

inFormation: The Collaborative Studio

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INFORMATION: THE COLLABORATIVE STUDIO

The question of interdisciplinary education is one of the primary challenges of contemporary higher education. Universities and colleges are being bombarded with calls to promote a more cross-disciplinary approach. Within architectural education, this pressure has focused most forcefully on the design studio, under the premise that the design studio represents a recognized asset in its collaborative atmosphere. Therefore, what better place to start than at the source of the design culture, the design studio. In reforming the design curriculum and reconsidering the design studio, the collaborative sensibility can be used as a lever to move in the direction of openness and connected-ness, promoting communication with other disciplines.

Clemson University's focus of interdisciplinary education has been realized in the University's architecture design studio. The design process of the new collaborative studio and its implementation offer the opportunity of an ongoing case study for other schools considering an interdisciplinary transformation. The elements necessary to successful change include vision, commitment and implementation at several levels—from the university to department, faculty, and student.

VISION

Cross-disciplinary education necessitates a fundamental shift in perception at all levels of the educational spectrum: the leadership of the university, departmental administration, faculty, and student. The process that Clemson followed in its establishing a new studio model (the Collaborative Studio) results from a vision of collaboration that incorporated multiple colleges, multiple departments and faculty from multiple disciplines.

Clemson University has undergone a transformation of its basic structure with a complete reorganization of the university's college units and a reconsideration of the general education requirements for an undergraduate degree. A wide range of disciplines has been combined. A key element of this transformation has been a commitment to developing a university curriculum focused on student achievement of communication skills. The view is of a future in

which a strong foundation of communication skills is essential for academic and professional success. This effort has led to national recognition, singling out this University specifically for its Communications Across the Curriculum initiatives.¹

The vision of the University and the College inspired a new vision within the Department of Architecture, leading to a complete redesign of the undergraduate degree program and the formulation of a new curriculum for architecture. The focus of the academic agenda was to take advantage of the structure and position in the new College of Architecture, Arts & Humanities, and to respond to the restructuring of the college with a strong multi-disciplinary approach. The rich mixture of disciplines within the College provides both depth and breadth in education unavailable in the department's programs. Effective communication skills are necessary for all disciplines to work together across specialized knowledge bases, and the architecture program has defined its position as a leader in this movement.

The earliest response to this change in mission in the architecture department was to shift away from the preparatory professional degree of Bachelor of Architecture, (with its technical emphasis and specialized courses of study,) to a new degree program with greater breadth. The Bachelor of Arts in Architecture was created to allow for a broader curriculum.² This change is directly in line with Boyer's recommendation for "a more *liberal* curriculum, a more *flexible* curriculum, and a more *connected* curriculum."³ The new degree program continues to place the design studio as a primary resource and focus for architectural education: the true strength of the traditional studio model is the instilling of analytical, integrative and critical thinking—not specialized skills and technical knowledge, as was recognized in the Boyer Report.⁴

With this recognition, the redesign of the curriculum focused on the design studio as the place to implement the interdisciplinary goals of the University. The goals for the architecture department were to open architectural instruction to a broader cultural context. With this multidisciplinary focus, the redesigned curriculum incorporated additional courses from within the new College: two semesters of Western Civilization; four semesters of Languages; and a one semester Humanities Seminar. Core courses in communication were mandated by university general education requirements, and

seen as tremendous assets. Thus, a primary goal of the new studio model was to teach communication skills.

The emphasis on communication—both written and oral—makes sense in the education and development of professional architects. In the profession, architects are challenged with layered matrixes of information, for example, responding to client needs, project briefs, site conditions, opportunities of technology, questions of economics, etc. As the complex challenges of a highly specialized world exceed the abilities of technical expertise, the skills of connecting ideas across many disciplines are paramount.

Written and oral communication skills and computer competencies were chosen as elements to weave into the fabric of the design studio. Thus the studio will become the new venue for teaching core communication skills as it has traditionally been used for teaching visual communication. Core communication and writing curricula are seen not as autonomous requirements, but as essential tools with specific relevance to architectural studies.

The vision of the new College is that crossing disciplinary boundaries enriches the entire curriculum connecting courses and disciplines. In addition, communication is recognized as a primary skill of the architect. “The ability to speak and write with clarity is essential if architects are to assume leadership in the social, political, and economic arenas where key decisions about the built environment are being made.”⁵

Faculties from English, Speech and Communication Studies and Computer Science have been directly integrated into the studio syllabus. Therefore, in addition to traditionally accepted architectural design concepts and skills, interdisciplinary skills are taught as important, fundamental architectural skills.

Within the Collaborative Studio structure, instruction is incorporated directly, with components occurring throughout the studio sequence. University general education requirements define Oral Communication Competency as being achieved in a 3-credit Oral Communication course. The new studio sequence supplants this separate course by incorporating three 1-credit components of Oral Communication instruction within the studio over three consecutive semesters. In these three one-credit components, Speech and Communication professors teach oral competency and its applications directly within the studio: they are integral members of the studio team. Similarly, Written Communication Competency will be achieved in three 1-credit components within the studio over three consecutive semesters, again replacing a 3-credit course. Teaching writing competency and its applications will occur directly in the studio by English professors who are members of the studio team. Lastly, the 3-credit Digital Communication course is being supplanted by three 1-credit components taught within the studio over three consecutive semesters. With faculty from disciplines throughout the College joining the architecture faculty, the studio team clearly represents the multidisciplinary vision of the College, in the new studio model: the Collaborative Studio.

COMMITMENT

While institutional and individual vision is the impetus for change, the commitment to seeing it realized is essential. The work of transforming visions into reality turns on this very point. For this new studio model to come to fruition, the cooperation and commitment of individual faculty, departmental administrations, and the College hierarchy have been tested. The commitment of these parties creates the framework for implementation, supporting collaborative teams, and overcoming the challenges of bureaucratic boundaries.

In order for the Collaborative Studios to meet competency criteria and to be approved by the university as core communications course, the designers of the courses needed to have some understanding of collaborating disciplines. This necessitated meeting with individual departmental administrations and faculty to learn their specific teaching goals and methods, the expectations they have for general requirements, and how they might refocus methodologies to take advantage of the collaborative environment. Sets of guidelines and lesson plans were developed in conjunction with architecture and the other disciplines. In addition to the anticipated student benefits, this process educated the architecture faculty about methods and goals of other disciplines. Educating outside faculty about the architecture studio environment is another benefit of this collaboration. As a part of developing course ideas, faculties from other departments were invited into the studio to witness jury and desk critique situations. From these meetings, the course designers structured coursework to incorporate ideas and requirements of the various departments into studio pedagogy.

As the design studio has always been architecture's domain, it has been important to insure the collaboration was truly a two-way street. It is also important to acknowledge that other departments were essential to setting the foundation of the studio, the first step at achieving a truly collaborative atmosphere. The enthusiasm and initiative for this new model was not solely on the part of architecture: in fact, the collaboration with the English department was locked-in when, coincidentally, an English professor approached the architecture department about developing a collaborative composition and rhetoric course. Enthusiastically, this professor joined the team in formulating the Collaborative Studios. The respect and interest in including perspectives from other disciplines is necessary for this to be successful and ongoing. If it is not mutually beneficial to the faculty and departments of all disciplines involved, it is not likely to endure.

One of the primary structural impediments to creating and nurturing cross-disciplinary collaborations is the administrative difficulty of crossing departmental boundaries. The benefit of the new multidisciplinary College is the administrative leadership can more readily enable and encourage working relationships between departments. The challenges of connecting departmental administrative units must be met if collaborations are to be supported and collaborative teams are to be assembled. This means that methods of creating exchanges of departmental monies, of trading teaching credit hours and managing teaching staff need to be created. It is

not enough to recognize that the balancing of teaching loads must cross between departments, it is necessary to facilitate the creativity and flexibility necessary to compensate for non-traditional teaching loads. Combining varied disciplines into inventive collaborations begins and ends with commitment at the administrative level.

The formation of a new degree program and curriculum in architecture was a challenging process over an extended period. The actual implementation of the curriculum guidelines, the designing and approval of courses, the re-consideration of coursework and the staffing of the courses occurred over a relatively accelerated schedule.

IMPLEMENTATION

The collaborative studio is currently evolving and is in its second semester. Speech and Communication was selected as the first integrated component. Communication and presentation skills are discussed using design and architectural metaphors and references to architectural concepts are imbedded in Speech Communication lectures and activities. As is customary, all studio projects include a review session that requires students to orally present their work. In the collaborative studio, these reviews often include the participation of the oral communication professor. In addition to learning from the professor's expertise, the students are encouraged to critique one another's oral presentation as well as work. In effect, there is no distinction made between the presentation and the work. This creates a forum for further development of design ideas as well as the seamless integration of oral and visual communication skills that would typically not be addressed in the first year studio.

Integrating multiple disciplines into the design studio suggests changes to the structure of the class time. The oral communication component included a formalized weekly lecture led by the oral communication professor, as well as more informal lessons and discussions on oral communication as part of the typical studio environment. The students have been given exercises and assignments specifically targeted to further their presentation skills. One of the first design exercises they were asked to perform was to examine a Styrofoam shape (computer packing) and present it as a building model to their classmates in small groups. Each of the presentations was required to have a beginning, a middle structure, and an ending. This introductory exercise was structured to emphasize the components necessary for an effective, well-organized oral presentation.

More than simply offering lectures on oral communication, the integration within the studio allows direct and ongoing evaluation of presentation skills. As a requirement of the oral competency approval process, each student must have structured feedback on their presentations, which includes videotaping and analysis of student presentations. The presentation/feedback cycle follows a similar format to the methods of critiquing more traditional architectural communication modes such as drawings and models, illustrating the coherence between design and communication.

Experience has shown that the addition of the oral component facilitates more interactive and effective discussions within the studio environment. It is evident that a more thorough architectural understanding is developing through this new level of communication. In addition, visiting jurors—both faculty and architects working in the profession—have commented upon the improvement and effectiveness of the presentations. As the program develops, there will be videotaped data available for analysis of specific areas of improvement.

As a result of the successes of the first semester, the students are quickly becoming integrated into the design studio culture and school of architecture environment. This is important in that it encourages the students to be participatory in their education, establishing the connection between architecture, the broad range of influential disciplines, and the world in which they live. Expanding the curriculum has in turn expanded their expectations of their education.

CHALLENGES

It is important to reiterate that this project is still a work in progress, as its implementation has quickly followed the institution's momentum. The specifics of each class were created rapidly, in response to the needs of the course and students. As the faculty becomes more experienced and the collaborative team learns to work together, the teaching methods and activities will become more sophisticated and integrated. Still, the successes of the project to date have been many: the support of administration; the excitement and growth of faculty, both in architecture and in other disciplines; and the enthusiasm of students. Positive results in the studio, while still early to measure, have been clear. Of course many challenges remain.

Unfortunately, the difficulties in defining and implementing the computer component have been a continuing challenge. A number of elements were successfully accomplished in the other components (English and Speech and Communication) but were clearly lacking in the computer component. The shortcomings of this component stem from failure at all three levels—vision, commitment and collaboration. There have been failures of vision in defining goals and expectations of the digital communications component. Unlike the Speech and Communication and English Departments, there exist no set departmental guidelines for defining Computer Competency within the Computer Science Department.

There have also been failures of commitment in developing the computer component. While there has been a stated recognition of the value of collaboration, there has been resistance to the challenge of crossing departmental and college boundaries. No faculty has expressed specific interest or been designated for the studio collaboration from Computer Sciences. No initiatives to encourage faculty participation have been put forth by departmental administration.

The importance of the support of higher administration is specifically illustrated by this failure. While collaborations between Ar-

chitecture, Speech and Communication, and English departments occur within the administrative purview of the College of Architecture, Arts & Humanities, any collaboration with Computer Science requires crossing administrative boundaries at the college level: the differences between boundaries between colleges and boundaries between departments should not be underestimated. The involvement of not one dean but two introduces a layer of bureaucracy that has yet to be mastered. Thus, working out supervisory relationships, managing teaching credit hours, accommodating non-traditional teaching loads and resolving salary disbursements across colleges are more significant hurdles, requiring a more significant commitment on the part of all concerned.

Additionally, in fields that require specialized equipment, the collaboration must consider the economic impact of providing the technological tools. Without the computer hardware in the studio, it has been particularly challenging to incorporate digital communication.

Through the concerted effort of all parties, the studio has begun the successful integration of oral communication into the Collaborative Studio. The integration of the English component will be added next year. With the lessons of this success, we will continue to work at refining the computer competency aspect of the sequence. Certainly, there is some continuing momentum from past studio processes, but it is anticipated that the ongoing collaboration between faculty of architecture and other disciplines will inspire further transformations of the methods and results of the design studio.

CONCLUSIONS

This paper has presented a case study of a new studio model, the Collaborative Studio, an innovative foundation for multi-disciplinary architectural education. As we have shown, we set out to reconsider the design studio with the premise that to design is to *inForm*. The new collaborative studio is a model implementation of the integration of the disciplines of architecture and communication. As we enter the new millennium, we propose that this new studio model will better prepare future architects for the challenges of the Information Age and beyond.

FOOTNOTES

¹Andrew Goldstein, "The Cutting Edge." *The Best College For You Time Magazine* (New York, New York: Time Inc., 2001 edition): 73-74.

²For further elaboration on these changes, see "As It Stands, a School in Balance," Robert A. Ivy Jr., AIA. *AIA Journal* (Washington D.C.: American Institute of Architects, August 1989 v 78 no 8): 42-49.

³Ernest L. Boyer and Lee D. Mitgang. *Building Community A new Future for Architecture Education and Practice* (Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching, 1996): 77.

⁴Boyer and Mitgang, 80.

⁵Boyer and Mitgang, 84.