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**DECEMBER 2021  
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RESIDENCE HALLS**

**THE IMPORTANCE  
OF ERGONOMIC  
DESIGN**

**ADAPTIVE  
HIGHER ED  
AND FLEXIBLE  
ENVIRONMENTS**

**CREATING LASTING  
PRESENTATION  
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**PLANNING  
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**NEUROSCIENCE  
WITH NATIVE AMERICAN  
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## Rethinking Residence Halls to Meet our Students' Evolving Needs

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Having the right tools for the job at hand is unquestionably the most efficient and effective way to execute a task and attain the desired outcome. Over time, human beings have adjusted and adapted tools in ways to maximize time and effort, minimize potential injury, and achieve optimal results.

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In the COVID age, flexibility is not just a catchphrase for institutions of higher education, but an emergent philosophy. As universities consider their mission, budget, and student success in the semesters to come, a recurrent theme for administrators and educators is how important flexibility will be in shaping the interplay between physical space and intellectual pursuit.



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Cover and above photo courtesy Bacone College

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## NEUROSCIENCE WITH NATIVE AMERICAN UNDERGRADUATES

Yaniv Cohen, Associate Professor of Biology and Chair of the Biology and Exercise Science Department at Bacone College, is poised to create not only a strong science program but to establish the first Native American neuroscience research institution in the United States. A native of Israel, Cohen completed his doctoral degree in neuroscience before moving to New York for a post-doctoral position at New York University.

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# EDITOR'S LETTER



Ed Bauer

*Publisher/Editor-in-Chief*  
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Happy Holidays! As you get this issue, we will have entered the Holiday Season, with the New Year right around the corner. I love the hallmarks that this time of year brings: gathering with friends and family, sharing presents, eating good food, and having great times together.

As we take time to count our blessings and to tell our loves ones how much we love and appreciate them, let's also take time to remember those who are less fortunate. This Saturday, I will have the privilege of participating in a charity event for the "Make A Wish" foundation. This event reminds me of the *Friends* episode when they realized that no truly selfless acts exist because people receive joy by doing something for someone else. I encourage all readers to give themselves that gift of joy by supporting one of the many charities working to bring a lifeline and support to so many people.

We can multiply our tiny specks of light, working together to bring light to every corner of our world. Regardless of one's faith tradition, all of us agree that helping one's neighbors is a good act. So many times, when we feel that the world is a dark and unforgiving place, we are once again shown how wonderful people can be when neighbors need a hand.

As we move into 2022, I look at the coming year with anticipation and excitement. In the coming year, I plan to prioritize letting my loved ones know how much they mean to me. I want my family—family of birth, those I chose, and those who chose me—to know how much I appreciate the love and kindness they have repeatedly shown me. Many of you will never know how much a kind word or gesture meant to me. You usually came through when I needed it most, and many of you did not even know all that was happening underneath the surface. I hope that I can return those kindnesses to you when you most need that support.

In this season of love, my wish is that each and every one of you feel and share love with someone who needs it. May the joy of this season be with you all year long. I close with a quote from @MasteringLawofAttraction to inspire us in 2022: "I am learning every day to let the space between where I am and where I want to be inspire me, and not terrify me."

Wishing you all the best! See you in 2022—

Ed Bauer

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# Neuroscience with Native American Undergraduates

by Cynthia Mwenja, PhD

Yaniv Cohen, Associate Professor of Biology and Chair of the Biology and Exercise Science Department at Bacone College, is poised to create not only a strong science program but to establish the first Native American neuroscience research institution in the United States. A native of Israel, Cohen completed his doctoral degree in neuroscience before moving to New York for a post-doctoral position at New York University. His research has focused on using Electrophysiological, Pharmacological, and Behavioral approaches to study olfactory memory and learning in rodents.

## Bacone

Linda Jordan, English Specialist and Chair of the Division of Liberal Arts at Bacone, offers some background about the institution. She says that Bacone was founded in the 1880s “for the sole purpose of educating American Indians to be preachers and teachers; the student body has been mainly American Indian throughout its history.” In fact, Bacone is the oldest continually operating institution of higher education for Native American people in the United States. Jordan notes that the college was internationally famous in the 1930s to 1950s for its art school, which has had a great influence on American Indian art. As time went on, the school faced a series of challenges, ultimately collapsing in 2018. To recover, the school appointed Ferlin Clark, who is a member of the Navajo Nation, as President. He is working with constituents across the campus to develop a new, future-oriented vision for the school and its academic offerings. While the college currently remains a private school, it is preparing to become a tribal college in the future. Jordan was part of the team working with Clark to develop the new direction for the school. She says

that some programs had become outdated, offering curricula that had little to do with the needs of the students. With a population that is largely first-generation and low-income, Bacone needed to turn toward providing an education to better serve the student body.

Jordan first encountered Cohen when he applied to work as a tutor in the TRiO program. Cohen had moved to the area with his wife, who is a Muskogee native. Once he was hired, Jordan says he was a “perfect fit” who employed effective teaching methods; he quickly became a very popular tutor. After Cohen left to work at other universities in the area, he was not forgotten at Bacone. According to Wambli Sina Win, Vice President of Academic Affairs at Bacone, he made such an impression on the students when he was serving as a tutor that “when a position [in science] came open, there was no one else” they wanted to consider. Jordan confirms this point, saying that “everyone loved him” during the hiring interviews. Outside of his personal charisma, Cohen brings a strong academic resume to the position, having published important peer-reviewed articles during more than eleven years of neuroscience research.

## Vision

As Win states, “Yaniv came in like a breath of fresh air—a gust of wind—he blew in; he has such energy about him.” Bacone hired Cohen to implement his vision, which is to establish the first undergraduate neuroscience program at an institution of higher education for Native American people. He embodies the exciting possibilities of current educational models, and he is shifting the science program to encompass an array of sciences. While he hopes to develop several branches of science within the department, he will first focus on growing the neuroscience branch.

In his research, Cohen has discovered that rodent olfactory cortex displays task- and state-dependent cortical asymmetry. He hopes to involve his students at Bacone in continuing this research with human subjects by using Electroencephalogram (EEG) and novel olfactory navigation tasks. Having students participate in neuroscience research, both as study participants and researchers, is a completely new idea and model at Bacone. According to Jordan, these exciting changes have support both on campus and within the community. Jordan notes the similar re-visioning is happening in programs

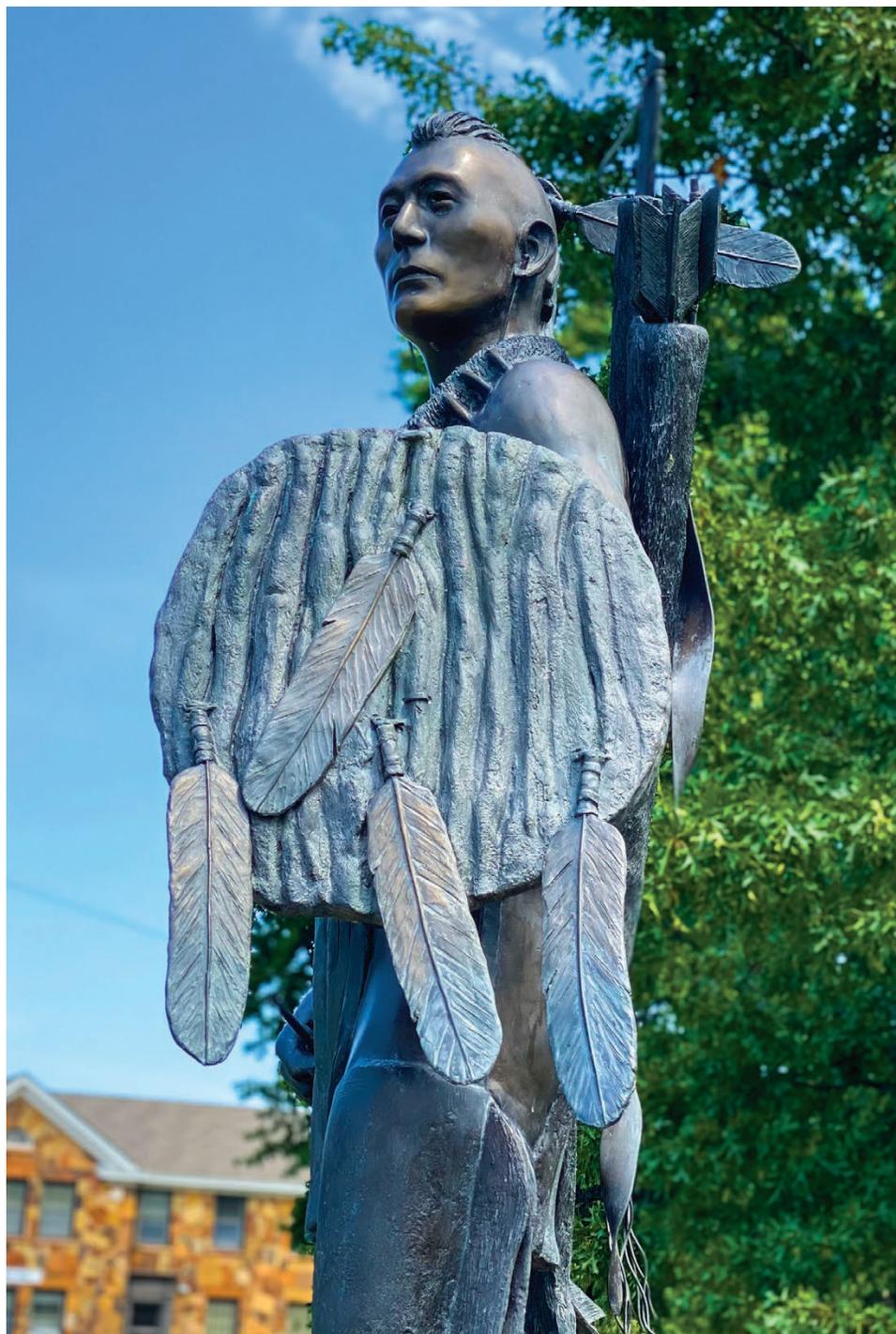
across campus; Bacone hopes to re-establish its nursing program and develop its cyber/computer program, alongside the development of the science program.

### **Building the Department**

Currently in the first semester of his new position, Cohen is carefully and methodically building toward the future he envisions. Win notes that Cohen is in the process of looking at lab space, and Cohen says that the campus has “lots of space with promising potential” for his program to grow. On the curriculum side of things, Cohen is re-building the department from the ground up. Before he joined the faculty, science offerings at Bacone had become quite limited, focusing on human biology and related courses to support the students in health sciences. Cohen is expanding the offerings and increasing the diversity of biology courses to anchor the unfolding science program. He is bringing back microbiology, which is essential to nursing, as he points out, along with adding neuroscience with a research component. His goal is to have the biology program and neuroscience degree on firm footing within two years.

Even though he is still in his first semester on the job, Cohen recently submitted the first of several large grants he is targeting to help build the program. This first grant will fund work in Cohen’s specialty, electrophysiology research. In the spring, he will submit a proposal to a National Institutes of Health grant which specifically targets Native American undergraduate institutions such as Bacone. He will follow these proposals with a submission in Summer 2022 for the Templeton grant; this organization supports programs that combine spirituality and science—and professors who merge the two.

Because of Cohen’s presence on campus, Bacone is now positioned to expand in multiple ways. Bacone’s campus is next to Muskogee High School, and Cohen has already begun outreach there. Win says they hope to attract students who are interested in science to attend Bacone. Win notes that Cohen is connected to a “network of qualified adjuncts” who should be able to support the burgeoning departmental offerings. Cohen also plans to collaborate with nearby colleges



As Win states, “Yaniv came in like a breath of fresh air—a gust of wind—he blew in; he has such energy about him.” Bacone hired Cohen to implement his vision, which is to establish the first undergraduate neuroscience program at an institution of higher education for Native American people. He embodies the exciting possibilities of current educational models, and he is shifting the science program to encompass an array of sciences.

Win reports that Cohen offers a student-centered approach in his teaching style; she sees that he gives his students and advisees a great deal of individual attention. As Win says, Cohen is very well-qualified—“brilliant”—but also humble; he is willing to “just talk to students on whatever level they’re on with no judgement.”

such as Northeastern State University at Broken Arrow. His research agenda will supplement their programs, he says, because they don’t have research on olfaction using EEG.

Win remembers a saying: “If you want to get something done, give the task to a busy person.” She says that Cohen is that busy person who gets things done; he “has a lot on his plate, but he’s very conscientious and has an incredible work ethic.” Cohen agrees that he is busy with three areas of focus: building the program, writing grant proposals, and working with students.

### Students

Win says that Cohen’s enthusiasm is contagious; students are now becoming excited about possibilities that lie in studying science. Even though it will take time for students to become fully aware of the new direction Cohen is leading the department, Win notes that Cohen’s “youthful energy”

is going far with the student population, which is now back on campus after a few semesters of slogging through Covid-related online attendance fatigue. As she states, “Sometimes students are intimidated by math and science, but due to Cohen’s approach and demeanor, students are more open.”

Win reports that Cohen offers a student-centered approach in his teaching style; she sees that he gives his students and advisees a great deal of individual attention. As Win says, Cohen is very well-qualified—“brilliant”—but also humble; he is willing to “just talk to students on whatever level they’re on with no judgement.” Jordan agrees, saying that Cohen’s students love him, even students who were previously “science-scared.” Implementing a strong undergraduate research program will allow Cohen to blend his passion for both research and teaching.

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In seeking to understand the connection between mind and brain, Cohen has come to embrace the view that the brain is a mechanism that allows people to express who they are; it is, he says, the “interface between self and the environment.” This view opposes those who believe that the brain is the person.

### Science Plus Spirituality

In seeking to understand the connection between mind and brain, Cohen has come to embrace the view that the brain is a mechanism that allows people to express who they are; it is, he says, the “interface between self and the environment.” This view opposes those who believe that the brain is the person. His field ponders the questions of how the brain produces or houses the self. While memory is the largest constituent in who a person is, Cohen says, we still don’t understand how those internal memories are “stored” in the brain. Moreover, the way the memories recall, often in a voluntary or conscious manner, is even more mysterious.

Cohen is writing a book to explicate his philosophy which frames the three psychological, biological, and physical domains in terms of internality and externality; for instance, he sees the brain as an external expressive part of the internal mind. He

says that we need to establish a new way of thinking which bridges the scientific methodology with spiritual wisdom, and this view aligns with Bacon’s long history as an institution which embraces spirituality via religion and philosophy.

Win notes that roadrunners are becoming more common in the area around Bacone, and she sees commonalities between Cohen and these creatures who move so quickly. Cohen has “hit the ground running,” Win says, like the road runners do. He does, however, slow down long enough to focus on his students. She says that “A great teacher gives a part of themselves, and Yaniv shares his big heart with his students.”



ABOUT THE AUTHOR: Dr. Cynthia

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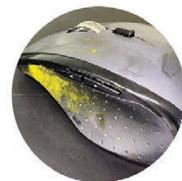
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TEACHING AND  
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# Creating Lasting Presentation Spaces

by Katie Stallcup

Whether building a lecture hall or a performance hall, campus planners must be both thorough and thoughtful in order to produce a successful presentation space which makes the best use of resources. This article covers conversations with several professionals in the field—including acoustic engineers, audio-visual project managers, and system designers—to find out how planners can prevent expensive mistakes and create the presentation space an institution needs.

## Ask the Professionals

Here is the one often-repeated recommendation among the field experts: Budget the money to consult professionals if the institution can afford the expense. Each expert strongly recommends hiring an architectural engineer (AE) or an integrator with extensive experience in all aspects of audio-visual (AV) and presentation design to plan the project. Spending the money up front means saving money that would likely be spent making changes once the project has started.

If contracting a professional to create the design is simply not an option and planners decide to design the space themselves, planners should at the very least pay an AE or integrator to review the design before moving forward with the project. These professionals will likely catch

potentially costly mistakes or aspects that had not been considered, such as issues with accessibility. Consulting with a professional to review the design will save the institution time, resources, and headaches.

## Know the Goal

Perhaps the most important thing to do when choosing technology for a new presentation space is to be certain what functions the equipment needs to perform, down to the details. Planners should consider questions such as these: Does the space need a particular panel to control a specific motorized screen and projector? What about controlling the instructor's volume from the same panel? Establishing the space's needs, control interface preferences, and how everything needs to interact is much less costly—and easier—when done before purchasing equipment and programming control functions.

“When you're talking about a presentation space, whether it's a lecture hall or a theater or a performing arts center, you have to assume at some point these spaces are going to be multi-use,” says Bobby Hendricks, senior project manager and senior audio engineer at Quantum Technologies, Inc., a parent company of Hear Technologies. “So, what you have to decide is,

what is the use going to be 75% of the time? For example, if the space is going to be a performance space for orchestras, an open, reflective sound is considered a plus. You want the room to be a natural amplifier. And then you make acoustic design decisions based on what you think the primary use is going to be.”

After considering those decisions, planners should examine what the secondary use is likely to be. If that orchestra-centered space will occasionally serve as a lecture hall, then the space is going to need some absorption and acoustic treatment to control the sound and increase intelligibility. “But I can’t go too far with that,” Hendricks says. “If the room is too treated and you do have musical performances, it’s not going to be appropriate.” To balance those needs, a designer might include extra audio inputs, electrical infrastructure, and other technology that would allow for the less typical use but still serve the primary use.

A similar approach is ensuring that the space and the surrounding areas have the infrastructure required to do everything

that may be desired, not just now, but also down the road. “The decisions that you make about your infrastructure are far-reaching and potentially the most expensive mistakes,” Hendricks says. Changing the design’s plan or functions halfway through or after a project is completed may necessitate changing infrastructure, which can be extraordinarily costly. For example, if planners decide to add a video screen in the lobby two years after completing the project, having existing conduit in place for wiring will be much cheaper than pulling out sheetrock to run wire. So, ensuring that the number and location of electrical circuits, conduit wire paths, and structural support for heavy objects—such as speakers and motorized screens—serves the current and future purposes of the space will go a long way toward ongoing success.

#### Think Outside the Lecture Hall

Recent pandemic restrictions have taught planners to be creative in all aspects of campus life, including presentation spaces. Any

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flexibility built into a design is an advantage, for now and for the future. Design engineers recommend ensuring that the plan includes more than enough bandwidth to account for future technologies. Adding cameras and microphones that could be useful for streaming is a good strategy, too, even if the current use does not rely on streaming. Again, extra electrical and support infrastructure will provide for future technologies and functions.

In Covid times and for the future, campuses need to think about how to make a classroom or performance space accessible to students and participants who can't be there in person, says David Long, a QTI system design engineer who has worked as technology project manager at multiple colleges. Such design decisions mean thinking from the remote-attendee's point of view: they will need to be able to see and hear not only the speaker, but also the audience's questions and reactions. The goal is to replicate the environment as much as possible for remote attendees, which might include budgeting for

video switchers for streaming events and adding camera and microphone considerations.

"How's it going to look?" Long asks. "Are you dealing with ambient lighting? Are you going to have to color correct for florescent lighting? The whole point is to make it like the remote end is actually there, and the less distraction you have from a technology standpoint, the better."

**Be Future-Ready**

In addition to preparing for the future by considering remote participation, accounting for generous infrastructure, and allowing for plenty of growth, planners should take a look at emerging technologies and where they might fit in the presentation or performance space. While no one has a crystal ball, examining trends in the AV and tech world can be a step toward future-proofing the space. For example, emerging technologies are increasingly network-based, so having an extensive network of Cat6 ethernet cable in place—even if those elements are not currently in use—is a safe bet.

Much of technology development today is being driven by gaming, says QTI's Hendricks. Multichannel audio, full immersion video, and virtual reality are breaking out of the gaming sphere and into art spaces. A good chance exists that some of those capabilities will eventually be expected in presentation and performance spaces, too. The goal is not tech for tech's sake but for audience participation. "The expectation is going to be they can participate in some manner," Hendricks says. "The day of being just a spectator is nearly gone. The expectation of 19- to 22-year-olds is that nobody just watches. It's 'we're part of this.' So, if you're building something, you're building it for the future."



**ABOUT THE AUTHOR:** Katie Stallcup enjoys being part of a team of audio geeks as marketing and sales for Hear Technologies, a pro audio manufacturer focusing on personal monitoring systems. Find more about Hear Technologies and their innovative, user-focused pro audio products at [HearTechnologies.com](http://HearTechnologies.com).



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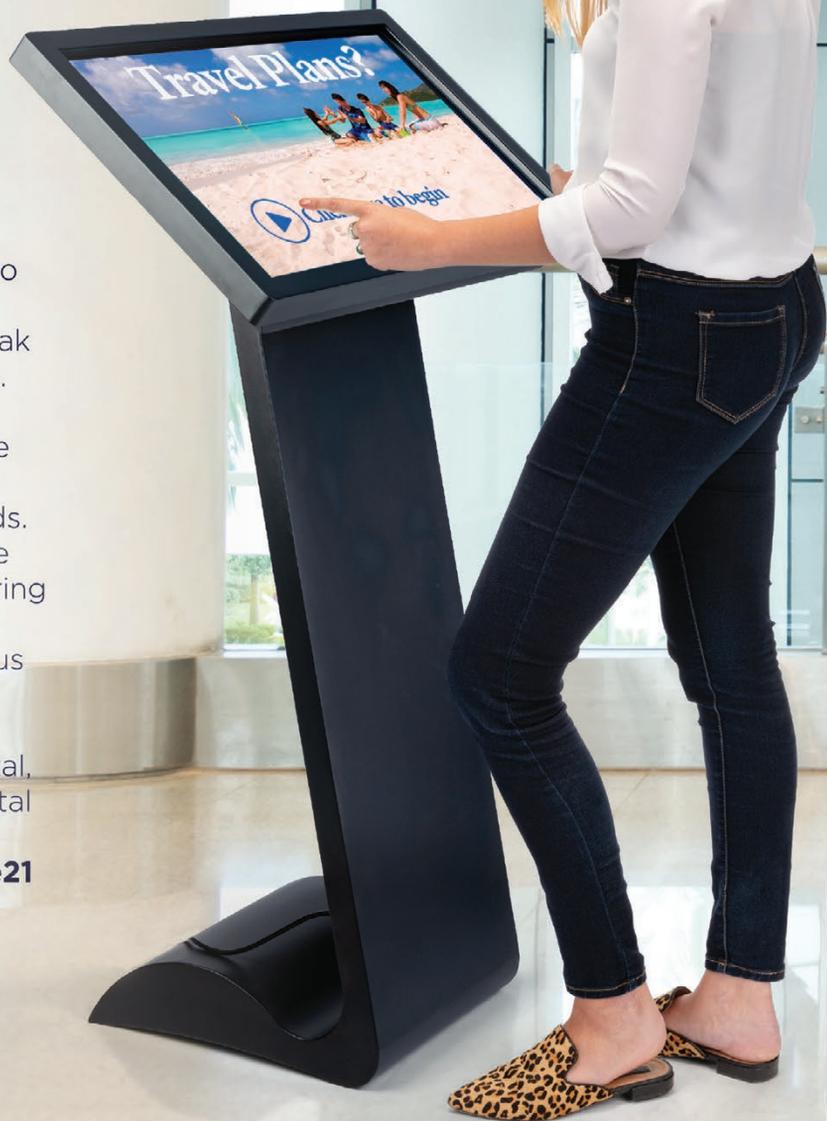
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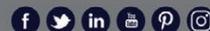


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PLANNING AND  
CONSTRUCTION

# Planning Successful Science Buildings

by David Withee & James Contratto

Embarking on constructing a new science building is the beginning of an adventure in which people imagine the finest state-of-the-art laboratories, new classrooms, and research spaces. Planners often don't consider, however, the downsides: potential cost-overruns, order changes, late deliveries, and conflicts between trades.

Whether the new building ends up being a sweat-inducing nightmare or a fantastic dream depends on preliminary plans. This "secret" to a dream building is pretty simple, but many colleges and universities ignore it and end up with a nightmare.

This article addresses the first step, appropriate for any new building. Assembling and leading the design and construction team is more important than anything else. In the beginning stages is when planners communicate and rank their objectives and decide how involved they will be in the project. The more involved planners are throughout the process, the more likely they are to achieve the dream building.

Planners can definitely hire others who have excellent reputations and let them handle everything. Those professionals, however may not know much about teaching science, the peculiarities of the institution, and actually operating and maintaining buildings. Everyone in the design and construction process has an agenda, and no one knows a campus' needs like campus stakeholders do. To be certain of success, planners must lead in selecting the team.

The 2017 Laboratory of the Year was the Francis Crick Institute in London. Every week, beginning before building a new joint facility was even agreed upon, half a dozen leaders of different institutions met to ensure they not only knew what they wanted but to make certain they would get it. They met every week until the building was done. These were not job site meetings but high-level leadership meetings to ensure the design and build teams stayed focused on what was important for their building. Any challenges along the way were addressed by the steadfast refusal of these leaders—each leading incredibly busy lives—to settle for anything less than their objectives. The design and build teams knew going in the oversight these six would provide and the creative approach to challenges expected of them. Like those six, planners should articulate repeatedly what they and the staff expect for a new building.

This advice does not assume any qualities for a new building, such as "a sustainable building," "state of the art labs," or other marketing jingoism; this approach instead assumes the objective desires a campus may have, such as a net-zero energy building, multi-purpose laboratories suitable for semester-specific topics, room to support anticipated growth of x% over ten years in science majors, etc.

Planners must know what they want and continually remind everyone that they expect it. After deciding on goals, selecting the team can get tough. When interviewing architects, contractors, or

major sub-contractors, the planners should ask tough questions, such as these: Who do they recommend as other team members? Why? Which contractors or sub-contractors do they like working with, and which do they not like working with? Why? Do they have a system in place to evaluate the other key team members from past projects? Describe it. Has a team member ever been blackballed because of poor performance?

Planners should ask if any of their favorite team members do federal construction projects. On many of these projects, only approved vendors can bid, and they are then scored on several key issues, such as on-time performance, meeting specifications, communications, handling jobsite issues, etc. The scores for each project are combined to create cumulative scores. If a contractor has a project with a priority for fast, on-time performance, they typically will not select sub-contractors with low cumulative scores in that area, and risk their own cumulative score. Planners should also ask architects and contractors to provide similar rating programs they use to evaluate vendors.

Any planner, while likely not a construction professional, can trust that no building is ever built as smoothly as desired. The planning team should ask what key issues typically come up and how those issues are handled. For instance, on-time delivery is always a challenge. Planners should ask if past delivery performance is considered in selecting team members, or if they only look at low price. Price is admittedly important, but so is being able to move in with plenty of time to prepare for that semester's classes. In asking these questions of multiple vendors, planners need to make sure that the staff members have that time available.

Planners must continue to explore a variety of angles. For instance, when it comes to on-time delivery, the planning team should ask how vendors handle shortage and breakage issues. Things go wrong on construction sites; approved vendors should understand and be prepared for that reality. The planning team should expect approved vendors to be dependable, based on experience from past projects.

Planners should deeply consider all possibilities and ask for evidence on which to base their

decisions. Let's continue with our example of on-time delivery. Twenty-five years ago, Fisher Hamilton was arguably the largest laboratory casework manufacturer in the world (it is now out of business). They bragged about being over 90% on time, but they allowed themselves to change the ship date as often as they wanted, no matter whether the customer agreed, and then still gave themselves plus or minus one week to be considered on time. Even with these policies in place, they still struggled to reach 90%.

Diversified Woodcrafts, a manufacturer of wood laboratory casework, provides a comparison. Half of their work is project-based; half comes from catalog sales. When customers buy from a catalog, they expect delivery "yesterday." Diversified knows how to ship fast, including five-day quick-ship programs. This practice translates well for construction projects where casework is delivered near the end of the project. Diversified's on-time performance over the last ten years is over 97%. More important is how they measure it against the original agreed upon date. If just one sink or shelf is not on the truck when it leaves the dock,

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the entire load is counted late, even though they air freight a new sink or shelf to the job site to still be installed on time. They include the items sold through their catalog five-day quick ship program, and they include the shortage and breakage items they promise to ship in just a week, if needed, so they arrive while the installers are still on-site.

Diversified Woodcraft offers to show customers their internal documents proving their actual weekly performance. This example is not to promote Diversified, but to show there are different ways companies measure performance; planners should be certain they know the difference. The planning team should expect the design and build leaders to explain who their favorite vendors are and offer examples like those above. The importance of these questions is to ensure that the team shares the college's objectives and philosophies. People who know how to work together and trust each other will be more successful with challenges later.

While capital constraints certainly play a role, the decisions made in the planning process are really about creating a science facility which will meet campus needs for at least fifty years. Planners must consider questions such as these: What true innovations have they used to help past clients reach their impossible goals? What innovative ideas will they bring to this project? Science and how it is taught is constantly changing. Shouldn't science building design also continue to evolve? What new ideas and trends should be considered? Which do they not agree with, and why?

Planners much think beyond capital outlay to consider life-cycle costs, as well. While architect and builder will be finished and gone after construction is completed, the school will still be there using this building. The planning team should think about design decisions that will make the project an easier, more efficient building to operate. Facilities staff leaders should be included in meetings to ensure that they are comfortable with operations

considerations in the new building. If design team references do not include facilities staff from past projects, planners should ask for that information for staff to follow-up.

Campus staff hold a great deal of responsibility, so there's no reason to make their jobs even more difficult in a new building they can't operate and maintain efficiently. If planners get this part right—assembling a team that understands and is committed to the objectives—the odds of achieving the dream building are greatly improved.

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# Rethinking Residence Halls

TO MEET OUR STUDENTS' EVOLVING NEEDS

by David Vinson, PhD

Imagine you're a high school senior in the mid-90s. You step into the guidance office, grab paper applications for your colleges of choice, and after neatly scripting by hand the details of your academic achievements, you stuff the envelopes and sticker them with added postage. Months later, a different envelope arrives at your home. Thick with forms and instructions, it bears the logo of your first-choice college.



Celebration ensues, and the following summer is spent in pursuit of dry erase boards, ice trays, and microwaveable meals small enough to be accommodated by an absurdly compact microfridge that you will rent from Student Housing. You learn your roommate's name in a letter sent by the college, and it is not until move-in day that you meet this stranger. You both take in the dorm décor of off-white walls and teal-colored carpet. There are two beds, two desks, hardly enough space for one person let alone two, and the communal bathroom is down the hall. The room is drafty, the floor cold. But this is your new home for the indefinite future! You share a laugh with your roommate, the first of many in the years to come, and you both agree to make the best of this new space, however inhospitable it may be.

Thankfully, we have come a long way since the mid-90s. The internet and the technologies it inspired have forever altered how students apply to college, how they interact

with one another socially, how they learn and share knowledge, and how they go about their daily lives as they live on campus. It is understandable, then, that the impact of such changes has shaped what prospective and current students want and need as residents—and one of the many challenges we face is not simply keeping up with students' evolving expectations but also developing strategies for anticipating them.

The following sections call attention to how one small liberal arts college in Maine, Bowdoin College, has managed in exemplary fashion to anticipate as well as satisfy students' expectations as on-campus residents. The example of Bowdoin provides key lessons for all campuses striving to produce the best on-campus experiences possible. Most notable among these is the lesson that on-campus residents want a balance between community and privacy. Moreover, they want the conveniences of added amenities that emulate those they enjoy at home.

### Students Love Options: The Housing Varieties at Bowdoin College

Located at the falls of the Androscoggin River, the town of Brunswick, Maine is home to Bowdoin College, one of America's most selective and rigorous liberal arts institutions. Bowdoin seeks students with "uncommon promise who want to work together—and live together, eat together, and talk it out." An emphasis on community building is a core philosophy at Bowdoin, and this emphasis extends to an inclusive and dynamic residential program that encourages students to form deep and lasting friendships. The 2021 freshmen class, all of whom live centrally on campus in one of eight residence halls (known affectionately as the "bricks"), reflect Bowdoin's commitment to cultivating a diverse student body in which 40% are persons of color, 17% are first generation college students, and 71% grew up outside of New England.

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Bowdoin has listened attentively to what students most want in their on-campus living experiences: convenience, comfort, safety, and ample housing options. The Bowdoin OneCard is one such response, for it functions as a dorm key, room key, meal card, laundry card, campus debit card, and photo ID. Washers and dryers are located in the basement of every first-year building, and money loaded onto the OneCard saves students a trip to the bank for a roll of quarters. First-year residence halls are guided by Proctors and RAs who serve as guides to new students by introducing available resources; their broader objective is to foster integration into Bowdoin's community. These on-campus leaders play an integral role in helping students to maximize the convenience, comfort, and assurance of safety available to them at Bowdoin.

Bowdoin's upperclassmen have the added benefit of participating in a "housing lottery," which enables them to choose from a variety of on-campus and apartment

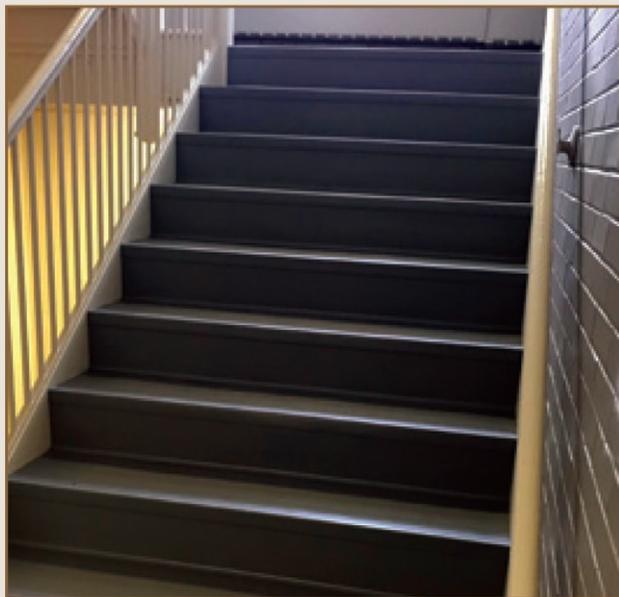
configurations. These range from rooms furnished with extra-long twin beds (36" x 80") to full size XL beds (54" x 80"), desks with chairs, dressers, television services that can be delivered through multiple portable devices, and high-speed wireless internet access. Easy access to parking, bicycle storage, and laundry are all available, and the residence offerings are positioned centrally on campus so that everything is about five minutes' walk from everything else. What makes Bowdoin's housing options so special, however, is the range of options it provides in terms of housing sizes and architectural aesthetics. Take, for example, 52 Harpswell: all white on its exterior, it is a two-story, wood residence that houses thirty-five students in seven singles, twelve doubles, and one quad. There are bathrooms on both floors of the house, and the first floor includes a living room, a study, laundry room, full kitchen, and dining room. Another exciting option is Harpswell, a steel and wood structure

apartment complex that houses 132 students in three three-story buildings. Each building has a two-story common space for activities and includes apartments designed to accommodate anywhere from four to eight persons, respectively. The eight-person apartments are akin to townhouses in design, with bathrooms accessible on both floors. Coles Tower is among the largest of the resident halls; this sixteen-story, brick residence accommodates approximately 218 students in quad suites and triple rooms. Each quad consists of four single bedrooms, a common room, and bathroom. The triple rooms include one bedroom, a common room, and a bathroom.

**"The Houses" at Bowdoin:  
Engendering Leadership  
and Community via  
On-Campus Residences**

"The Houses" at Bowdoin, of which there are nine in total, are together considered a cornerstone of the residential experience.

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Each house offers its own unique architecture, is furnished, and contains high-speed internet. But it is the culture promoted within each house that makes them a model for instilling the values of leadership and community among the student body. The houses are known for sponsoring special meals, study breaks, and other campus-wide events for first-year students. They also host campus-wide events ranging from lectures and film screenings to apple picking trips and registered parties. Each house is comprised of twenty to thirty members, has an officer team, and is advised by two faculty or staff advisers.

College Houses enrich the campus community with a diverse offering of programs. These programs, funded by Bowdoin, serve both academic and social purposes, ranging from debates with state politicians to broom-ball tournaments between houses. House members develop and coordinate all aspects of these programs, providing members opportunities to expand their learning and skillsets outside



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Bowdoin seeks students with “uncommon promise —and live together, eat together, and talk it out.” An emphasis on community building is a core philosophy at Bowdoin, and this emphasis extends to an inclusive and dynamic residential program that encourages students to form deep and lasting friendships.

of the classroom. Such is the College House prestige, residents are selected through an application process with input from faculty, deans, students, and staff. Successful selection is based on creative programming ideas and willingness to contribute to an energetic, cooperative team. All College House members gain leadership skills that often propel them to other highly visible leadership roles at the College. Once selected into a College House, students can choose to run for a house chair or programming chair role. There is no shortage of support for these leaders; the residential life directors, deans in the Office of the Dean of Student Affairs, and faculty and staff advisors all serve as advisors to the College Houses.

**Sustainability and the Future of Residence Halls**

Like so many other private college and universities, Bowdoin holds sustainability as a core value. Sustainability guides the institution’s efforts at everything from energy consumption,

to dining, to waste management. Bowdoin’s next step will be to maintain its remarkable variety of on-campus housing options just as it transforms each building towards maximum sustainability. All campuses face this challenge to some extent—to preserve architectural aesthetics and traditions while also embracing cutting-edge heating and energy solutions, water reuse, integrated indigenous landscaping, and when possible, making use of rooftop gardens. Not only is sustainability beneficial to the environment and also a great cost-saving investment, but students want to feel like they are playing their part in creating a cleaner, more sustainable world.



**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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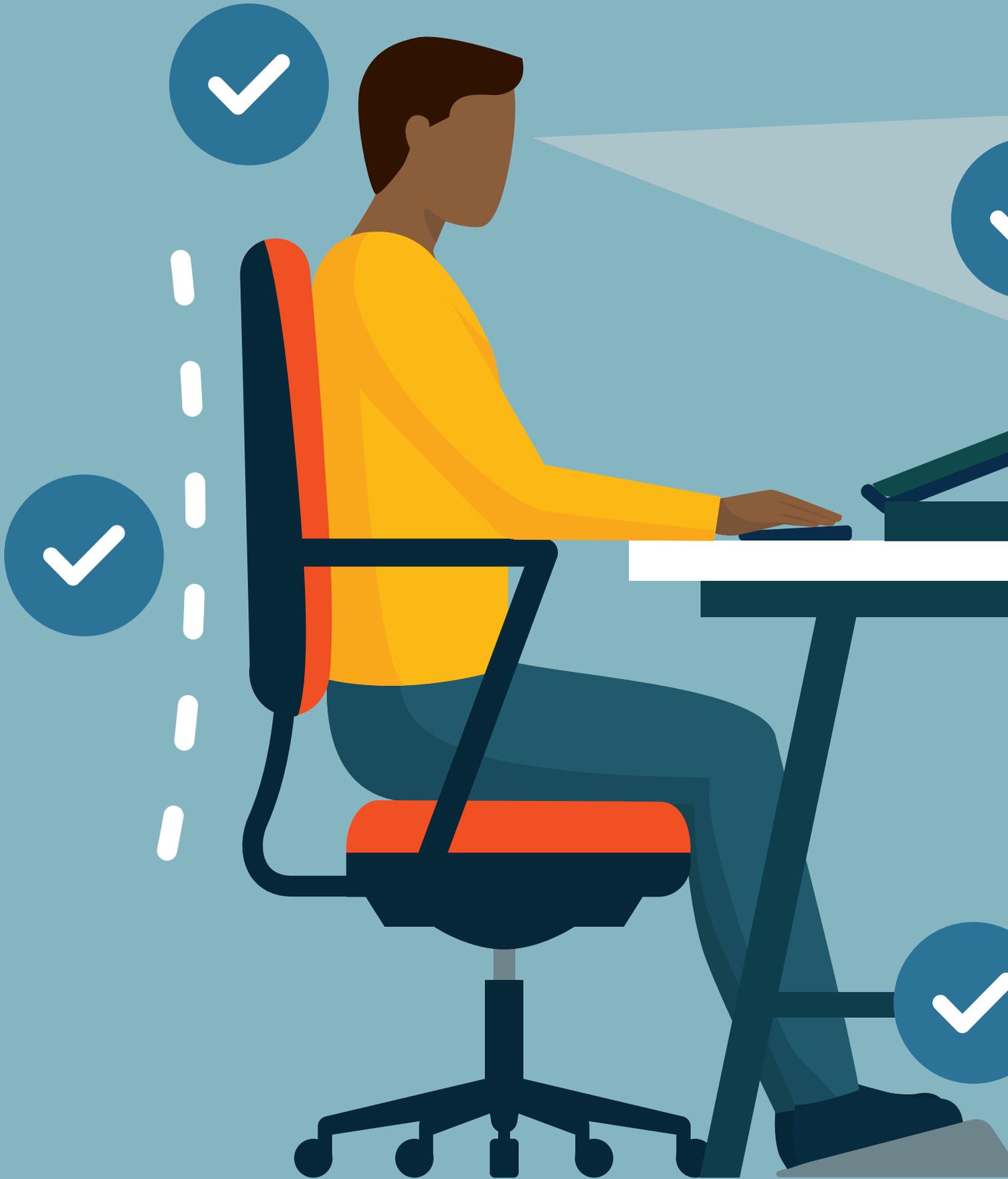
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# THE IMPORTANCE OF ERGONOMIC DESIGN

by Lisa Gibbs, EdD

Having the right tools for the job at hand is unquestionably the most efficient and effective way to execute a task and attain the desired outcome.

Over time, human beings have adjusted and adapted tools in ways to maximize time and effort, minimize potential injury, and achieve optimal results.

Consider the table and chair. Stone or wood platforms—early tables—are documented to have been used in Ancient Egypt as a way to keep objects off the floor, and a type of chair has been in recorded existence since at least 3000 BC, as shown on Egyptian tomb paintings. These tools used for sitting and holding objects have evolved from simple platforms into countless varieties of tables and chairs to fit various activities.

Another evolution has been the study of how to design spaces and tools so that humans interact with them easily, safely, and effectively. This research area has been named “ergonomics.” The Merriam-Webster dictionary defines ergonomics as “an applied science concerned with designing and arranging things people use so that the people and things interact most efficiently and safely.” Ergonomic design of chairs, tables, and other equipment is now an important part of health, wellness, and safety considerations on private college and university campuses.

### Case Western Reserve University, Cleveland, OH

At Case Western, the office of Environmental Health and Safety includes Ergonomics as a safety area upon which to focus. As computers and laptops have become commonplace in offices and classrooms, so too have musculoskeletal problems such as carpal tunnel syndrome and trigger finger. The university uses ergonomic principles to solve such issues created by exertion, repetition, and vibration. “By adapting tasks, workstations, tools, and equipment to fit the worker, ergonomics seeks to reduce physical stress on a worker’s body and eliminate many potentially serious, disabling work-related musculoskeletal disorders (MSDs).” Reducing such stress can lead to greater productivity and overall satisfaction across campus.

The office provides guidelines for applying ergonomic principles to campus spaces. Adjustable tables, desks, and chairs can be configured at optimal height and angle

for each person. These adjustments include making sure feet can be flat on the floor, providing lumbar support for the lower back, placing keyboards so that shoulders are relaxed, and installing monitors at eye level. A workstation must be flexible enough to adapt to diverse body shapes and work styles of faculty, staff, and students.

### University of Southern California, Los Angeles, CA

Similar to Case Western, the Environmental Health and Safety office at the University of Southern California (USC) considers ergonomics as a way to maximize “job function and productivity of the employee while preventing injuries.” The university accomplishes this end by researching and providing information on ergonomics, training, and regular monitoring of the work environment, tools and activities of faculty, staff, and students. Ergonomic evaluations can also be requested.

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The Merriam-Webster dictionary defines ergonomics as “an applied science concerned with designing and arranging things people use so that the people and things interact most efficiently and safely.”

Arranging classrooms to maximize function and productivity is also practiced at USC. USC’s Roski School of Art and Design (Roski) received a donation to create a “makerspace”, a dedicated area where people can build together using shared tools and materials. Roski is one of the oldest art schools in Southern California and is a “unique, supportive environment for creativity, experimentation and collaboration in the visual arts and design.” The school offers a major in art or design rather than a specific medium, with the intent to allow students to explore what is relevant to them and to collaborate across disciplines. The makerspace is one concrete application of this open approach to art. After receiving a donation specifically for such a space, the school set about to find furniture that is durable, ergonomically-designed for optimal comfort, and adaptable to multi-use spaces.

After several designs were considered by the design team and faculty, the school created a flexible room with elements that support ergonomic principles. Students can draw plans

on a portable chalkboard, then use a 3-D printer to bring the plan to life. Tables are counter height, a standard three feet tall, to allow for standing and walking around design projects. Stackable bright red stools optimize space and provide flexible seating, and retractable power cords hang from the ceiling. The space is open so that students can share ideas, collaborate on projects, and work in a space suited for productivity.

**Saint Louis University, St. Louis, MO**

At Saint Louis University (SLU), the Reinert Center for Transformative Teaching and Learning provides instructional and curriculum development programs and services for the campus. The mission of the Reinert Center is “to develop, encourage, and sustain Saint Louis University faculty, graduate students, and academic units as they create meaningful, inclusive learning experiences that serve the intellectual, spiritual, and socio-cultural needs of all learners.” One area in which this mission

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has been put into practice is the Learning Studio in Des Peres Hall.

SLU's Division of Academic Affairs and the Reinert Center planned to design a space that would "create engaging and interactive learning experiences designed especially for today's learners." The university believes that learning spaces have moved far beyond the classic setup of rows of desks with the instructor standing in front of the students at a chalkboard or whiteboard. Optimal learning and teaching occur in spaces that are flexible, collaborative, technology-oriented, and ergonomically designed. A team of faculty, staff, and students collaborated to design such a space.

The main feature of the Learning Studio is flexibility. Each piece of furniture can be reconfigured at any time to suit the needs of the instructors and students. Lightweight, ergonomically-designed office chairs ensure that users are comfortable and supported. Portable tables can be expanded or contracted depending on the number of people to be accommodated.

The room also has tall surfaces with bar-type stools for optional seating or standing. These high tables are supported in part by lockable storage cabinets. Rolling storage bins that are open on one side and topped with cushions offer another seating area. Several lounge-type chairs and side tables provide another space that feels more like a coffee shop or living room. All furniture items can be arranged to best fit the use of the space at the time. Sliding whiteboards and a technology wall with eighteen 46" video screens provide both digital and hand-written styles of instruction.

The Learning Studio has been used for classes across many disciplines, from Public Health to Athletic Training and Biology to English. Professors apply for an Innovative Teaching Fellowship "to develop innovative instructional approaches that effectively optimize the use of the features and technologies" within the space. SLU sees this room as a pilot classroom, where innovative teaching and learning can be explored, then applied to other spaces on campus.

Ergonomic design takes into account how humans interact within workspaces and with products, attempting to minimize effort and maximize productivity. When physical spaces, furnishings and tools are mismatched or out-of-date with the purpose at hand, discomfort and possible injury can occur. Additionally, 21st century students absorb knowledge across a wide array of platforms—books, journals, laptops, tablets and pads, laboratories, studios, etc. Creating flexible spaces with an ergonomic approach enhances efficiency and safety, thus maximizing the ability to work and learn on campus.



**ABOUT THE AUTHOR:** PUPN staff writer Lisa Gibbs earned her EdD in Higher Education Administration in 2018. She is an advocate for arts, particularly dance, in education and for increasing the financial well-being of artists through financial education.

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# CREATING FLEXIBLE ENVIRONMENTS

by Mira Korber

In the COVID age, flexibility is not just a catchphrase for institutions of higher education, but an emergent philosophy. As universities consider their mission, budget, and student success in the semesters to come, a recurrent theme for administrators and educators is how important flexibility will be in shaping the interplay between physical space and intellectual pursuit.

The hybrid campus, mind-boggling a mere twelve months ago, is now here to stay. While the arrival of COVID brought on a sudden shock, after twenty-one months of pandemic learning, higher education administrators have had the opportunity to reflect on what has worked—and what has not. The birth of an adaptive workplace environment on university campuses is a positive development in the higher education landscape, and one that was tremendously accelerated by the pandemic.

So, what exactly does an adaptive university environment look like? In academia, “adaptive” as a term frequently refers to testing technologies with the potential to personalize learning experiences. Similarly, adaptive work environments reflect the flexibility that gives faculty, staff, and students the ability to be fully productive and engaged, in their research, teaching, and learning pursuits. Virtual collaboration tools, clear telework policies, and digital security are transforming how universities have traditionally operated. In the post-COVID world, the more nimbly universities model the hybrid nature of work, life, and learning, the more successful they will be in achieving their educational mission.



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Texas A&M University, the second largest university in the United States, is striding towards the adaptive model for its nearly 70,000 students. Students, faculty, and staff are back on campus as the world of higher education forges the path forward with post-pandemic resilience strategies. The recently renovated Sterling C. Evans Library, a center for interdisciplinary in-person and hybrid learning, saw about 375,000 visitors from August to October 2021.

Bill Chollet, Director for Library IT Operations, and Stephanie Graves, Director of Learning and Outreach for the Texas A&M Libraries, offer insights into the recent library renovation project, COVID-19, and the future of active learning in a flexible future that encompasses both in-person and online activities.

The library system at Texas A&M is much more than a trove of books. Librarians and research specialists teach a robust offering of workshops related to information literacy and

research skills. Library educators collaborate with academic disciplines across the campus to bring in credit hour courses, co-curricular workshops, and symposiums. The library also offers recording spaces for professors who post asynchronous materials for their classes, as was the norm during peak COVID months.

Over the last year, it became evident that the main Texas A&M library, Sterling C. Evans Library, needed more classroom space. While the library system had recently renovated some of its learning environments, pain points around capacity and flexible, multi-use rooms still loomed large. To accommodate students and faculty, the Annex library building was set up as a temporary use space. However, with cables snaking across the floor, plastic chair mats, and tape, the stopgap classroom was hardly adaptive.

Aside from trip hazards, the room was set up as a rigid classroom, oriented in one direction, with no ability to move furniture or power supply. When it came time for renovation,

Chollet and Graves knew they had a great opportunity to address the trifecta of safety, appearance, and flexibility. SMARTdesks®, as industry leader in developing adaptive, multi-use spaces, collaborated with Texas A&M and the architect to build the flexible environment the university was looking for.

Texas A&M needed the Annex space for the new library to embody an adaptive classroom that would meet a diverse array of needs. The Annex is home to active learning, so having ergonomic, modular furniture was a core component of the project. Since active learning furniture is inherently mobile, the space also needed a flexible raised floor system to accommodate reconfiguration of the furniture elements. Raised access floors enable repositioning of power and data receptacles throughout any room without the need for electricians or core drilling. If instructors need pod arrangements for tables, outlets can be centrally grouped together, or spread across the room if tables are separated from each other.

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As Graves says, “Our learning spaces are programmed so that when we are not using them for teaching, they become computer labs open to students for study. It is a multi-use space—learning spaces plus study labs. Many of the classroom spaces on campus are locked when professors aren’t using them, but the Annex is open twenty-four hours a day, five days each week. Students might be in there at 4:00 a.m. working on group projects.”

As Chollet points out, “Previous renovations had led to inflexible system and that would require complete shutdown, bringing in electricians and carpet layers to change it. When we had the opportunity to renovate the Annex, we collectively insisted that the SMARTfloor® was what we wanted to go with.” By using configurable furniture, Texas A&M was well on its way to creating a truly adaptive space for forty-two students, relieving the capacity pain point, creating an instructional hub for research literacy skills, and supporting an improved physical environment for students to work on their assignments.

After the furniture arrived, the Texas A&M library teaching team put together a pinwheel, triangle, square, and circle. When Graves asked their preferences when thinking about active learning, they picked the triangle. The instructors preferred the triangle because there was an obvious pairing of groups of two for activities such as “think, pair, share,” and an obvious grouping of six which worked well for teaching activities. By canting the seven triangle groupings relative to each other, paths became clear for the instructors to move freely around without tripping over backpacks. The effect was a space that feels clean, natural, and adaptive to teaching and active learning.

Once the library teaching team settled on triangles for the room’s first active learning configuration, it became easy to move the floor to match. As Graves says, “We crawled around on our hands and knees and moved the flooring tiles ourselves. That was fantastic! It was so freeing to go, ‘hey, if I want it there, I can put it there and I don’t have to call anybody. I can just pick it up and move it myself.’ It’s

not something to do in between classes, but wonderful to think about that way.”

Texas A&M has not wasted any time in getting to use their new space. The IT group finished the setting up new library computers on a Monday afternoon in August, in time for the library hold an 8:00 a.m. class on Tuesday. In its first day of use, the Annex renovation was already adaptive to the university’s changing needs, even over the course of the day. In Stephanie’s words, “I went up there on Tuesday afternoon and students were all over. It’s a popular space for study.”



**ABOUT THE AUTHOR:** Mira Korber is a digital nomad and has served as the Chief Strategy Officer for SMARTdesks since the beginning of the COVID-19 pandemic. SMARTdesks works hand in hand with clients to furnish safe learning spaces for in-person, hybrid, and remote learning. Mira is passionate about reforming the education system with the goal of improving learning and professional outcomes for all.

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## Center for Media and Social Impact Announces More than \$1 Million in New Grants

The Center for Media and Social Impact (CMSI), the creative innovation lab and research center based at American University School of Communication (SOC), announced more than \$1 million in grants and gifts for initiatives at CMSI's core intersection of creative culture, entertainment, and social justice and equity. CMSI is directed by award-winning producer, scholar, and book author, Professor Caty Borum Chattoo, who serves as executive director and principal investigator for the organization's thriving research and creative media programs. Over the past six years under Borum Chattoo's leadership, CMSI has raised more than \$6 million in funding for research, media production, and convenings, expanding to an externally funded staff of five people David Conrad (CMSI research director), Varsha Ramani

**MTV Entertainment Networks/Viacom** grant for *Building a Healthy Democracy: How Entertainment TV Portrays Government and Civic Participation*, a research project that examines the portrayal of government, civic participation, and electoral politics in the highest-rated entertainment TV programs across streaming, cable, and broadcast. SOC professor Paula Weissman will serve as daily lead on this initiative, working with Borum Chattoo as PI.

**Doris Duke Foundation for Islamic Arts Building Bridges** program and the **Argosy Foundation** to supply general operations support for CMSI's comedy and social justice programs, including the *Yes, And...Laughter Lab*, our new *YALL Community* database of diverse comedy writers and performers (co-created and co-founded by Caty Borum Chattoo and Mik Moore of Moore + Associates, a cultural agency based in NYC) and *Comedy ThinkTanks*, as well as ongoing research.

**“In the business of creating a just, equitable world, we can't overlook the invaluable role of creative culture, entertainment media, and activism in advancing social progress.**

—Professor Caty Borum Chattoo

(CMSI operations director), Bethany Hall (CMSI creative director of comedy initiatives), Caty Borum Chattoo (CMSI executive director), Aras Coskuntuncel (CMSI research manager).

“In the business of creating a just, equitable world, we can't overlook the invaluable role of creative culture, entertainment media, and activism in advancing social progress,” says Professor Borum Chattoo. “Our work is possible through the vision and support of philanthropies and media companies around the country, and we value our collaborative work with them.”

Programmatically, the projects span new social science and humanities research; creative media production; general operations; and collaborative efforts between scholars, media makers, the entertainment industry, and civil society NGOs, including:

**Perspective Fund** grant to launch an initiative called the *Documentary Power Research Institute*, which invites leading researchers across disciplines and methodological approaches to participate in cutting-edge research about the social impact/social justice work of documentary storytelling as media systems continue to evolve. David Conrad, CMSI research director, will serve as daily lead on this initiative, working with Borum Chattoo as PI.

“The work of examining and defending our democracy is at the core of what CMSI does, including efforts within the most creative and entertaining spheres of our society,” says Sam Fulwood III, dean of the AU School of Communication. “The resources provided by these grants makes it possible for CMSI's work, which is critical within SOC, to continue and to expand at a moment in our national history when it is desperately needed.”

In addition to these grants, CMSI's work has been funded by the MacArthur Foundation, Gates Foundation, Atlantic Philanthropies, National Endowment for the Arts, Ford Foundation, Luminate, Pop Culture Collaborative, Independent Television Service, Fledgling Fund, Unbound Philanthropy, Open Society Foundations, Participant Media, Univision Communications, Comedy Central, and generous individual donors.

CMSI recently hosted its flagship national convening, Story Movements, which spotlights leaders and organizations working at the intersection of entertainment, creative culture, social justice, and democracy. This year's speakers included representatives from ViacomCBS, GLAAD, NPR, RespectAbility, and more.

In addition to her documentary films and TV programs, Borum Chattoo is the author of two award-winning books on media and social change, *A Comedian and Activist Walk into a Bar: The Serious Role of Comedy in Social Justice*, with Lauren Feldman (University of California Press), and *Story Movements: How Documentaries Empower People and Inspire Social Change* (Oxford University Press). Her third book, *The Revolution Will Be Hilarious: Comedy for Social Change and Civic Power* (NYU Press) is under contract and expected in late 2022.

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