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Making Security Inclusive

Schools for deaf, blind students counter security challenges by integrating disparate technologies

Imagine a crisis hits right where you are: a natural disaster, active shooting, gas leak or other emergency that puts you at risk for harm. You notice the commotion around you, but can't figure out what's going on, or what to do. It's a scenario blind, deaf and hard-of-hearing audiences know well — segments that are particularly vulnerable and underserved during emergencies.

How do you deliver time-sensitive instructions to audiences who may not see, hear or understand routine communicuton formats? What's more, how do you do so *instantly* when people under your care have just moments to react?

Leaders at the Colorado School for the Deaf and the Blind (CSDB) and their counterparts at the American School for the Deaf (ASD) have found uncommon ways to tackle this predicament, leveraging tools they already had.

Defying conventions

Kevyn Brown, recently retired from his role as facilities manager at CSDB, remembers the impact of the Columbine High School shooting, just one hour's drive from CSDB's campus in Colorado Springs. "We realized we had to find a better way to communicate with deaf and blind students, instantly and simultaneously," he shares.

Conventional approaches didn't cut it: "Some schools were using a buddy system, so if you were deaf, you buddied up with a teacher next to you. We were never comfortable with that," he explains. Other schools used lighted tower stacks, with red lights signaling an emergency. "We felt that was crazy," says Brown: "There shouldn't be codes, secrets or things that students and staff have to memorize."

Brown recalls one school that employed the term "Mr. Johnson is in the hallway!" as code for an emergency. Brown asked their security team what would happen if an actual Mr. Johnson showed up one day and stood in the hallway. They hadn't considered that possibility.

CSDB had an added challenge of being a combined campus, serving both deaf and blind students. In Brown's eyes, an adequate solution would enable CSDB to reach all audiences at a moment's notice, with information that was instantly comprehensible, even to a first-time visitor on campus.

Miles away, Jeff Bravin pondered similar challenges at the American School for the Deaf in West Hartford, Connecticut. As executive director for ASD, Bravin wanted to enhance student safety and communications beyond the typical alarms and flashing lights throughout campus. "We wanted something more visual and accessible for our students," he shares.

For both CSDB and ASD, the solution required layering messaging in multiple formats and vehicles, so no student, staff or visitor fell through the cracks.

Integrating and centralizing disparate systems

To make that possible, the schools partnered with Layered Solutions to integrate, centralize and automate their existing security and communications tools. That integration enabled the schools to manage disparate technologies like LCD panels, LED signs, PCs, phones, fire alarms, public address systems and more from a central dashboard, and deploy messaging in multiple formats from a tap on their smartphone, desktop or other device, like wireless panic buttons.

Both schools started small, with simpler integrations, and gradually added more capabilities over time. First up was adding visual components to audible alerts and vice versa.

"Every classroom at ASD has an IP clock that offers captioning, so any time we need to communicate an emergency, there's captioning that happens there," says Bravin. Additionally, someone will come on a TV screen with instructions in sign language, and the phone access system will notify students with auditory needs (hearing aids, cochlear implants) that something requires their immediate attention.

CSDB, which began integrating systems with Layered Solutions two decades ago, has grown its integrations considerably during that time, expanding automations from the main school building to residence halls, parking lots and gates.

One iteration, says Brown, involved using a wireless button system in classrooms and dorms to request support at different levels. "Level one was a request for help to a direct supervisor or designated backup," Brown explains. "Level four is what we called an on-campus 911 call that went out to about 30 people. It meant something significant was happening, and we'd flood support to that room."

Eventually, Brown's team also implemented mechanisms to discern whether an emergency was behavioral or medical. "We had that ability throughout the whole campus: in classrooms, conference rooms, dormitories, both on the deaf and blind sides of our campus," he adds.

> *Optional Sidebar*
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> **Potential Integrations**
> Most technologies used for routine, mass or emergency communications have the potential to be integrated, including:
> - Audio PA/Intercom
> - Email, SMS Texting, Pagers, Browsers
> - LCD Panels
> - Digital Signage
> - LED Signage
> - Visual PA
> - Mobile App
> - PC Alert (Pop-ups)
> - Phone System
> - Fire Alarm Systems
> - Security Cameras
> - Two-Way Radios
> - Door and Card Access
> - Wireless Panic Buttons

Over time, Brown's team found more uses for the button system, like managing lockdowns across multiple locations. "We integrated it with our card system so doors would lock. We also integrated it with our gates system so they'd lock too. We'd have LED banners running, text messages going to all staff, voice messages going to recipients who requested those, emails… All of that by pressing one button," Brown shares.

Before Brown's retirement in December 2018, his team added red and green lights by entrances so someone driving to CSDB could spot, at a glance, whether it was safe to enter the campus. Additionally, gates were programmed to issue alerts to security staff if left ajar, or if a malfunction was detected.

Applying emergency integrations to routine operations

Enhanced mass notification integrations aren't just beneficial in emergencies. For ASD, the ability to deploy routine messages or images to TVs across campus is a huge plus, says Bravin. Brown also used those capabilities for classroom bell changes, and to facilitate daily tasks like letting preschool staff know someone was at the door.

Daily uses also meant students got used to seeing and hearing the mass notifications functions, says Brown: "They grew familiar with that kind of communication, as opposed to all of a sudden the LCD TV showing a real-time clock did something weird in an emergency."

Automations invariably translate to faster turnaround and lighter staff load, says Bravin. To that end, Layered Solutions works with school leaders to map out possible scenarios and responses, then pre-program messages for instant dissemination when staff has only moments to spare. The built-in automations also expedite creating messages on-the-go. "That level of accessibility made it a no-brainer for us," says Bravin.

Grow as you go

Like ASD and CSDB, most organizations using Layered Solutions' system or pursuing their own brand of integrations begin by tackling simple interfaces, then add capabilities as their needs evolve and resources become available. That gradual build helps organizations achieve a lot with relatively little effort or funds, says Rick Wagner, vice president of sales for Layered Solutions. After all, enabling existing tools to play well with each other is a much more palatable investment than buying all new devices and revamping entire systems — particularly when money is tight.

"For us it was always about continuing to add and refine integrations," says Brown. Bravin agrees. Next, ASD is looking to expand the reach of its mass notifications to a wider audience, even beyond its school building.

Some of those additions happen naturally as Layered Solutions adds no-cost upgrades to its software, like the Missing Person function. "If there's a missing child or person we need to locate, we just drag a photo of that person into a folder on our desktop and it pops up on all screens that have PC Alert installed, which is every computer on campus," Bravin explains.

Self-reliance as a security advantage

Reminiscing on his years at CSDB, one conversation sticks out in Brown's memory. He'd been answering student questions about campus security when a student shared his experience in a public school, prior to enrolling in CSDB. In the absence of layered communications, that student had to rely on others to relay information to him, which he found incredibly frustrating. "He was so grateful to no longer have to depend on others for critical information," says Brown.

Keeping multiple audiences safe hinges largely on the level of access and speed of information. "The big deal for me was that within minutes everyone knew what was going on, and no one was running around trying to communicate," Brown concludes. "I'd tell any school thinking about integrating and layering their security and communications systems, it's a wonderful solution. Find someone who has a passion for security and technology, and have them be their implementor."