

# The collaboration learning theater

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## Abstract

The Collaboration Theater in IUPUI's new Innovation Hall is inspired by classical amphitheater design and augmented with modern technology to promote learning. The space is configured to adapt to emerging technology, and wrapped with two curved Direct View LED video walls. These two walls encompass a 22.5" wide by 6'4" high span on each side with 3,600,000 pixels on each wall ensuring that every seat in the classroom is a good seat. Built to foster excellent collaboration and conversation, the circular design creates an intimate environment for a large group of students.

## 1 Background and context

Indiana University Purdue University Indianapolis (IUPUI), created in 1969 when the two public universities merged programs, is an urban campus located in the heart of Indianapolis. Liberal arts, medicine, law, engineering, and many other programs have flourished since then. In 2018, with additional space needed for research and teaching in the STEM fields, IUPUI began planning Innovation Hall. The School of Science, the School of Engineering and Technology, and the School of Informatics and Computing now occupy the newest campus building with approximately 100,000 square feet of classrooms.

Completed for the spring 2021 semester, the Collaboration Theater in IUPUI's new Innovation Hall is inspired by classical amphitheater design and augmented with modern technology to promote learning, collaboration, and flexibility. Entering the classroom, you notice the large curved, direct-view LED displays on both sides of the American football-shaped room. However, a closer look reveals swiveling seats for student collaboration, a central teaching station, and plenty of room for the instructor to circulate freely throughout the space.

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## 2 Design ethos

Understanding the evolution of architecture and its influence on human behavior plays a pivotal role in the design and development of not only creative workplaces but also learning spaces. Take the amphitheater, for example. The word amphitheater derives from the Greek word amphitheatron, which means "theater with seats on all sides." The stage, located in the center, aims to create a strong sense of community and promote energy flow between the audience and the actors. In ancient Rome, amphitheaters were typically used for entertainment spectacles such as gladiatorial games, poetry contests, public debates, and musical performances. Modern-day amphitheaters, used as sport and concert venues, offer the audience and the presenter an easy view from any direction and facilitate audience engagement.

Indiana University's new Collaborative Theatre draws from both historical amphitheater design and modern creative-space design typology. This innovative learning space, which opened for instruction in the spring 2021 semester, was designed to promote learning, collaboration, and flexibility. Inspired by the innovative design of the Collaborative Theatre at Oregon State University, we sought to learn what worked well for them and where there were opportunities for additional enhancements. Creating an American football-shaped classroom, rather than a round classroom, is efficient in terms of space and brings students closer to the center of the classroom.



Figure 1: The Collaboration Learning Theater

## 3 Features of the space

The first floor of Innovation Hall includes room 102, named the Collaboration Theater. A common infrastructure based on AV-over-IP technology replaces what would traditionally require thousands of meters of baseband digital and analog wiring. Each room supports the range of teaching and learning models required for students in modern STEM disciplines.

Through faculty design symposiums, the learning space team learned of the frustrations of preparing to teach in a typical classroom. A short passing period between classes leaves little time for instructors to prepare for teaching, especially in STEM disciplines where they need to set up technologies and demonstrations. The solution was to add a "green room" next to the Collaboration Theater to give

faculty members the opportunity to prepare instructional materials or cue-up presentations and videos ahead of class time.



Figure 2: The theater contains swivel seating

The addition of swivel chairs in the Collaboration Theater allows students to turn in their chairs, so they can cluster in small groups to better support collaborative learning. We also incorporated very high-tech curved LED walls that mirror one another on each side of the classroom. These two walls encompass a 22.5" wide by 6'4" high span on each side with 3,600,000 pixels on each wall ensuring that every seat in the classroom is a good seat. The extra width and high resolution of the displays enables flexibility for displaying multiple sources simultaneously.



Figure 3: The teaching station

## 4 Faculty engagement

Creating a successful learning environment requires more than just technology and furniture. A strong focus on faculty engagement through classroom design symposiums, the support of Indiana University's Mosaic Initiative (<https://mosaic.iu.edu>), and a commitment to provide each instructor with the training and support necessary have enabled a successful start to the first semester in the Collaboration Theater.

## 5 Testimonials

*"The swivel seats in this room are a game changer [compared to other fixed seating lecture rooms]. My students will actually be able to collaborate in here."*

-Instructor in IO102

*"IU's commitment to listening to instructors and building spaces that support their needs is inspiring. Coupling that with the desire to push the edges of educational technologies that further enhance the learning experience for students is why I love being here."*

-Principal Active Learning Consultant

## 6 References / Citations

Indiana University (2021) Tour the new Innovation Hall at IUPUI. YouTube. Retrieved April 30 2021, from: [https://www.youtube.com/watch?v=57o\\_rwOON6E](https://www.youtube.com/watch?v=57o_rwOON6E)

Basgoden, Merve, "[University's Collaborative Theatre: Perspectives on Innovation in Classroom Design](#)" Educause Review, January 2021.

## 7 Author biographies



Julie Johnston is the Acting Associate for Learning Technologies for Indiana University. This position manages the entire division of Learning Technologies within the University Information Technology Services. Along with managing these services, she is ultimately responsible for the technology design of Learning Spaces for the campus, specifically active learning classrooms, informal learning spaces, and student technology center spaces. She was actively involved in assisting with the launch of Indiana University's new active learning initiative, Mosaic ([mosaic.iu.edu](https://mosaic.iu.edu)) Julie has over 20+ years working in Instructional Technology Leadership positions in higher education. Julie is a team member on the Learning Space Rating System (LSRS) project provides a set of measurable criteria to assess how well the design of classrooms support and enable active learning. Julie also co-leads the Educause Learning Space Working group - a group of colleagues interested in learning space design.

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