WHAT DO WE WANT OUR LEARNERS TO \textit{BECOME}?

- Thoughtful individuals, who search for multiple approaches to problems.
- Inquiring participants, who question to learn.
- Creative thinkers, who recognize there may be a new solution.
- Confident individuals, who appreciate benefits to be gained from collaboration.
- Tolerant participants, who appreciate diversity of multiple cultures.
- Effective communicators, with skills for multiple media and venues.

WHAT EXPERIENCES MAKE THAT \textit{BECOMING} HAPPEN?

- Feeling comfortable in an open, accepting work and classroom environment that encourages experimentation and risk taking.
- Interacting with instructors in a space that eliminates traditional teacher/student hierarchies.
- Working on course projects designed to encourage intellectual exploration, resulting in well-articulated conclusions.
- Collaborating in visualizing ideas and concepts and successfully producing superior outcomes.
- Enjoying a sense of physical freedom, with the ability to get up, move around, join others, demonstrate ideas.
- Having easy access to cutting-edge visual technologies and staff with relevant technical expertise.
WHAT SPACES ENABLE THOSE EXPERIENCES?

- Those that take advantage of the possibilities presented by new visual media for enhancing teaching and learning, with interactive projection surfaces, combined with multiple projectors and variable inputs, able to present visual materials of varying types (e.g., Power Point, video, printed materials, Twitter feeds, satellite imagery, web materials, simultaneously, revealing relationships among seemingly diverse subject matter).
- Those accommodating an array of technological resources that students can use in building models—both physical and virtual.
- Those with a technology infrastructure that enables lighting and sound to be adjusted as needed and that will support technologies of the future.
- Those with the flexibility of furniture and other spatial affordances that can be easily configured for varying purposes and different models of interaction.

HOW DO WE KNOW?

- Quality of student work improves in terms of intellectual depth and creativity.
- Students communicate ideas with better focus and clarity.
- Student course evaluations report:
  - New ways of approaching material.
  - Using “new” parts of the brain.
  - Enthusiasm for course material.
- Students congregate in the space outside of class.
Catalyst for Change: Challenge of Technology

The Michelle Smith Collaboratory for Visual Culture was created by the Department of Art History and Archaeology at the University of Maryland, College Park, to take advantage of the possibilities presented by new visual media for enhanced teaching and learning. The facility evolved from Department's Visual Resources Center, the provider of the thousands of slides used in the traditional art history classroom.

As the Department transitioned to digital media, the VRC became an informal “collaboratory,” where people shared ideas and helped one another deal with the challenges, technological and otherwise, presented by teaching and research in this new environment. VRC staff recognized that this informal evolution was actually an important element of one of the positive and promising features of the digital revolution—increased communication and collaboration among individuals and organizations at many levels of the university and society.

Process of Change, Step I: An Experimental, Informal “Collaboratory”

To explore the potential of this cultural transformation, VRC staff reconfigured workroom space to create an experimental, informal “collaboratory”—a place for people to come together to share ideas and solve problems encountered in teaching in the digital environment. Financial cost was minimal. Desks and computers were moved out of the room, creating an open area conducive to group interaction. Secretarial chairs and old typing tables, which all had wheels, remained to provide flexible furniture arrangements. A large (9’ x 6’) projection screen was installed on one wall, and a tall storage cabinet was adapted to house a digital projector and laptop across the room, creating an informal viewing area for digital presentations inside the VRC.

This newly configured area quickly became a learning space for presentations and group projects, such as the VRC’s “Tech Talks”—a series of informal meetings held weekly to explore specific software or digital resources that might be used in teaching. In the informal atmosphere of the Collaboratory, faculty and graduate students began working together to solve pedagogical challenges and further research projects by adopting and adapting technological concepts to develop new techniques for presenting their material. The collaborative nature of these meetings fostered innovation, collegiality, and excitement among the members of the departmental community.

Process of Change, Step II: The Michelle Smith Collaboratory for Visual Culture

In 2008, the experimental collaboratory became the prototype for a transformative facility made possible by the Robert H. Smith family. The Michelle Smith Collaboratory for Visual Culture replaced the Department’s Visual Resources Center with a new facility designed to foster innovation in teaching and research by combining cutting-edge visual technology with an environment that encourages collaboration among faculty, students, and external scholars.

Planning goals included:

- An accessible venue with cutting-edge technology for visual disciplines.
- Flexible, adaptable spaces and furnishings, to accommodate groups of various sizes and multiple activities.
- Open comfortable space to encourage collaboration, exploration and experimentation.
- A space large enough for departmental gatherings, fostering a sense of community.

The old slide collection area, cleared of slides, furniture, and equipment, was reconfigured, renovated, and integrated with the existing workroom and a small faculty lounge to create a venue. 
combining complementary flexible spaces for work and for meetings—spaces of varying sizes in which teachers and students can gather to work, share ideas, and find the resources necessary to explore intellectual interests, solve problems, and develop new materials and techniques for research and teaching.

A Key Feature

The center of the Collaboratory, both conceptually and physically, is a visualization facility containing sophisticated and comprehensive technology customized to support ambitious projects to encourage and promote new understandings through visualization. One wall of the facility is dedicated to a large floor-to-ceiling curved projection surface, which is approximately 21 feet long with an arc of approximately 135 degrees. Three ceiling-mounted projectors, each directed toward a different portion of the screen, provide maximum flexibility for visual presentations of myriad types.

The projectors are controlled by a powerful multi-touch computer with an NVIDIA Quadroplex system to support a variety of visualization environments. The expanse of the projection surface, combined with multiple projectors and variable inputs, makes it possible to present visual materials of varying types simultaneously, revealing relationships among seemingly diverse subject matter.

Visual Learning with Cutting-edge Digital Technologies

In the Collaboratory, faculty and students learn together, investigating and developing new resources in the digital humanities, which, in turn, foster new scholarship and knowledge. Early projects in the space included three-dimensional architectural models exploring the construction of sacred spaces or revealing spatial relationships among works of art as conceived by their creators. These initial projects have led to a new program in the department, known as The Digital Innovation Group, or “The DIG”: a group of graduate students and faculty working together to integrate new technology into the related disciplines of art history and archaeology.

Small undergraduate classes meet in the Collaboratory, with excellent success. To cite just one example, in a course titled “Leonardo and the Science of Art,” science and engineering students, guided by an art history professor, explored the life and works of Leonardo da Vinci as a multi-talented scientist, inventor, and artist. With access to an array of technological resources and a flexible space in which to move, these students built models, both physical and virtual, and created visual presentations of varying types. Their freedom to move about the space facilitated quick transitions from one activity to another.

The Collaboratory offers unique visualization opportunities not available elsewhere on the College Park campus. Increasingly, other departments and organizations across campus are interested in the potential of the space for experimenting with visual technology and interdisciplinary collaborations. University personnel with responsibilities for development and planning now recognize the Collaboratory as a “learning space.”

The present Collaboratory can be thought of a one step in a longer process; as the outgrowth of a preliminary collaboratory prototype developed in the Department of Art History and Archaeology, The Michelle Smith Collaboratory for Visual Culture may serve as a prototype for something larger for the College and the University, as visualization becomes an increasingly important means of intellectual exploration and communication.

Photos courtesy of: University of Maryland College Park
Location: College Park, Maryland
Square footage renovated: 2,051 sq. ft.
Cost: $375,000
Construction period: August through December 2009
Date completed: December 2009
Disciplines housed: Art History