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Suining Ding

Indiana University - Purdue University Fort Wayne, dings@ipfw.edu

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AC 2009-1526: AN ANALYSIS OF A COLLABORATIVE STUDIO: ENGAGING STUDENTS, FACULTY, AND PRACTITIONERS

Suining Ding, Indiana University-Purdue University, Fort Wayne

Suining Ding is an assistant professor with Indiana University Purdue University Fort Wayne. Her research interests include digital 3D modeling, cross-cultural comparison of architecture, design methodology and design process, cognitive perceptions of interior space, relationships of human behavior and environment.

An Analysis of Collaborative Studio: Engaging Students, Faculty and Practitioners

Abstract

This paper presents an analysis result of collaborative studio course that engages students, faculty and practitioners. The collaborative studio is one of the two sequential capstone courses. As the capstone studio experience of students' academic design career, these two capstone courses encourage students' initiative and independence in design. Students are required to choose a practitioner as a reviewer for their projects. Reviewers are expected to come to the design presentation critique at least twice during the semester. Throughout the semester, students are expected to share their information and views and to engage peers and visiting professionals in meaningful dialogue. The collaborative studio was assessed by two approaches. One is final oral presentation and the other one is final project evaluation. Four assessment elements were used for the oral presentation. They are technical content, clarity, visual materials and response effectiveness. Five assessment elements were used for final project evaluation. They are composition, graphic presentation, professionalism, functionality and synthesis. Based on the data analysis, it is clear that engaging practitioners in a collective studio can solve the design problems from more technical and professional perspectives. One significant finding emerged from this analysis reflected the strong correlation between technical content and design outcomes.

Statement of Purpose

Introduction of the Background of collaborative Studio

This paper presents a study that analyzes students' design solutions in a collaborative studio. Students were required to engage a partnership with practitioners at the beginning of the collaborative studio for the entire project design process. The major 17-week-long studio is designed to allow students' individual exploration of a project type of their specific interest. Their selections on building and design problem have to address the current social, cultural, emotional and political issues of the surrounding area. Awareness and exploration of differences in the physical abilities of those who use the spaces is critical. ADA accessibility has to be addressed for the projects. Code research or review is a major step while students are preparing project proposal. This studio course is designed to encourage students' independence in all aspects of design and project management, to implement knowledge gained during the education to all phases of a design project, and to serve as a link between their academic and professional design career. Studio design projects will demonstrate students' competency levels in concepts presented as well as in problem solving and presentation techniques. The studio is the problem-based learning studio that instructs the students through inquiry, critical thinking and graphic resolution. The studio covers various project types which include residential, office, hospitality, institutional, health care and retail.

In the first capstone course, students took primary responsibility in the gathering, analyzing, and organization of information used in the design phases. Design solutions demonstrated the student's ability to apply the design process and to integrate information and theory in order to arrive at creative solutions to complex design problems. At the end of semester, students were required to present their design concepts through visual communication techniques, such as digital 3D models and renderings. The second capstone course emphasizes on design development and construction documents for the project that is continued from the first capstone course. The course contents include design development, construction documents, senior project report, and senior show preparation. Graphic presentation skills and digital 3-D model creation skills are further developed. Both capstone courses were offered in the curriculum the second time since the B.S. in Interior Design started in fall, 2006.

The capstone collaborative studio is the demonstration of students' ability to synthesize and apply their knowledge and skills learned in all their professional coursework. Students demonstrate the synthesis project with the application of the interior design process, time management, programming, space planning, interior constructions and technical skills.

Purpose of the Study

A recent study¹ indicates that collaborative studio permits grouping of different personality types, reflecting the real world team experience that engaged not only diverse composition of student preferences but also rich diverse design outcomes. Another research finding indicates that partnership attracts youth and develops their knowledge of the profession; hence, it ensures profession's continuity, vitality and growth². The findings of the early study indicated that collaborative studio would benefit students and generate creative design solutions. However, how the partnership between students and practitioners will affect students' design solutions was not found in the existing literatures. Therefore, a further exploration of collaborative studio seems necessary in order to enhance students learning with better design outcomes. How effects of collaboration reflected from students' design outcome have not been explored in the previous studies yet. Thus, to conduct an analysis of collaborative studio based on students' design solutions seems necessary and crucial. The analysis results will provide valuable information for a collaborative studio, which engages students, faculty and practitioners.

Review of Literature

The previous studies on collaborative efforts can be found in a lot of literatures. One of the studies done by the social psychologist and proponent of the advent of environmental psychology, Kurt Lewin, who addressed the importance of group dynamics as a way to understand the behavior of those involved in collaborative works¹. More recently, Guerin⁵ brought to light that collaboration and interdisciplinary efforts will be among the key issues that will shape interior design education. Guerin⁵ indicated that design of human environments requires an awareness of related disciplines, an understanding of interdisciplinary processes, and competency in teamwork. Astin³ and Cooper, Robinson, & McKinney⁴ stated in their studies that student-student interactions and student-faculty interactions, both essential components in team work, are the most important influences on

academic success and satisfaction. Some other studies revealed that teamwork among divisions within the field and with other disciplines^{9,11} develops critical thinking, self-esteem, multicultural relations and positive social behaviors⁴. Similarly collaboration helps to socialize students, provide a setting for active participation, and create opportunities to offer and receive¹⁰, as well as to respond to the current challenges and to look forward to the next century⁷.

Furthermore, Portillo⁸, studying creativity, compared implicit theories in the professions of interior design, architecture, landscape architecture and engineering. Although the finding suggested disciplinary differences in areas of artistic creativity, scientific creativity, intelligence, self-confidence, and task orientation, major conclusions indicate that “the creative practitioner is perceived as multi-faced with shared traits and discipline specific characteristics’ (p. 23). Therefore, this study provides the rationale for engaging practitioners in the studio setting.

Collaborative works establish group loyalties that counteract the sense of anonymity students often feel in large classes¹¹. Previous studies on team building, motivation, acceptance among allied disciplines, and development of critical thinking, self-esteem, multicultural relations and positive social behaviors as pertaining to collaborative learning are very suggestive for this study. However, the assessment of the collaborative studio, which engage students, faculty and practitioners have not been studied yet. Therefore, an analysis of outcomes at the level of collaborative team design performance, specifically at the conceptual level is absolutely needed.

Process and Methodology

Project Requirement and Studio Activities

In the studio students concentrate on design process and resolution of an independent project. The project is the demonstration of the students’ ability to synthesize and integrate their knowledge and skills learned in all their professional coursework. The senior studio includes the expectation that a fully developed comprehensive project will evolve. The studio also provides students with an opportunity to independently develop the program for their capstone project utilizing their experience and skills from prior courses. Students are required to define the problem, examine precedents, provide client information, identify user groups, analyze the needs and concerns of the clients and users, analyze physical requirements and develop their final program under the guidance of faculty and practitioners. The project could be either a commercial or a residential project. The minimum size of this project is 2,000 square feet. Master planning of the entire building may occur, with focus on a defined use/area for schematic design and design development as well as digital 3D model. Students must select at least one professional designer. The practitioners will meet with students periodically and offer feedback and critique. There is one design meeting during the semester. Students had a chance to see each other’s work and meet with their practitioners. Then at the final class meeting and presentation, the practitioners were invited to class again and critique students’ design solutions. Since all the practitioners stayed for the entire presentation session, they had the chance to critique other students’ projects even though they are not the reviewers for those projects. After the

presentation session, students had the chance to have panel discussions with all the practitioners. The topics are not limited to the projects. The content of discussion is very broad, which includes professional practice, NCIDQ exam, client contact, project management and so on. The author as the faculty acted as a facilitator to prompt questions and lead discussions to the current issues in design.

It was required to use 3D AutoCAD to create digital 3D models. Presentation boards with rendered floor plans, interior elevations and sections are required to convey the design concept. Sample materials and cutouts are also needed for presentation.

Analysis Methodology

a) Research Design

This study encompasses two approaches: 1) a final project presentation with critiques from practitioners to evaluate design skills. 2) An analysis of the final evaluation and grading of the final project. Both approaches are qualitative investigation using a grounded theory approach. Grounded theory is a qualitative research approach that is inductively derived from the study of the phenomenon it presents that is discovered, developed, and verified through systematic data collection and analysis of data pertaining to that phenomenon ¹.

b) Subject Settings

Subjects were students who enrolled in this class. All of them are senior students major in interior design. Ten subjects participated in both oral presentations and final project evaluations as class required.

c) Data Analysis

Data were analyzed using two approaches with assessment elements: 1) analysis and evaluation of conceptual presentation and critique using four assessment variables (technical content, clarity, visual materials and response effectiveness), 2) analysis of final project evaluations with five assessment variables (composition, graphic presentation, professionalism, functionality and synthesis). Data were calculated by frequency distributions method. Since the objective of this study is to evaluate the effects of collaboration with practitioners, the assessment variables were specifically focused on technical content, professionalism, functionality and synthesis. Another objective of this study is to evaluate whether or not there is a strong correlation between technical content and design outcomes. Therefore, looking at students' design outcome with technical perspective is very important and critical. Data were drawn by histogram shown as the followings:

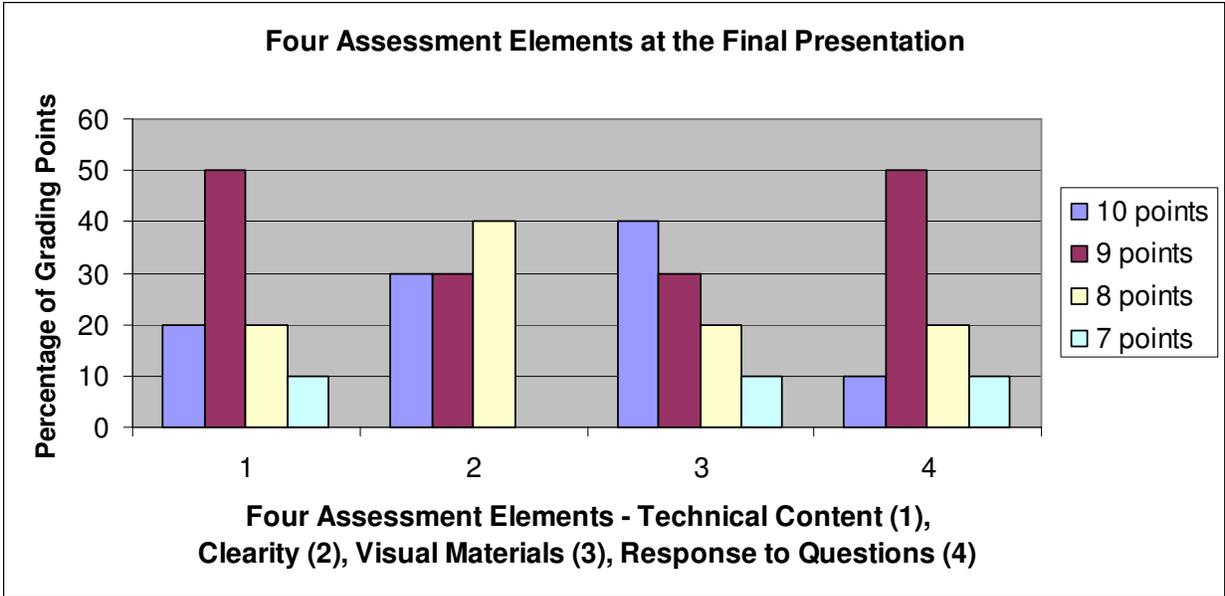


Figure 1: Four Assessment Elements for Final Presentation

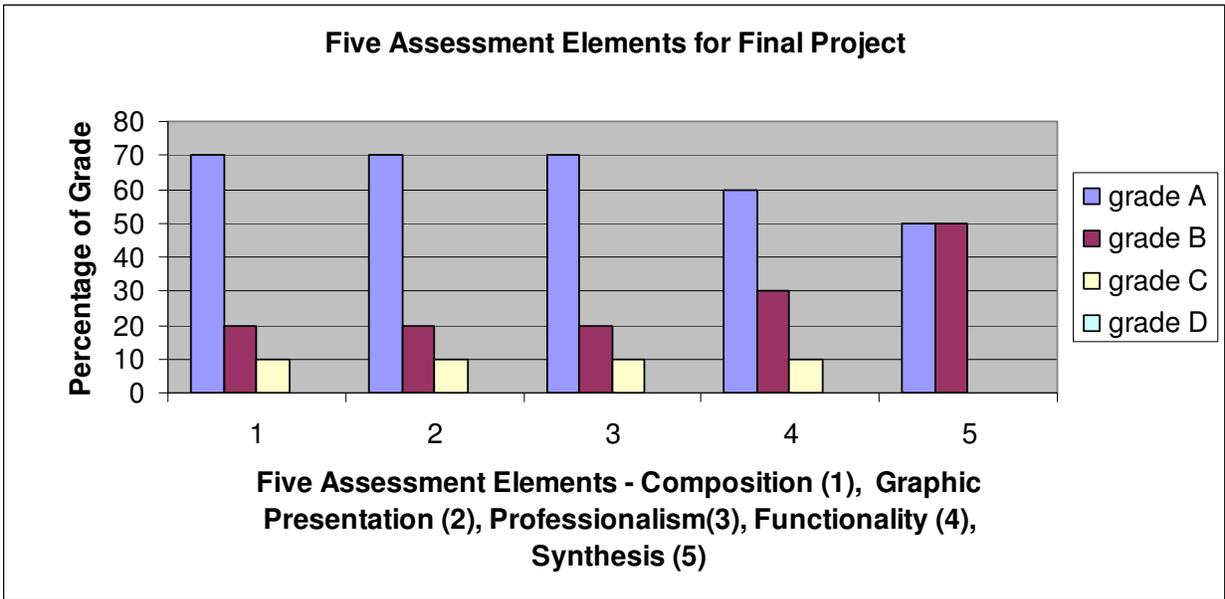


Figure 2: Five Assessment Elements for Final Project

Result and Discussion

In Figure 1, it is clear that 50% of the class got nine points for technical contents. This indicated that students were able to solve the problems with technical solutions and be more practical. The result explained that with the parishioners’ involvement, it helped to offer

technical advising and critique. 30% of the class got ten or nine points for clarity; and 40% got eight points for clarity. The result confirmed the expectations that senior students should be able to convey their intent clearly through both visual and verbal presentations. 40% of the class got 10 points for visual materials and 30% of the class got nine points for visual materials. 50% of the class got nine points for response effectiveness. Thus, the first approach of the analysis indicates that students' design outcome is very practical with good technical content. It also indicates that the expectations of convey design concept effectively through both verbal and graphic presentations were well achieved.

In Figure 2, it is clear that 70% of the class got grade A for composition, graphic presentation and professionalism. These results confirmed once more that the expectations for seniors to present design concept professionally through visual images were very good. 60% of the class got A for functionality. This is an indication of the effect of involving the practitioners in the design process because practitioners usually provided more technical and functional suggestions to students. Therefore, engaging practitioners in a real world project will make students gain more benefits in order to create better design solutions. 50% of the class got A and 50% of the class got B for synthesis. The results indicate the weak area that needs to be addressed more in future class. It seems that students' ability of project synthesis need to be further developed.

There are some limitations for this analysis. First, the sample is small due to the size of course enrollment. There were only ten students enrolled in this class. Second, only four or five assessment elements were used. The recommendations would be to get larger samples. The data could be collected over the years. Then the sample size could be increased dramatically. Other assessment elements could be added to the evaluation criteria.

Conclusion and Recommendation

The analysis in this study not only confirmed results or findings from previous studies but also revealed new findings that collaborative studio can effectively make students' design solution more professional and more technical by engaging students, faculty and practitioners. Corroborating previous research, one significant finding emerged from this analysis reflected the strong correlation between technical content and design outcomes. There was a strong correlation between professionalism and presentation. Another finding, which also supports previous research, is that the presence of diverse team members within the same group permitted the students to experience a totally new teaching style that is different from the faculty. This study also documents the collaborative studio that successfully accomplished several learning objectives, which are mandated by the curriculum for CIDA accreditation. It is evident that students analyze and express knowledge of spatial concepts and design elements to achieve creative and aesthetic design solutions. Students skillfully and creatively execute their presentation of design problems and resolutions with strategic professional skills under the guidance of both faculty and professional practitioners. Students successfully communicate a design graphically, written and orally in the execution and justification of an advanced senior capstone collaborative studio.

The author intends to use this collaborative studio as a framework to stimulate discussion about the merits of collaboration among students, faculty and practitioner. The first recommendation is to add more critique sessions so more data could be collected through the process. The second recommendation is to conduct a further study, which compares a collaborative studio with a normal studio. Students' design outcomes could be evaluated by more assessment elements. The author would very much like to discuss the students' involvement, process of decision making and the role of practitioners with the conference attendees for feedback and generation of further variables.

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Appendix

INTR 400 – Interior Design Studio I (fall, 2008)_____

Points:_____

_____ 30 PTS	COMPOSITION OF PRESENTATION BOARDS
_____ 120 PTS	COMPLETENESS WITH PROFESSIONALISM: PRESENTATION BOARDS
	3D models _____ 50 pts
	Floor Plans _____ 30 pts
	Interior Elevations/ Exterior elevations _____ 20 pts
	Materials/ cutouts _____ 20 pts
_____ 30 pts	NEATNESS / PROFESSIONALISM
_____ 40 pts	DESIGN CONCEPT / SPACE FUNCTIONAL LAYOUT
_____ 30 pts	Program Binder
_____ 250 pts	TOTAL

