



# **Making a Career- Oriented Case for the Liberal Arts AT BELOIT COLLEGE**

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# Editor's Letter

DECEMBER 2023

Dear Esteemed Readers,

As we approach the end of another calendar year, it is with great pleasure that we present to you the latest edition of *Private University Products and News*. This publication serves as a testament to the vibrant tapestry of academic excellence, community spirit, and growth that defines the private higher-education experience.

In this edition, we turn our focus towards the spaces that shape the daily lives of our students—residence halls. These living spaces are more than just buildings; they are hubs of connection, learning, and personal development. Lifelong friendships are born within these walls, and the foundation for a successful academic journey is laid. We invite you to explore the innovative ways campuses are enhancing residence halls to foster an environment that is conducive to both study and social engagement.

In this issue, we also shine a spotlight on state-of-the-art presentation equipment that improves the campus experience in critical ways. As technology continues to evolve, so does your commitment to providing cutting-edge tools for the benefit of everyone who walks the hallowed grounds of your campus. From interactive displays to advanced audio-visual systems, there are a lot of exciting new ways to continue fostering an environment where ideas can be shared, explored, and brought to life.

Finally, we'll take a closer look at the importance of effective signage across your campus. Signage is more than just directional; it is a visual language that communicates your commitment to making your campuses hospitable, user-friendly, and inviting. From guiding newcomers across campus to celebrating achievements, your signage reflects the values and aspirations that make your campuses unique.

As we move into the heart of the holiday season, please allow us to express our heartfelt gratitude to each and every one of you. Your continued support and engagement have been the driving force behind the success of our publication, and we extend our warmest wishes for a joyous and peaceful holiday season. May this time of celebration be filled with moments of reflection, gratitude, and connection with loved ones.

Thank you for spending this year with us, for being an integral part of our community, and for your valuable contributions to our magazine as we strive to provide meaningful resources for your esteemed schools. As we look towards 2024, we are excited about the journey ahead and new opportunities to learn, grow, and innovate together.

Wishing you a festive holiday season and looking forward to sharing many more years of success and accomplishment with you.

Warm regards,

Ed Bauer

Publisher

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P.S. If you have a special person or campus improvement you would like to tell our engaged community of readers about please reach out to me.



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## Making a Career-Oriented Case for the Liberal Arts at Beloit College

BY CYNTHIA MWENJA, PhD

Eric Boynton, president of Beloit College, regularly attracts appellations such as “dynamic” and “visionary” because of the innovative campus and community endeavors he has initiated. As provost, he collaborated with Beloit faculty and staff on a number of new projects, such as the articulation of campus-wide integrated learning outcomes and the formation of Impact Beloit, a student career hub which facilitates community partnerships.

Since stepping into the role of president in June of this year, Boynton has worked with campus stakeholders to extend career guidance and mentoring for students by establishing two new schools within the college: the School of Health Sciences and the School of Business, Economics, and Entrepreneurship.

### From Career Channels to New Schools

The schools are a natural next step from foundations Beloit had laid under Boynton’s leadership as provost. One of those foundations was the development of career channels—guides to help students explore potential careers, showing how their interests can relate to a variety of both majors and future professions. For example, the “Curating and Communicating” channel highlights a variety of potential careers, from archivist to marketing, and calls attention to campus resources related to those careers, such as the Logan Museum of Anthropology. The career channel page also discusses the experiences students should expect in their coursework and promises to connect students to specific off-campus resources. Each of the eight career channels is built out in this way on Beloit’s website

so that students can easily sift through the material and weigh their career options within the liberal arts setting.

Another foundation underlying the two schools’ establishment is the sense of campus-wide community and collaboration Boynton has cultivated as both provost and now president. As Donna Oliver—current provost and dean of the college—says Boynton’s “tremendous energy and optimism are infectious,” making the faculty and staff “want to work with and for him”—and with each other. For example, during the first summer Boynton was provost, he formed a task force of faculty and staff members who accomplished several big charges: setting a strategic vision for Beloit, re-visioning the first-year program, and developing the career channels. Oliver affirms that everyone got on board because of Boynton’s “positive and energetic character.”

Career channels may seem counter-intuitive to proponents of the liberal arts model. Indeed, Rachel A. Bergstrom—director of the School of Health Sciences and associate professor and department chair of Biology—says that many

liberal arts institutions have traditionally resisted tying careers to the liberal arts in the clear ways that Boynton promotes. She points to the way Boynton has extended the previous conception of the liberal arts—“Along the way, he has encouraged the Beloit community to embrace the concept that providing a liberal-arts education and helping students prepare for future careers are not mutually exclusive.”

Ron Watson—associate provost and associate professor of Health and Society and Political Science—has been a co-director of the career-channels program. He appreciates the fact that this approach helps everyone on campus to be “up front, with no daylight between the liberal arts and career readiness,” Watson says. “(This) helps everyone on campus see the deep connection between the liberal arts and a meaningful career.” He points out that alumni have always articulated this connection through their personal anecdotes. He adds that with the challenges now facing institutions of higher institution, it’s more important than ever to meet students’ need for career guidance as part of their education. “We have to draw a much clearer picture of our value.”



The national conversation about higher education questions whether earning a degree, particularly at a private college or university, is worth the investment of time and money. Watson says the answer is “an emphatic yes” for graduates, in terms of both lifetime earnings and living fulfilling lives.

In thinking about the headwinds facing small liberal-arts colleges, as president of Beloit, Boynton realized that he needed even more effective means than career channels to quickly capture the attention of his many audiences: students, their parents, and potential collaborators of all sorts. He wanted the message to be true to Beloit’s roots, and he knew he had to reach audiences who might be hesitant to trust information from a private institution of higher education.

Boynton sought out to express the true value of a liberal-arts education in a way that was “clear, concise, and compelling,” and he realized that developing schools which clearly connect to career trajectories was an

effective strategy to reach this goal; each school can talk about outcomes and futures for students within its programs. Boynton says that the idea of schools within the College had been “kicking around for months,” and he saw the great potential for these to “relate to the strategic elements” already existing on campus—pulling established programs, including the career-channels model, under each school’s umbrella.

Boynton notes that schools provide quick ways of accessing information about various career paths, and they naturally enact the “richness of liberal arts exposure to multiple lines of thinking.” Interdisciplinarity is built into each school, so the students are “essentially trained for leadership,” he points out. “This education is so valuable, and we have to make the case.”

Calling the first two schools the “test kitchen,” Boynton plans for the campus to add others. These initiatives are exciting for alumni and other donors, he says, and any additional

*continued...*



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A large white and black motorcoach is shown from a front-three-quarter view. The coach has a black roof and a white body with black accents. It is parked on a paved surface. The background is a bright, clear sky with some clouds. In the top left corner, there is a logo with the letters 'UL' inside a shield shape, followed by the text 'ULTRA COACHLINER.' In the bottom left corner, there is text: 'UNPARALLELED COMFORT + STYLE' and 'THE ULTRA COACHLINER® DXL is the industry leader. This motorcoach has the smooth ride, capacity and luggage space of a high-end traditional coach bus, at only half the cost to own and operate.' In the bottom right corner, there is a circular seal with the text 'PASSENGER AND LUGGAGE BEST IN CLASS CAPACITY' and three stars. At the bottom of the advertisement, there is a blue banner with the text 'BUILD YOUR OWN AT COACHLINER.COM OR CALL (800) 475-1439'.



### School of Health Sciences

The School of Health Sciences was one of the first two schools formed at Beloit because it “builds on what we’ve done for years,” Bergstrom says. Beloit consistently sends students to top programs in health sciences, such as nursing, veterinary, physical therapy, and schools for M.D.s and D.O.s. The keys to that level of student success, she notes, are the structures that lend themselves to being organized as a school. For example, Health and Healing was one of the first career channels established, and Beloit has a Health Professions Advisory Committee which mentors students in a variety of ways. One area of mentorship is a seminar series which prepares students for the medical school application cycle. The committee also brings alums who have expertise in health fields to campus to speak to and make connections with the students. Additionally, Beloit has an agreement with the Medical College of Wisconsin whereby students pursue an accelerated path to a Doctor of Pharmacy

degree, graduating with an undergraduate degree from Beloit and a PharmD from MCW in as few as six years. All of these elements will enhance the School of Health Sciences.

Bergstrom affirms that Beloit is looking at other partnerships as well. They are working with a local health system to make partnerships in which students trained as certified nurse aids can gain employment. Beloit has also collaborated with local Black Hawk Community College so that students can become certified as Emergency Medical Technicians. Bergstrom says that working with Boynton on these partnerships has been fulfilling—they prepare students with meaningful certifications which will augment their careers, while “keeping it all in the context of the liberal arts.”

While health professions have been “more straightforward” in how they clearly lead to careers as doctors or nurses, for example,

Bergstrom says that working with Boynton’s vision has been enjoyable. Faculty members have begun to think much more expansively about the many other roles people can play in health careers. Students might pair a health and society degree with a business minor to position themselves for employment in healthcare administration. Such broader thinking about careers within the schools helps students translate their personal purpose to tangible careers—“opening possibilities while keeping core liberal arts values,” Bergstrom says.

In true interdisciplinary spirit, the School of Health Sciences includes tracks for Spanish language and culture as well as Anthropology. For students preparing to work in public health, Anthropology and Spanish are “crucial,” Boynton says. He observes that the language classes will prepare students to share knowledge and work in communities that are becoming more and more bilingual. In addition, Anthropology has been a *continued...*

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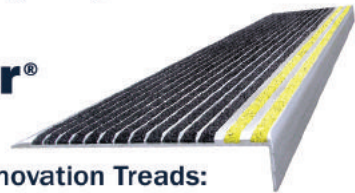


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longstanding strength at Beloit, notes Boynton, with many graduates pursuing doctoral degrees after graduation. The campus boasts the Logan Museum, an accredited natural history museum; its holdings support courses such as Forensics and Human Anatomy as well as *The Human Animal*, both taught by anthropologists. In fact, Dean Robert Golden of the UW-Madison School of Medicine and Public Health has taken notice of how well Beloit is preparing students under this new plan and has already expressed interest in developing a partnership.

### **School of Business, Economics, and Entrepreneurship**

Diep Phan—professor of Economics and Business; director of the School of Business, Economics, and Entrepreneurship; and chair of the Data Science and Data Analytics Program—says that this school was straightforward to develop because the field of business is already “very interdisciplinary and dynamic.” Additionally, she argues, when business is “infused with the liberal arts, it is best for the labor market.” She points out that students should know more than just business principles; they must “draw from a wide array of viewpoints.”

Since Beloit organized the School of Business, Economics, and Entrepreneurship, people across campus have been thinking of ways to connect their content to the school. Phan remarks that with this model, “no department, no program needs to be bigger”; expansion for the school emerges from a team effort across campus.

Phan says that the school is the “natural evolution of career channels” which “pulled resources from across campus.” Having this basis, she states, “made it very easy to reach out and ask for people to contribute.” Within a month of announcing the plan for the new school, they had created a list of 10 humanities courses to be offered in the School of Business, Economics, and Entrepreneurship. She says that classes such as “Money Narratives”—an English course—can help students who often focus more on numbers to consider the humanistic values that those numbers represent. Likewise, in “The Art of War for Business Majors”—a history course—students consider historical models of governance. This slate of humanities courses within the school, Phan says, establishes a “distinctive business curriculum” that will offer students crucial perspectives to draw on in their careers.

Outside of class offerings, several existing programs undergird Beloit’s new School of Business, Economics, and Entrepreneurship. One is the Center for Entrepreneurship in Liberal Education at Beloit, or CELEB. This unique entrepreneurship hub, now in its 20th year, “has a start-up incubator, student-run art gallery, Beloit’s film and media production lab, student-led foundation, music recording studio, and a maker lab for hands-on creativity and collaboration,” according to Beloit’s website.

Other programs that support the School of Business, Economics, and Entrepreneurship, Boynton says, are ones like the Upton Scholar residency, in which a world-class economist is selected to lead a weeklong, on-campus economics forum and offer a keynote address. Also, alums who have been successful in business and entrepreneurship can serve the campus as professors of practice in the Beloit Executives-in-Residence Program. In addition to teaching courses and advising students, these executives-in-residence serve as consultants and coaches to Beloit’s president. In another exciting development for Beloit, the college recently established a new role, that of vice president for Career and Professional Development. Tim Leslie, the first person to serve in this role, will bring his experience from over two decades at Amazon.

### **Power of Collaboration**

Beloit clearly offers an impressive array of innovative programs to enhance students’ experiences, and Boynton promotes a compelling vision for the ways that those programs can be integrated within the school model to connect the liberal arts to a wide variety of careers. Most importantly, he inspires dynamic collaborations among campus stakeholders.

Boynton “does a good job of trusting the people he’s working with to be creative,” Bergstrom says, “and he’s good at recognizing that he’s working with a team who are also excellent at their jobs.”

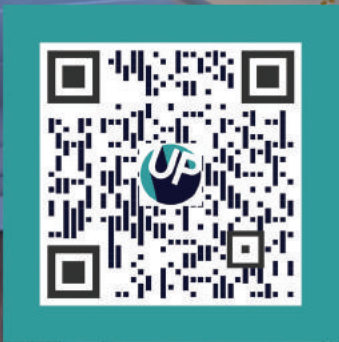


**ABOUT THE AUTHOR:** Dr. Cynthia Mwenja teaches Composition and Rhetoric at the University of Montevallo.



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TECHNOLOGY IN  
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# Presentation Technologies in the Lecture-Based Classroom

BY DAVID VINSON, PhD

For years institutions of higher education have integrated smart devices and technologies into the classroom with the goal of improving learning processes for students. Prospective and current students have since come to expect dynamic learning options in the classroom. Institutions alert to these needs and wants are reaping the benefits, particularly in terms of student recruitment and retention.

For the educator, it does seem, however, as if we are caught in a flurry of technological innovations, and sorting through these requires patience and training. As an educator myself, I can speak first-hand to the challenges that arise as we revisit pedagogical practices and experiment with what best facilitates student engagement, efficient learning, and knowledge sharing. My own experiences tell me that it is not enough to implement smart technologies; the educator must also adopt a teaching style that keeps students focused and productive. Making such challenges more achievable is an ever-expanding market of classroom-based technology, which is getting more sophisticated every day. It is more adaptive and inclusive; it provides more multi-modal learning options; automation allows educators to upload lessons for students to access on their own time, and

it allows students to receive feedback instantly. Teacher-student or peer-to-peer collaboration is more fluid than ever, and the technologies empower students to work creatively across disciplines.

Much attention has been assigned to the utility of smart technology in classrooms of a traditional size, but what about technologies that must reach upwards of 100 or more students in a single space? Students are likely to feel more anonymous in such a setting, and the risk, however unintentional, is of creating a learning environment where students are less inclined to ask questions, share their insights, or collaborate with one another. Moreover, the seating in lecture halls may lack versatility and mobility, which could hinder peer-to-peer interaction. Lecturers, in turn, must contend

with a balancing act of sorts: presenting information with clarity to a wide audience while also engaging students at the individual level and in smaller groups. Because presentation technologies include a wide range of applications, many of these can be used by students to interact with one another, may it be in the form of group work or even class-wide presentations.

Students will struggle to learn in a large lecture hall if the technology is not up to the challenge. Not unlike smaller smart classrooms, lecture halls rely on internet systems, sensors, cameras, and other computational devices for maximum impact. But at the core of the lecture-hall experience is the implementation of audio and visual technology. Among the most innovative sound solutions available are those providing 360° of audio coverage with a high-performance 240-watt mixer amplifier. Audio can be streamed wirelessly with a Bluetooth-enabled device or connected via the mixer amplifier to a projector, USB thumb drive, TF card, or laptop, among other options. The sheer size of a lecture hall demands that its visual technology delivers no lag in its use from slide to slide, and the images produced should be crisp and bright. The best projectors on the market



deliver upwards of 6,000 lumens of color and white brightness, respectively. They are also remarkably long lasting, offering as much as 20,000 maintenance-free laser light source and air filter. Full HD and 4K enhancement technology allows for crystal-clear, lifelike images—and a clip-on optional external camera allows access to powerful automated tools that may include auto color calibration, screen matching of multiple projectors, tiling assist for edge blends, and a stacking assist function. HD displays are especially beneficial when used to present visual data like graphs or diagrams. For students sitting in the back of a large lecture hall, large display screens make a major difference, especially when complemented by technology that streams onscreen content to students' personal devices for live viewing or recording. High-grade audio-visual equipment also makes presenting complex information more effective, in turn helping students to understand and internalize content from the lecture.

**Boosting Student Engagement in Large Lecture Halls**

Using Microsoft PowerPoint slides hardly translates to a memorable presentation. The longer the session, the harder it becomes for students to focus on the task at hand. Similarly, slides come with the risk of being too text-heavy and difficult to read, or worse, having the effect of putting students in a passive mode of learning. Incorporating multi-media content into presentations is a reliable solution. This could include physical objects displayed using a document camera or Visualizer. Along with other web-based materials, graphs, diagrams, images, and videos go a long way to creating variety in a presentation. Moreover, supplementing spoken content is crucial, as it not only makes a lecture more engaging but also aids students in grasping complex concepts more readily.

Other strategies for promoting student engagement and fostering a deeper understanding of topics include splitting students into

*continued....*

Presentation technologies in smart classrooms do more than just enhance content delivery. They also significantly help increase accessibility and promote inclusivity.

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smaller groups where they can each use a touch-screen device. One-touch screens can integrate assessments, student feedback, and input, and serve as a way of making announcements that will not go unnoticed. Sharing the output from collaborative activities wirelessly is also an effective tool for encouraging participation.

Students can use their personal devices, like smartphones or tablets, to connect to an audience response system. They can then answer interactive questions or quizzes. Displaying their responses collectively on large screens can further boost participation and even facilitate a friendly competitive spirit among students.

Personal devices can be used in Q&A sessions as well: students submit their questions or comments through a dedicated platform, which makes it easier for educators to interact with their students.

### Other Key Technologies for a Lecture Hall Setting

Communicating clearly, effectively, and efficiently are essential ingredients in the functionality of a large lecture hall environment. Smart podium screen monitors give educators the ability to annotate directly onto the projected screen in the room. If the course is designed for dual enrollment, students online can access the same information simultaneously. This type of touchscreen works with most other annotation tools including those available in Zoom. Smart boards are also key to an effective presentation. They provide a method of annotation similar to that of writing on a white board. This digital white board is visible to students attending in person as well as those who may be participating virtually. Smart boards are also compatible with a variety of software. Finally, document cameras give educators the ability to project objects in HD using the projector in the room and online. One can screenshot images and save them in advance or use the camera in live-view mode.

### Promoting Accessibility and Inclusivity

Presentation technologies in smart classrooms do more than just enhance content delivery. They also significantly help increase accessibility and promote inclusivity. For students with hearing impairments, hearing loops can be integrated into audio systems. Sound is transmitted directly to hearing aids or cochlear implants, making clear audio reception a reality. Assistance for visual impairments can be made using AV equipment, most commonly with high-contrast displays, adjustable font sizes, and color adjustment options, all of which make it easier for students to read the presented material. By implementing accessibility features, AV equipment facilitates an inclusive environment where every student has an equal opportunity to learn and thrive.



**ABOUT THE AUTHOR:** Dr. David Vinson has a PhD in English with specializations in transatlantic literature and cultural studies. He is a committed scholar, teacher, and dad. If you ever meet David, avoid the subject of soccer. His fandom borders on the truly obnoxious.




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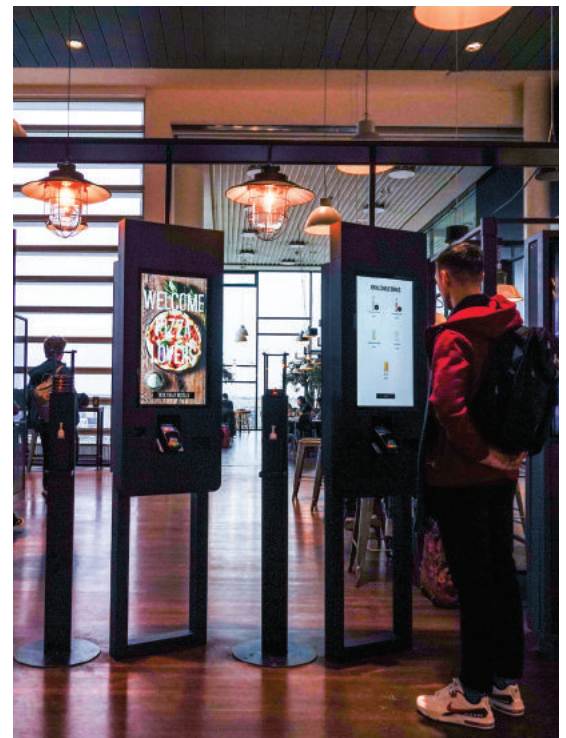
# Navigating Success

## THE SIGNIFICANCE OF CLEAR DIRECTIONS AND DIGITAL SIGNAGE IN PRIVATE COLLEGES AND UNIVERSITIES

BY ED BAUER

Private colleges and universities are esteemed institutions that pride themselves on providing a conducive environment for academic excellence, personal growth, and community engagement. One often overlooked yet crucial aspect of creating such an environment is the signage that guides students, faculty, and visitors across the campus. Clear and effective signage plays a pivotal role in enhancing the overall experience on campus, ensuring seamless navigation and fostering a sense of community.

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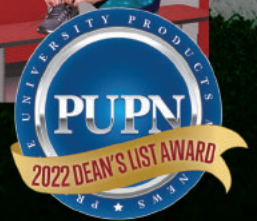
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In this article, we will explore the importance of clear direction signs and delve into the transformative technology of digital signage, highlighting its practical applications across college campuses. Additionally, we will discuss the role of temporary signage in boosting event participation and attendance.

#### The Importance of Clear Direction Signs:

1. **Enhancing Campus Accessibility:** Clear direction signs are the unsung heroes of campus navigation. They serve as beacons that guide individuals to their destinations, whether it's a lecture hall, administrative office, or recreational facility. By providing clear and concise directions, these signs contribute to the overall accessibility of the campus, making it easier for everyone to find their way.
2. **Improving Visitor Experience:** Private colleges often host prospective students, parents, and guests. A well-signposted campus enhances the visitor experience by minimizing confusion and creating a positive first impression. Prospective students are more likely to feel at ease and welcome when they can effortlessly navigate the campus.
3. **Reducing Campus Stress:** Students juggling demanding academic schedules can benefit significantly from clear direction signs. Navigating a sprawling campus can be stressful, especially during the first few weeks of the academic year. Effective signage reduces this stress, allowing students to focus more on their studies and less on finding their way around.

#### Digital Signage Technology:

1. **Dynamic Communication:** Digital signage represents a revolutionary leap forward in campus communication. These dynamic displays allow for real-time updates, ensuring that information is always current. Important announcements, event details, and emergency notifications can be instantly conveyed to the campus community, fostering a more connected and informed environment.
2. **Interactive Engagement:** Beyond providing static directions, digital signage can engage the campus community interactively. Touchscreen displays can provide maps with personalized directions, event calendars, and even virtual campus tours. This interactive element not only aids navigation but also enhances engagement and connection among students.
3. **Emergency Communication:** Digital signage plays a crucial role in emergency communication. In the event of a crisis, these displays can quickly broadcast important information, ensuring that everyone on campus is aware of the situation and can take appropriate action. This technology adds an extra layer of safety and preparedness to the campus infrastructure.

#### Practical Applications of Digital Signage on College Campuses:

1. **Academic Building Navigation:** Implementing digital signage in academic buildings can streamline navigation for students and faculty. Interactive maps can guide users to specific classrooms, lecture halls, and faculty offices. This not only saves time but also contributes to a more organized and efficient campus environment.
2. **Event Promotion and Updates:** Colleges host numerous events throughout the academic year, from lectures and workshops to cultural festivals and sporting events. Digital signage can

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be strategically placed to promote upcoming events, provide real-time updates, and showcase highlights from past events. This not only increases awareness but also boosts attendance.

3. **Dining Hall Menus and Specials:** Digital displays in dining halls can be used to showcase daily menus, special promotions, and nutritional information. This not only assists students in making informed choices but also allows the dining services to communicate effectively with the campus community.

### Temporary Signage for Events:

1. **Boosting Event Participation:** Temporary signage plays a crucial role in promoting and enhancing the experience of campus events. Eye-catching banners, posters, and directional signs can create anticipation and generate interest, leading to increased participation. For example, signage strategically placed around a career fair can guide

attendees to different booths, increasing engagement with potential employers.

2. **Enhancing Event Atmosphere:** Temporary signage contributes to the overall atmosphere of an event. Customized banners and signs can create a cohesive theme, making the event more visually appealing and memorable. For instance, a campus concert can use signage to create a festive ambiance, encouraging more students to attend.
3. **Providing Information at Outdoor Events:** Outdoor events, such as sports or cultural festivals, benefit greatly from temporary signage. Directional signs, event schedules, and information booths can be strategically placed to ensure attendees have all the information they need. This not only improves the overall experience but also encourages repeat attendance at future events.

In the dynamic landscape of private colleges and universities, the importance of clear direction signs and innovative digital signage cannot be overstated. These elements contribute

to a campus environment that is accessible, engaging, and responsive to the needs of its community. By embracing the technology of digital signage and leveraging the impact of temporary signage for events, institutions can enhance the overall campus experience, foster a sense of community, and contribute to the success and satisfaction of students, faculty, and visitors alike.

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**ABOUT THE AUTHOR:** Ed Bauer has been in publishing for over twenty years. In his early career years, he worked on the staff at Mount Union College and for the last twelve years as publisher and managing partner at Flaherty Media has been privileged to tour many private higher education campuses and talk with numerous staff members who manage these multiple building Facilities. He can be reached at [ed@pupnmag.com](mailto:ed@pupnmag.com).

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# SPORTAFENCE









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# Designing Flexible Performance Spaces with World-Class Acoustics

BY TINA WOOD

Being able to serve a variety of acoustical needs within a single performing arts space is a priority in schools across the country. A single auditorium often hosts class lectures, theatrical performances, choir, band and orchestra concerts, and movie showings. Each type of performance can require vastly different acoustics.

Wenger Corporation has worked with hundreds of schools to provide acoustic solutions that fit their many needs. Here are three examples of Wenger's flexible acoustic solutions.

## **A Shell for All Settings at the College of Holy Cross**

Luth Concert Hall at the Prior Performing Arts Center at the College of Holy Cross was designed to captivate audiences and provide an immersive experience. With its exceptional acoustics, cutting-edge audiovisual technology, and a seating capacity that accommodates a large audience, the hall sets the stage for a wide range of performances including theatre productions, musical concerts, dance recitals, and more.

The custom Diva® acoustical shell by Wenger is a standout feature of this space. This beautiful, full-stage shell creates acoustics for optimum on-stage sound and projection to the audience.

“With our Diva shell, the acoustics in Luth Concert Hall are amazing,” says Rosie Cruz, director of production at Holy Cross. “Touring artists remark how live the space is. Aesthetically, the shell is stunning—matching the hall’s interior and providing a beautiful feeling of being immersed, both visually and aurally.”

In addition to a beautiful look and superior sound quality, the shell also offers versatility and flexibility when it comes to set up and storage. “We can easily strike the shell in less than four hours,” Cruz says. “The towers are relatively easy to move and reconfigure, especially for their 20’ height,  
*continued...*

and they store in a compact 13' x 7' footprint.”

With three on-stage clouds, sound does not get lost or trapped above the stage or in the loft but is sent toward the spectators. In the front of house, an additional cloud and 10 Transform® motorized acoustical banners were installed to elevate the overall sound quality and enhance projection toward the audience.

These motorized banners offer variable acoustic capabilities, allowing users to adjust sound absorption and reflection levels quickly. With adjustable spacing options, users can customize the distance between the banner and the wall, as well as the gap between fabric layers. This level of control allows users to dial in the exact acoustic resonance needed for each performance.

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Academic Center at Assumption College in Worcester, Massachusetts was also built to serve multiple needs.

Choral Director Michelle Graveline wanted a space where the acoustics would enhance the sound of her vocal ensembles, but the auditorium would also need to be used as a lecture hall.

“Spoken word is at the low end of reverberation time, and choral performance is at the high end of reverberation,” explains Alex Bagnall, acoustician with Cavanaugh Tocci Associates, the acoustical consultants on the project.

“Early on, they asked about adjustability. We explored using drapes, but the room wasn’t big enough to achieve a reverberation time that would be appropriate for choral music. That’s when the idea of electronically enhanced acoustics came up,” he says.

Wenger’s Transcend active acoustic system turned out to be the perfect solution. The Transcend system includes an array of microphones and speakers that help project sound among musicians on stage, and into the audience.

“What’s great about this system is that it gives facility managers the ability to enhance acoustic environments in virtually any space: performing arts centers, auditoriums, theatres, opera houses, arenas, and worship spaces,” says Matt Hildebrand, senior manager of acoustics at Wenger. “It’s high-performance and offers great flexibility.”

The system’s presets provide a virtual acoustic experience for everything from a small concert venue to a medium-sized lecture hall to a large chapel simulation. Each preset is customizable and can be changed between uses with the touch of a few buttons.

The Wenger acoustics team determined how many speakers and microphones the space would need and where to position them. They opted for two microphones and 60 speakers placed strategically throughout the auditorium. They chose six custom presets, one for each of the most common needs in the space: lecture hall, small recital, medium recital, small-hall setting, large-hall setting, and chapel.

They worked with the architects to get the sound absorption distributed properly so the system could work within the aesthetics of the room to look as good as it sounds.

“Many schools can’t afford to have a different venue for every different acoustical need, so a system like this can satisfy everyone,” Hildebrand says.

As a bonus, they were able to tap into the existing surround sound system in the auditorium. They use this mode when viewing movies for a more immersive sound experience.

*continued...*







PHOTO COURTESY WENGER CORPORATION

“Ideally, the casual visitor isn’t aware that there’s an acoustic system in the auditorium,” Bagnall says. “We just want them to think that everything they heard that night was amazing.”

**Customization is Key at Villanova**

Villanova University’s John and Joan Mullen Center for the Performing Arts boasted the luxury of having several unique spaces for performance, rehearsal, and education, all together under one roof. Specific acoustic needs for each area included:

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seated risers, Roughneck® music stands, Nota® music posture chairs, and a Preface® conductor's stand.

Making these spaces a reality was a large task requiring collaboration, innovation, and customized solutions.

Wenger worked with several partners in the collective vision, providing innovative solutions, from the acoustical shell, manual control systems, and manual and automated rigging to custom seated risers, audience seating and rehearsal equipment.

“It takes a lot of coordination to bring performing arts spaces to life,” says Ryan Cole, project manager at Wenger. “The ideas and products are just the first step. We collaborate with our partners and engineering teams constantly and think about things like how the cabling and wiring run up the walls or how power is going to get to the step lights.”

### The Wenger Way

Wenger’s engineers, project managers, and acoustics specialists are dedicated to streamlining processes for facilities, providing answers about every aspect of the project. Wenger coordinates the production, construction, and installation schedules while offering guidance along the way.

“We pride ourselves in our ability to hit those quality levels that our theatre consultants require,” Cole says. “That dedication produces a beautiful, fully functional theatre for the students who will use it for years.”

- **Dwyer Family Foundation Choral Room:** a space for up to 50 people designed with functionality and acoustics in mind, including StageTek®



**ABOUT THE AUTHOR:** Dr. David Vinson has a PhD in English with specializations in transatlantic literature and cultural studies. He is a committed scholar, teacher, and dad. If you ever meet David, avoid the subject of soccer. His fandom borders on the truly obnoxious.



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## Water Heating Systems in Residence Halls: Key Considerations to Improve Energy Efficiency and Reduce Carbon Footprint

BY SHARON CHO AND HELEN RINGLE

College and university governing boards, presidents, chancellors, and other administrators from coast to coast are implementing decarbonization and energy-efficiency initiatives on their campuses to reduce their environmental impact. Those sustainability goals extend into the mechanical room, as facility managers are evaluating means to optimize domestic hot water systems to lower energy consumption, reduce emissions, and still meet demand, especially in high-use buildings such as residence halls.

Improving hot water systems can also impact the bottom line of higher education institutions, considering the usage volume. This is particularly true when the loads for residence halls (Figure 1) are considered. Residence halls demand constant access to hot water for the daily cleaning and cooking needs of thousands of students living on campus.

As part of their decarbonization and energy-efficiency goals, many decision-makers are considering building electrification—with heat pumps gaining much attention. The size required for a heat pump and accompanying storage tanks can be factored into the design for new construction. In retrofit projects, space is typically an overriding concern, as many older buildings do not have the footprint to accommodate heat-pump systems. Additionally, the significant up-front cost of a heat-pump system and the current capacity of the electrical grid are critical factors.



Once space, budget, and external constraints are considered, heat pumps may not always be realistic—or even the ideal solution. Instead, those projects may turn to a high-efficiency system that utilizes advanced gas-condensing water heaters and is properly designed—from sizing and piping to venting and water treatment—to help meet energy-efficiency goals. Doing so can help shrink a building’s carbon footprint significantly and meet decarbonization goals in a cost-effective way, provided that the many site-specific aspects are fully considered.

**Proper Sizing of Hot Water Systems**

One main consideration is properly sizing the water heating system based on expected usage. Sizing water heaters for college and university campuses varies depending on the project. A one-system-fits-all approach is impossible. Decisions need to be made based on each building and its individual requirements.

This is especially true as it relates to residence halls, which have multiple variables. For example, when sizing the water-heater

system, the occupancy of the hall is a main factor. Showers, sinks, kitchens, and laundry machines—often common areas for multiple uses—must also be considered. For example, a state university on the East coast has 16,000 students living in 140 buildings across four campuses. Those buildings range in occupancy from under 100 to more than 650 residents. Each residence hall has different requirements.

Load is another variable when sizing the system. Typically, high demand for on-campus residence halls is during the fall and spring months, when school is in full session. Hot water demands during these peak periods must be accurately determined to satisfy resident needs.

As outlined above, large campuses will have residence halls of various sizes, meaning load requirements will vary depending on the building. For this reason, it is beneficial to contract with a water-heater supplier that has

a wide portfolio of models in numerous sizes and multiple footprints, as a single-source supplier helps simplify the project.

**Benefits of System Redundancy**

When designing the system and determining the size, redundancy must be considered. In a multi-unit redundant system, all water heaters are configured to work together, though at a lower rate than their maximum capacities. There are two main benefits to this type of design:

- **Maintenance and longevity:** Less strain is placed on the water heaters, reducing maintenance costs and extending the life of the units for greater lifetime value
- **Efficiency:** Because water heaters are operating at their peak performance, overall system efficiency is improved, lowering operating costs and supporting sustainability efforts.

Designing water heaters with sequence valves and advanced controls can help achieve optimal operation of a redundant system.

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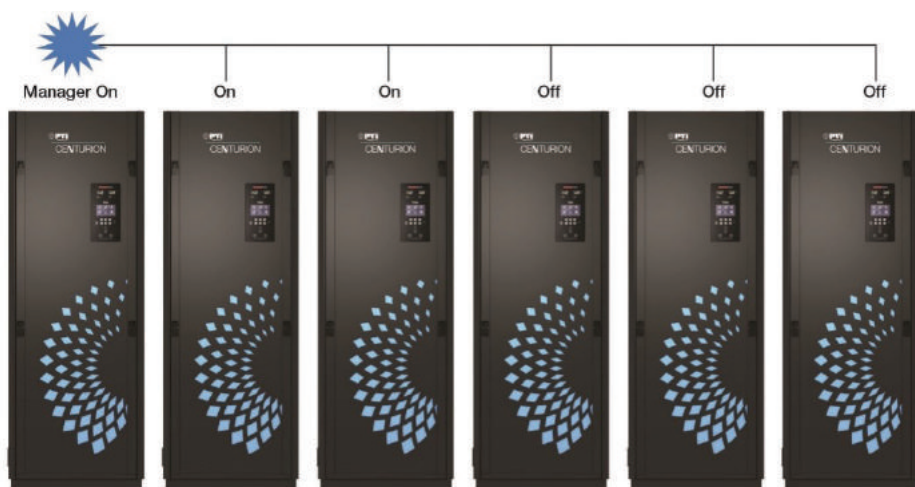


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Water heaters with multi-unit sequencing capability can efficiently string together numerous water heaters on the same system (Figure 2). Fire rates of all water heaters are sequenced by opening or closing a motorized valve, as required, to meet hot water demand. Only those units required to meet load demand are operating. Units in standby do not needlessly cycle to maintain a set point, minimizing system-standby losses as well as unit wear.

### A Solution-Driven Approach

College and university administrators need to take a solution-driven system approach when planning their hot water solutions. Manufacturers with a broad portfolio of water heaters at various BTUs and footprint can provide multiple options along with a team of experienced engineers who can configure and customize the water heaters to provide a tailored solution that meets each building's specific needs.

This is particularly important for college and university campuses. Many buildings are not new constructions, so space is a premium. A manufacturer with various-sized units can configure and customize solutions to meet stated criteria. For example, smaller footprint, higher BTU/h, higher-recovery water heaters can meet the physical constraints of smaller-sized historical buildings, which are common on campuses, while also satisfying sustainability benchmarks.

### High-Efficiency Design

Regardless of the configuration, system elements must be high efficiency. Selecting gas-fired condensing water heaters with low

NO<sub>x</sub> can be 95 to 99 percent efficient. Water heaters with advanced combustion control systems can further improve operating efficiency by maintaining precise air/fuel ratios for greater uptime reliability and lower operating costs. If oxygen levels are too low, it can cause unstable combustion, resulting in faults and increased unscheduled maintenance. Conversely, if oxygen levels are too high, the dew point will be lower, and the water heater is less likely to condense.

Water heaters with a dedicated hot water re-circulation connection have the added advantage of improving overall operation. Circulation of hot water into the



PHOTO COURTESY DOMESTIC HOT WATER SOLUTIONS AT PVI

cold inlet on a condensing water heater lowers efficiency. A water heater with a dedicated connection to building return loops maintains two distinct temperature zones, so only the coldest water enters the lower-condensing zone of the water heater during a firing cycle. The result is higher efficiency.

### Water Quality and Scale Buildup

One often-overlooked component of designing a high-efficiency water-heating system is the quality of the water running through the pipes. It goes beyond obvious concerns regarding the health of building occupants. Poor water quality can cause scale buildup and corrosion within the water-heating system, which can negatively impact efficiency. It can also improve equipment lifespan dramatically, improving energy usage and maintenance and replacement costs. It is advisable to have the inlet water tested so a proper water-treatment plan can be factored into the design.

Hard-water scale is a common water-quality challenge facing campuses across the U.S., as it has corrosive effects on the water-heating system. By controlling scale formation at the source, facility management can maintain or improve the efficiency of a water-heating system in a very cost-effective way.

Water softeners are often used but may come with significant sustainability concerns related to water usage as well as harsh chemicals and salt released into the environment. An effective alternative is anti-scale systems that use Template Assisted Crystallization (TAC) technology. TAC controls the formation of scale in plumbing systems by transforming dissolved hardness minerals into harmless, passive microscopic particles without using salts or harsh chemicals—and with no wastewater.

These types of carbonization and energy-efficiency initiatives impact every aspect of campus operations. Taking a comprehensive approach to incorporate high-efficiency hot-water equipment and the load requirements of specific residence halls provides an effective means to shrink the carbon footprint by lowering water and electricity usage.

---

**ABOUT THE AUTHORS:** Sharon Cho is a Product Manager for Domestic Hot Water Solutions at PVI, a Watts Brand for light commercial and electric products. She has product management and mechanical engineering experience in a variety of industries.

Helen Ringle is a Product Manager for Domestic Hot Water Solutions at PVI, a Watts Brand for heavy commercial products. She has 14 years' experience in product engineering and management.



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# Product Spotlight

## Hope's Windows, Inc. Highlights Landmark175™ Series Steel Windows and Doors



Hope's Windows, Inc., the nation's leading manufacturer of custom-designed, solid steel and bronze window and door systems, highlights its Landmark175™ Series Steel Windows and Doors. Fit for projects that call for a classic steel aesthetic, the Landmark175™ Series offers much profile overlap with Hope's popular Jamestown175™ Series but with a narrower sightline. The Landmark175™ Series accommodates a variety of glass thicknesses and makeups—offering customers the same unmatched flexibility and customization Hope's is known for.

Whether a customer's project calls for hot-rolled steel or bronze, Hope's utilizes fusion welding to connect corner and intersection joints, resulting in a single, continuous frame. The Landmark175™ Series offers classic hot-rolled steel design with a range of customization options such as square or sloped glazing beads, making this line ideal for interior or exterior installation. Plus, Thermal Evolution Technology brings the Landmark175™ Series into accordance with NFRC guidance for U-value performance, solar heat gain coefficient, air infiltration, and condensation resistance.

Hope's leads the industry in design and manufacturing experience. Hope's has been providing happy customers with high-end custom-manufactured doors and windows for more than a hundred years. Hope's craftsmen work with customer specifications to create beautiful, custom shapes and sizes for any application.

For more information, product illustrations, and product specifications, please visit [www.hopeswindows.com/products/style/windows-and-doorslandmark175-series/](http://www.hopeswindows.com/products/style/windows-and-doorslandmark175-series/).



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