For ensemble musicians, the fruits of individual practice and group collaboration are showcased onstage during a performance. For consultants and manufacturers involved in modular practice room installations, preparation and teamwork also play vital roles in success. Two university case studies illustrate how effective installations parallel ensemble performances, with whole exceeding the sum of the parts.

Transparency Builds Trust – Boston University

In the competition to attract music students, Boston University’s College of Fine Arts (CFA) in Boston, Mass., believed adding new practice rooms was a necessary step. Their built-in basement practice rooms were decades old. “The previous practice rooms were terrible – they were not soundproof at all,” recalls Caitlyn Perry, a graduate student in flute and music education. “We called it the dungeon down there. The rooms were either too cold or too hot.”

Along with these shortcomings, the practice rooms weren’t used very heavily because over half of them could barely accommodate more than one person.

From the early stages of the project, it was decided that due to space limitations in the building’s basement, modular practice rooms were a better option. Wilson Butler Architects, the architect in charge of the project, engaged Acentech as acoustical consultants for this major endeavor.

“The design team invited several room manufacturers to present their products,” explains Ioana Pieleanu, Senior Consultant in Acoustics with Studio A at Acentech. “It’s always a combination of performance and price when one makes this selection; price is always part of the equation.” She describes her role as translator, sifting through the technical information provided by each manufacturer to ensure it was plausible and properly understood by the client during the decision-making process.

“We recommend types of products – not specific manufacturers – and our clients decide,” Pieleanu notes. She adds that Acentech trusts a manufacturer’s own test data when evaluating modular practice rooms, provided the data is presented in a transparent manner. “I don’t question data unless something looks doubtful,” she says. “As acoustical consultants, our theoretical knowledge and our experience give us confidence to assess the plausibility of the presented data and the overall performance of the product in the given context.”

One manufacturer had test data for sound isolation between adjacent practice rooms a certain distance apart; Wenger lacked comparative data for that same configuration. In its own acoustics lab, Wenger performed the necessary testing and provided Acentech with the complete results and explanation of test procedures. “Wenger sent us all their test data – more than we even needed to see,” notes Pieleanu. The results demonstrated the Wenger practice rooms could meet the sound-isolation goals.

The project architect agrees that Wenger’s testing was worthwhile. “I think it gave everyone a level of comfort,” says Thomas Hains, AIA, Principal with Wilson Butler Architects in Boston, Mass. “The rooms exceeded both the performance specs and Wenger’s advertised data.” He believes it’s often difficult to evaluate the validity of claims made in a company’s product literature without knowledge of the specific test environment. “Data can be spun in many different ways,” notes Hains. As an example, he cited industry concerns about “green-washing” by companies misrepresenting their products’ environmental impact.

Along with utilizing its own in-house acoustics laboratory in Owatonna, MN, for product development and research, Wenger also sends practice rooms, acoustical doors and select other products to third-party testing labs, such as Riverbank Acoustical Laboratories in Geneva, IL, to independently verify performance claims. Riverbank determines the Noise Isolation Class (NIC) ratings according to ASTM E336-10 and E413-10 standards. Although the financial investment in testing is significant, Wenger considers it worthwhile and believes most customers appreciate an impartial perspective to help them evaluate products.
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Continued from page 16
Approximately 15 percent of Wenger’s practice room projects include a performance clause in the contract. In these situations, Wenger is often asked to test its own installation but declines, recommending an independent acoustician instead. Hains considers third-party testing to carry more weight than in-house testing. “Independent labs have one job to do – analyze a system and give you the raw data without editing it to suit certain parameters. There’s no reason for independent labs to misrepresent the data,” he adds.

Boston University CFA’s final selection of Wenger rooms was influenced by test results, along with Wenger’s optional active acoustics technology and manufacturing capabilities. Both CFA and Acentech believed the VAE® technology offered important advantages – both virtual acoustics and recording/playback capabilities – which were well attuned to Boston University’s forward-thinking vision. Wenger’s patented VAE® (Virtual Acoustical Environments) technology simulates the acoustical characteristics of nine different spaces and provides digital record/playback. As an alternative, Pieleanu says a custom electronic solution was briefly considered, including electro-acoustics and recording technology, but customer service would have been problematic. “Wenger offered the advantage of an integrated system that can be serviced by a single party – whether door gasket or microphone,” explains Pieleanu.

The construction timetable was demanding, according to Hains. “To complete this project in one school year – two semesters plus a summer – meant any deviation from the practice room manufacturing schedule could ripple through the overall schedule and make the project a bust,” he states. Architectural plans called for Wenger to install 119 sound-isolating practice rooms. Cooperation also remained vital as the project progressed. Hains praises Wenger’s ability to accommodate last-minute changes and provide rooms of various sizes. Even the smallest of the new practice rooms is large enough to accommodate a trio or quartet. CFA also wanted each practice room to be as high as the basement space allowed. Overhead ductwork, pipes and other obstructions made the installation challenging; rooms range in height from 8 ft to 10 ft. Installation was completed in the spring 2009.

Bailing Out Flooded Campus – University of Iowa
When the Iowa River flooded in June 2008, the University of Iowa’s music building and much of campus was evacuated. The School of Music was dispersed to 17 locations around Iowa City, including churches, schools and retail buildings. No one knew how long those temporary spaces would be necessary, but the need for practice space was quickly realized.

“We ordered 22 Wenger practice rooms right away, including four with VAE technology for piano practice,” recalls Kristin Thelander, Collegiate Fellow, Professor and Director of Planning for the School of Music. They were installed in the Clinton Street Music Buildings in downtown Iowa City.

At another location nearby, plans called for installing 44 Wenger practice rooms, including some larger teaching studios. Dwight Dobberstein, Principal with Neumann Monson Architects of Iowa City, says Wenger practice rooms offered advantages given the tight schedule. “Building stick-built rooms takes a lot longer,” he states. “The Wenger rooms were a known product with the necessary sound isolation already built-in.”

The project’s acoustician agrees. “We believe Wenger practice rooms can be more cost-effective than stick-built – because they work,” states acoustician David Kahn, Principal with Acoustic Dimensions, New York, NY “So many things can go wrong with stick-built rooms, but the acoustical performance of
Technical Feature Article

Continued from page 18

Wenger modules is guaranteed.”

Since the 44 practice rooms were to be installed on the second and third floors of a building originally constructed as a multiplex cinema, there were concerns about possible sound flanking through the lightweight concrete floors. Typical solutions considered in these situations include an isolated concrete floor or a floating floor integrated into the modular practice room.

The University requested testing to determine if adequate noise reduction could be achieved without any special isolated floors. Early in the construction process, Wenger assembled three modules on-site, on two adjacent floors, to test both airborne and structure-borne sound-isolation levels. A teaching studio was installed beneath two smaller prac-

Continues on page 20

Ensemble room at University of Iowa.

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