students to produce?
- How do we extend learning beyond the traditional barriers of time (the regular school day) and place (the classroom)?
- How will we measure success?

2. Develop a Digital Content Strategy

Once a clear vision is in place, it’s time to develop a digital content strategy that supports the vision. That process begins with a content audit.

Specifically, initiative leaders need to inventory their existing digital content, such as e-books and workbooks, reference guides, video and audio materials, games and simulations. They must ensure that all tools are interoperable and that any data collected can be used to personalize learning. That approach gives students, teachers, and parents control over the learning process — and provides an opportunity to engage students at entirely new levels. In addition, it’s important to assess whether and how well each piece of existing content is being used. If the answer is “not at all” or “not very well,” consider abandoning, replacing, or upgrading it.

Next, initiative leaders need to determine what new content they need to support the strategy they have defined and to achieve their goals. Again, though, student input is critical when considering both content and device purchases.

“If you look at the way kids interact with information, whether it’s video games or the Internet outside of school, or a ‘flat file’ like a textbook, you run into a lot of problems with engagement and desire,” Garry says. The more students engage with content — the more they *want* to engage — the more successful any learning initiative will be, he adds: “To get to a more student-centered environment, a truly personalized environment, kids have to be empowered to be part of the learning process.” A successful initiative enables students to be producers, not just consumers, of content; it also provides them with the tools they need for that role.

Finally, consider how teachers and students access each kind of content, whether it’s via their devices, the school network, or the cloud.

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3. Establish Criteria for Device Functionality

Only after initiative leaders get a clear picture of the content they've got and the content they need is it time to establish functionality criteria for devices to be used in learning. Factors to consider include:

- **Consumption:** Devices are primarily to be used to access information and learning resources.
- **Supporting technologies:** Devices will work with instructional technology, such as printers, projectors, microscopes, and other equipment.
- **Accessibility:** Devices will support improved learning and greater independence for students with special needs. For instance, a speech-to-text device may help a student with disabilities complete his or her assignments.
- **Productivity:** Devices can readily be used to produce content that demonstrates student learning.
- **Anytime productivity:** Devices will enable students to be productive at school and at home.
- **Assessment:** Devices will meet the required functional specifications for online assessments.

The right functionality assists students in completing a wide variety of schoolwork. For example, they can use laptops or tablets to take notes in class, collaborate on projects, or create presentations. They might use smartphones to find and follow experts on Twitter, communicate with classmates, or shoot short videos. Similarly, they might use any of those devices, or a digital reader, to read books, articles, or other assigned material.

4. Ensure IT Compatibility

After aligning device functionality with learning strategies and goals, it's time to take a hard look at IT. First, instructional technologists should explain to IT staffers exactly what they plan to do, including which devices they want to use. Then IT must determine whether those devices are compatible with existing systems. If not, the district must establish a viable plan for adapting the infrastructure to support the new devices, determining the time, budget, and resources needed to accomplish that goal.

Among the other questions initiative leaders and IT staffers should try to answer:

- Does the network have enough bandwidth and access points to support the initiative?
- Is storage sufficient? Can it scale as needed to meet the demand of hundreds or thousands of new student projects?
- How will the new devices connect to the network? Can they authenticate for network access?
- Do the new devices work with existing tools? If not, is there a budget for new tools?
- Can the new devices be managed with existing system management solutions? If not, is there a budget to replace those solutions?
- What measures must be taken to ensure security and regulatory compliance?

However, even the most comprehensive IT approach needs to stay flexible. "What happens is that something changes during the year," says Carl Shawn, Director of Technology for the 19,000-student Northwest ISD in Texas. "You've got to be able to adapt." Providing strong support is a critical component for a learning technology initiative's success, he adds: "How you distribute software and support with your technicians is crucial to making sure that everyone is happy and utilizing it the best way."

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5. Establish a Professional Learning Program

Finally, experts recommend that each district establish a strong professional learning program to support teachers using new technologies. Ideally, such programs should offer opportunities for teachers to explore new ideas, tools, and teaching methods, receive technical training, and grow professionally in ways that positively affect their daily teaching practices and, in turn, boost student achievement.

“In many instances, the professional learning that the district embraces will have to support creating a new culture around professional development,” notes Garry, of Dell. “We have to utilize time and resources differently to meet the needs of the adult learners” — that is, the teachers — and that needs to happen before the district deploys any devices to students.

Delving into Devices

Of course, K-12 education covers a lot of ground, so student ages and grade levels must be factored into any device-buying decision. For example, students in kindergarten through second grade are especially touch-oriented and tend to do well with 8-inch tablets without keyboards, Garry notes. Beginning in third grade, it’s usually time to switch over to a keyboard-equipped device.

Dell offers a range of devices designed to help educators create engaging, easy-to-use, and — most important — personalized learning experiences for students in every grade. Among the choices:

- **DELL CHROMEBOOKS:** These laptops deliver essential functionality for affordable and hassle-free deployments that support personalized learning in easy-to-manage, cloud-based learning environments. With 4th Gen Intel® Celeron™ processors and excellent battery life, Chromebooks are ideally equipped to enable students to learn easily anywhere, anytime.
- **DELL VENUE TABLETS:** Optimized for touch and mobility, Dell Venue Tablets offer unmatched flexibility for students, teachers, and administrators. Dell Venue Tablets deliver robust content, valuable productivity tools, and strong support for the entire learning ecosystem, both online and offline. Powered by Intel® processors, these tablets open up a whole new range of learning possibilities.
- **DELL LAPTOPS:** Dell laptops are ideal for content creation and collaboration. Equipped with powerful Intel® 4th- and 5th-generation processors, these laptops strike just the right balance between mobility and performance for students who need advanced computing capability.
- **DELL DESKTOPS:** Featuring Intel® processors, Dell desktop computers are a longtime standard for classroom computing, whether they are used on teachers’ desks, on rolling carts, in labs, or in media centers.

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Checklist at a Glance

When selecting technology to support personalized learning, start with the right mindset. In other words: Don’t think of this process as a technology initiative. View and promote it as a learning initiative. The following tips provide an at-a-glance recap of the five-point checklist designed to help school districts identify their desired learning outcomes before they purchase a single device:

- Work with all stakeholders, including students, to create a shared vision for learning.
- Develop a digital content strategy supporting that vision.
- Create criteria for the device functionality needed to support teachers and students in the learning experience.
- Address the IT considerations needed to ensure secure, reliable access.
- Establish a strong professional learning program for teachers before providing students with devices.



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