LEEDing The Way Into The Future

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### Creative Scholarship Presentations

*Seven*
Juried Paper Presentation

From Swimming Pool to Museum: Adaptive Re-Use in La Piscine of Roubaix, France
Carole Aizenstark
Florida International University

Examining the conversion of a 1930s Art Deco swimming pool complex in Roubaix, France into a modern museum of art and industry (La Piscine Musée d’Art et d’Industrie André Diligent), this paper explores how the interior design of an adaptive re-use allows existing buildings to adopt new functions while maintaining important social and cultural meanings for their communities. The author examines the history of the swimming pool complex, its design characteristics (the Cisterian layout, olympic-size pool, change rooms and public baths, symbolic Freemason designs), and its actual conversion process directed by Jean-Paul Philippon. Evidence is provided from on-site observations and photos, from a brief review of the literature on adaptive reuse and related design theories, and from the analysis of Philippon's own project sketchbook. The author argues that La Piscine of Roubaix exemplifies a conversion that communicates original uses and meanings while enriching the new function, mostly because it has succeeded in preserving “the spirit of the place.”
Since the institutionalization of interior design as an area of academic study, there have been attempts by disparate groups to determine its disciplinary framework in order to define the sources and boundaries of its scholarship. The primary source for the dissemination of interior design research continues to be the Journal of Interior Design (JID). Examination of the JID as an indicator of the status of scholarship within the discipline and the mechanisms for dissemination of disciplinary research contributions has been undertaken previously (see: Eckman, Clemons, & Oliver, 2001) and is part of the routine of reflexive inquiry undertaken in any discipline.

The author analyzed the content and context of articles published in the JID since its inception in 1975. A total of 338 original articles (rather than book reviews, perspective pieces, or award recognitions) from the journal were selected for in-depth analysis based upon their classification in the journal as original articles. A database of the references cited in each article was created, totaling 5,106 entries. These references, excluding unpublished documents, such as theses and dissertations or email communications; and popular press sources, such as Newsweek, The New York Times, or Better Homes and Gardens, were examined to clarify what constitutes the core literature reviewed or produced by disciplinary scholars.

The database of articles allowed for analysis of percentages of JID articles by repeat or unique authors, and for a breakdown authors by sex, institutional affiliation, and/or number of articles produced. Less than 8% of the contributors have been responsible for the publication of fully 42% of the articles in the journal, with less than 5% authoring 31% of the total number of published articles. Attention was paid to the number of times any particular article was cited...
either in the JID or by other journals. Fully 61.7% of articles published in the JID are never mentioned again either in the JID or elsewhere. Less than 2% of the articles published are ever cited outside of the JID and of those six articles, three are cited by the author of the referenced JID article. In other words, only one half of less than 2% of the articles published that reference articles in the JID are by authors who were not referencing their own articles from previous issues of the JID.

In addition, information was gathered regarding the numbers of articles produced by individual versus multiple authors, the institutions from which the greatest numbers of articles were produced, and the disciplines that produced the greatest number of references in the overall citations. A vital component of disciplinary advancement is an accurate understanding of the current state. For this project, the researcher investigated a number of correlations across the data that are valuable to continued discussions. It is the researcher’s hope that the presentation of the data gathered engenders discussion, generates awareness of connections, and suggests avenues for further study.

References

Juried Paper Presentation

Analyzing Environmental Performance of Interior Environments Within Shipping Containers using Building Information Modeling Simulation Tools
Katy Brandt and Tina Sarawgi
University of North Carolina at Greensboro

This paper discusses a design research project that explores how shipping containers can be transformed to provide safe and habitable interior environments for those who have been affected by natural disasters. Building modeling and simulation tools were used to evaluate the quality and performance of interior environments inside shipping containers.

Innovations in the world of simulation and visualization are allowing designers to propose interior environments that can respond to the site context and conditions such as daylighting and shading, solar exposure and thermal gain. With programs such as Autodesk Ecotect, interior designers can holistically study the effect of the environment before construction (Minutillo, 2008). Hence simulation tools can guide the interior designers in creating comfortable, healthy, and sustainable spaces for its inhabitants (Poh Lam and Yeang, 2009; Azhar and Brown, 2009, Middlebrooks, 2008).

The design investigation focused on analyzing how shipping containers are impacted by environmental conditions in New Orleans, LA, and what changes need to be made to arrive at a comfortable interior environment. A standard shipping container measuring 8’ x 8’ x 40’ was modeled in Autodesk Revit Architecture. Three design scenarios were established along the east and west façade of the container: (1) clerestory windows (2) double-hung windows and (3) curtain walls (see Figure 1). The models were imported in Autodesk Ecotect to conduct the investigation. These analyses examined different aspects of the interiors of the shipping
container such as comfort level, thermal analysis, heat gain measured in BTUs, and optimal daylighting (see Figures 2 & 3).

Results from each of the analyses were compared and contrasted to determine which design, if any, would provide an ideal environment. Environmental simulation was conducted for July 20th, the hottest day in New Orleans. It was determined that the individual designs performed well in some areas, while falling short in others (see Table 1). The clerestory option stood out as the best option for thermal comfort, however, it also resulted in minimal daylight. The double-hung window option maintained a relatively consistent interior temperature and daylighting throughout the day, however, it experienced high solar exposure. The curtain wall option experienced extremely high interior temperature due to increased amount of daylighting. Hence, none of the designs individually provided a well lit and comfortable habitat for its users. A hybrid option was developed that combined the strengths of the three options and responded to the interior spatial layout as shown in Figure 4.

In the next stage of this study, design parameters will be expanded to include further permutations and combinations of fenestrations, building orientation, and interior materials. Each of the components will be analyzed and a matrix will be created to allow users to see how various options can affect the interiors experience.

This study illustrates not only how simulation tools can further our understanding of design performance of specific interior design scenarios to arrive at design solutions with improved environmental quality, but also how shipping containers could be viable habitable environments.

References (APA style)


Figure 1. The three design scenarios (top to bottom): curtain walls, clerestory windows, and double hung windows. The entrance to the building faces south.
<table>
<thead>
<tr>
<th>Options</th>
<th>Curtain wall</th>
<th>Clerestory windows</th>
<th>Double-hung windows</th>
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<tr>
<td><strong>Lighting analysis</strong></td>
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<tr>
<td><strong>Solar exposure</strong></td>
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<tr>
<td><strong>Thermal comfort</strong></td>
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<td><img src="image11" alt="Thermal Comfort" /></td>
<td><img src="image12" alt="Thermal Comfort" /></td>
</tr>
</tbody>
</table>

*Figure 2.* Analyses performed on each option (curtain wall, clerestory and double-hung windows) on July 20th, the hottest day of the year in New Orleans, LA at noon to examine different aspects of the interior (top to bottom): Lighting analysis, Solar exposure, Thermal analysis, and Thermal comfort.
<table>
<thead>
<tr>
<th></th>
<th>6:00 a.m.</th>
<th>10:00 a.m.</th>
<th>2:00 p.m.</th>
<th>6:00 p.m.</th>
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<tbody>
<tr>
<td><strong>Clerestory windows</strong></td>
<td><img src="clerestory-6am.png" alt="Image" /></td>
<td><img src="clerestory-10am.png" alt="Image" /></td>
<td><img src="clerestory-2pm.png" alt="Image" /></td>
<td><img src="clerestory-6pm.png" alt="Image" /></td>
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<tr>
<td><strong>Curtain wall</strong></td>
<td><img src="curtain-wall-6am.png" alt="Image" /></td>
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<td><img src="curtain-wall-6pm.png" alt="Image" /></td>
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<tr>
<td><strong>Double-hung windows</strong></td>
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<td><img src="double-hung-10am.png" alt="Image" /></td>
<td><img src="double-hung-2pm.png" alt="Image" /></td>
<td><img src="double-hung-6pm.png" alt="Image" /></td>
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</tbody>
</table>

*Figure 3.* Shadow ranges for each design scenario (from top to bottom): Clerestory, Curtain Wall, and Double-Hung. The images show shadow ranges throughout the interior over 12 hours on July 20, at 12:00 p.m. in New Orleans, L.A. The double-hung window option receives more daylight than the clerestory option but not as much as the curtain wall option. Heat gain is the reverse of daylight gain in the three options, thus the curtain wall option receives the most heat gain whereas the clerestory option receives the least.
Table 1. This table shows the simulation observations for each design option.

<table>
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<tr>
<th></th>
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<th>Solar Exposure</th>
<th>Thermal Analysis</th>
<th>Thermal Comfort</th>
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<tr>
<td>Clerestory windows</td>
<td>This option receives the least amount of light throughout the space</td>
<td>The maximum amount of solar exposure received is 220 BTUs at 12:00 pm</td>
<td>The increased shading of the interior results in the interior temperature reaching a high of 82° F at 12:00 pm</td>
<td>This option provides the most interior comfort throughout the day</td>
</tr>
<tr>
<td>Double-hung windows</td>
<td>This option receives more light than the clerestory option, but less than the curtain wall option throughout the day</td>
<td>The peak solar exposure reaches 206 BTUs at 10:00 am and decreases to only 54 BTUs at 12:00 pm</td>
<td>The interior temperature remains relatively consistent throughout the day, at 82° F.</td>
<td>This option provides more interior comfort than the curtain wall option but less than the clerestory option throughout the day</td>
</tr>
<tr>
<td>Curtain walls</td>
<td>This option receives the most light throughout the space</td>
<td>Due to the increased amount of daylighting, the exposure reaches 238.22 BTUs at 12:00 pm</td>
<td>The interior temperature reaches a high of 86 °F at 12:00 pm</td>
<td>This option provides the least amount of interior comfort throughout the day</td>
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Figure 4. The images show a combination of the three design scenarios: Curtain walls are used in the public spaces to provide the maximum amount of light, and clerestory windows are placed to admit light deep into the space. In the semi-private spaces, double hung windows are provided to provide light that can be controlled. Shading devices along the exterior aid in controlling daylighting and heat gain inside the space.
Virtual Field Trips: A Strategy for Connecting Students to Design Professionals Without Leaving the Classroom
Amy Roehl
Texas Christian University

Interior design graduates face a more competitive job market than ever before. Considering that most students invest in higher education with the primary purpose of preparing for employment (Hoskins & Newstead, 2009) it is important to provide exposure to design practice throughout their formal education. “Individual courses that focus on specific content matter” . . . “are not always effective in providing explicit examples of how learning is applied in practice or a work environment” (Kim, H., LaFleur, R. & Schaeffer, K.). Field trips are an effective tool helping students realize that what they are learning in the classroom has a direct relationship to their future work life.

“It is not unusual for a student, years later, to recall a certain site visit or exposure to a speaker as a preeminent influence upon their knowledge and inspiration for practice” (Ankerson & Pable, 2008).

Anonymous student comments:

“Field trips help to remind us of the big picture, of what we are really working for”.

“It is easy to get caught up in doing assignments for school but when professionals come in, it makes us realize that what we are doing is part of the real world of interior design”.

Coordination of field trips requires significant time and sometimes cost, particularly for schools in remote locations. This paper presents a strategy for bringing designers into the
classroom using Skype, a free, web-based video-teleconferencing software. Saving time and travel costs, Skype provides real-time contact with design professionals.

In the fall 2009 semester, virtual field trips were conducted in a 1st year Introduction to Interior Design course and in a 3rd year Career Development course. Initial virtual field trips were set up with a formal structure. Selected questions, submitted by the students were forwarded to the design professional prior to the field trip. During the field trip students whose questions had been selected spoke directly to the professional. Depending on the comfort level of the design professional and the instructor, a more informal approach may be used for a more free-flowing dialogue.

Virtual field trips do not need to take the entire class period. Even a short dialogue with a designer provides exposure and interest to the class session. Students consistently stated that they love hearing information “straight from the designer’s mouth”. Selected student comments:

“I like hearing actual professions speak about their profession rather than being told “this is what interior designers do””.

“It’s easier to actually take in all the information when there is a real live person speaking rather than reading something that a faceless person has written”.

“You get a lot more out of hearing how they say things” (verses content only).

The virtual field trips provided a successful alternative to actual site visits. Interaction with practicing professionals left strong impressions on students. This paper presentation will demonstrate how to set up virtual field trips using Skype in addition to showing video footage of virtual field trip examples.
References


This research recognizes that today the design industry is on the ground floor of a paradigm shift brought on by the demand for sustainable, renewable green products, technologies and industry standards similar to Leadership in Energy and Environmental Design (LEED) and The Living Building Challenge. This shift needs to include Biomimicry as a best practice for earth stewardship with the goal of improving the overall health and well-being of the end-user and his environment. This study will compare The Design Process which Nature uses to that which interior designers use to solve problems. In order to guide the designer through nature’s design process, Carl Hastrich designed a new method for the Biomimicry Institute, The Challenge to Biology Design Spiral [1, 2]. However, the design industry at large has not recognized Biomimicry or employed Hastrich's Spiral in its problem-solving process. This paper argues that, although designers utilize time-tested tools and methodologies like programming, schematic and design development, they now should include a biomimetic approach in exploring nature’s database for sustainable solutions and innovations. According to this study, one thing nature does differently from designers to solve a problem is “biologize” the question by asking, “What do you want your design to do?” unlike some designers who ask, "What do you want to design?” [1,3] Another key tool in the Biomimicry process is applying the Life’s Principles taxonomy to measure your design against “natures own eco-design checklist” [4]. Bringing nature’s wisdom aboard to help solve human problems by employing Biomimicry is now recognized as a viable approach [5,6]. In 2008, the architectural firm HOK and the Biomimicry Guild formed a partnership, the first of its kind, to include Biomimicry in its problem-solving process [7,8]. This alliance is noteworthy because of HOK’s well-known reputation as a
green pioneer which helped establish the U.S. Green Building Councils and the LEED certification system [7]. HOK’s embrace of Biomimicry is revolutionary, and this fact has the capability of launching the concept worldwide. It also supports the argument in this study that the practice of interior design should also form an alliance with the Biomimicry Institute and “bring a biologist to the design table” [8,9]. However, one or two interesting technologies thrown into a project, although a good start, do not solve the sustainability issue. It is only when we consider how everything works together like an ecosystem and operates like nature’s communities that we can begin to make a difference [10,11]. This paper will review key points, case studies and applications of Biomimicry which testify to the success of this new process. These cutting edge technologies form the foundation of this important movement. Ultimately, the practice of creating sustainable environments should use as few resources as possible to create and operate a beautiful, health-orientated habitat in a closed-loop system which recycles all waste, generates all its energy needs and is designed with the long term goal of preserving mankind’s survival. [11,12].

References


http://www.biomimicryinstitute.org/about-us/biomimicry-a-tool-for-innovation.html


A Curriculum Study: A Proposal for Content Analysis of Course Studies among Accredited Interior Design Programs in the South
Michelle G. Lee, M.S.
University of Alabama

INTRODUCTION

Post Secondary education in interior design is the footing of the profession. Success in training and educating future designers who are mature, critical thinkers well versed in subjective and objective ways of knowing is vital for the ongoing advancement of the profession. Too often educators suffer from “lack of clarity” (Thompson, 2007) in understanding the state of interior design education. As educators seek discussions regarding best practice in teaching, discussion often centers around new technologies, new methods of communication, new teaching pedagogies, and new service learning opportunities. (Bender, 2003; Adams, 2009; Jani, 2009) One barrier to a common discussion of design education is the lack of information about the holistic nature of the post secondary experience itself. This study seeks to collect baseline information to enable interior design educators to analyze the differing frameworks used in the educational preparation for practice.

REVIEW OF LITERATURE

A review of recent articles in Journal of Interior Design indicated the ongoing conversations regarding the content and quality of interior design education. Topics during the last five years included: the extension of interior design education into the K-12 environment (Clemons, 2007); the incorporation of research and service learning into interior design education (Zollinger, et. al., 2009); technology uses for sketching (Meneely, 2007), virtual charettes, virtual tours, and graduate education (Guerin, Kroelinger, Rabun, 2007). In 2007, Jo Ann Asher Thompson described the “confusion and lack of clarity” regarding the “academic home for interior design- often times with the final decision determined by the history, tradition,
and/or mission of the institution”. (p. 1) While many important conversations continue regarding interior design education, this lack of information and lack of clarity regarding the similarities or differences in undergraduate interior design experiences as a whole, still remain.

METHODOLOGY

The first step in designing the survey was to define the sample. Using CIDA accreditation, Southeastern Association of Colleges and Schools (SACS) accreditation, and the membership roster for the southern region of the Interior Design Educators Council (IDEC), a study sample was determined. Institutional websites were reviewed using published curriculum material from each institution. The review focused on sample “Course of Studies” and undergraduate catalogs for course description information. Definitions were developed to ensure the consistency of categorization of courses and are included in the appendix. Information was collected and evaluated for percentages of frequency, comparisons of means, total credit hours earned in relation to degree earned, academic unit “home” college, studio lab hours, and number of studio classes, as well as specialty categories within the degree and general education hours.

FINDINGS

Of the 28 institutions reviewed, seven were private, with the remainder being public institutions. Statistical comparisons were then made; calculating the total number of credit hours required to graduate in relationship to the college location in which each unit is housed. Programs housed in Architecture units require an average of 122 semester hours; while those programs located in an Art college required an average of 123.3 semester hours; and those unites found in Human Ecology/Human Environmental Sciences colleges required an average of 123.88 semester hours. While the means did vary across results, no statistically significant difference was found (std. deviation = 2.642). The average hours required by a
publicly funded institution is 123.6 semester hours; while that of a private institution is 124.5 semester hours.

When *total degree hours* were examined against degree conferred; (BA, BS, BFA, other) the results returned showed that an average BA degree in the sample requires 124.33\(^1\) semester hours to graduate, an average BFA degree requires 122.33 semester hours to graduate; and an average BS degree requires 124.5 semester hours to graduate.

When a simple frequencies chart is compiled, for total number of degree hours, the highest frequency is 120 semester hours; resulting in 35.71% of the overall sample size. While possibly not high enough to suggest trending, the frequencies may bear watching by educators who wish to examine these numbers in future studies.

Further curriculum comparisons across the sample institutions found a wide range of hours required in Studio (Design) Labs. *Studio lab hours required* range from 18 semester hours to 57 semester hours. The institutions were then sorted per this range. Anecdotally, a simple correlation seems to exist between the number of semester hours taught and the number of studio lab classes listed in the course descriptions. Some variations exist due to the credit hours assigned to design labs across institutions. In other words, the higher the studio hours, the more likely the program is to be requiring “parallel labs”; labs teaching interior design material as co- requisites to the primary interior design studio lab. Where this correlation varies, the program is likely to award much higher credit hours to design labs than standard general education classes.

A report was also made of the “remaining Interior Design classes”. By the definition used in the study, these classes must have the same prefix as studio design classes (ID, INDS, ARID, CTD, etc.) but be shown as *non-lab* (i.e. lecture/ or combo) courses. These frequencies

\[\text{This high mean is due to the low sample number (3 institutions) awarding the BA degree, where Samford university requires 129 total degree hours with the Art minor.}\]
may further attest to the industry specific knowledge required for professional employment, the
general knowledge of graduates, or, knowledge required to become a registered Interior
Designer by a state.

Subcategory information was also collected to find the frequency of: drafting classes, art
classes, interior design specific computer classes, and history, taught across the study
institutions. In these findings, 16 programs teach at least one traditional drafting class, 24
institutions teach an industry specific computer class\(^2\), while only 3 institutions have added a
separate theory class to their supporting curriculum. History classes present an interesting
range. Some institutions require as little as 9 semester hours of history while others require 18
semester hours (20 quarter hours). When history was examined, by study definition, western
civilization, U.S. or state history, art history, and interior design history were all included under
the category/definition of history. Anecdotally, those institutions requiring the most history are
requiring a 2 semester series of western civilization or American history, a 2 semester series of
art history, and a 2 semester series of interior design history. Those institutions requiring less
history include interior design history and/or art history only in their curriculum.

CONCLUSION/FUTURE STUDIES

The study provides a basis for discussion among educators regarding the composition of
interior design curriculum. As programs come under increasing pressure to know their
competitive environment, such knowledge will be an asset to both interior design programs and
individual faculty members. These findings show only minor differences among the means of
total degree hours, however imply large differences in the amount of hours spent in studio
design labs. Further investigation is needed to determine if these differences are a result of
program mission/goals, or are influenced categorically along unit “academic homes”. Future

\(^2\) See definitions in Appendix regarding limitations of computer classes. To meet the definition, the class could not
also teach studio projects, codes, or construction documents, thus eliminating some institutions from this result.
studies might include: detailed reporting of interior design computer class content, detailed reporting about the composition of history within the curriculum framework. Other variables for investigation might also include average student population size of the institution and/or program; portfolio review advancement policies; or minimum major grade point average requirements.

References
(APA Style)


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Changing Landscapes: Learning Environments and the Value of Social Networking Collaboration
Kristin Maki, M.F.A. and Shirley Foster, Ph.D.
University of Alabama

Where learning takes place is as important as how learning takes place. Exploring patterns and relationships that occur outside the design studio environment, this research focuses on the alternative learning environment and how it may provide opportunities for collaboration that creates communities of learning. Social networking theory deals with the interaction and relationship between individuals in a group and between groups (units). The networks represent both a collection of ties between people and the strength of those ties. Studying these networks in an alternative learning environment provides an opportunity to examine the movement of information through a group that utilizes technology and to determine if learning takes place outside the design studio. The design studio provides a project-based learning environment where knowledge is introduced through the basic design problem inherent in the project. Alternative environments such as online software and computer labs, provide open learning opportunities for collaboration within a social network. Taking advantage of social scaffolding and reciprocal teaching, the student has access to a larger base of knowledge. In this way learning becomes collaborative and helps students negotiate problem solving. Taking advantage of these learning environments allows students to effectively create their own knowledge.

Background

Social networking or communication has been observed through time as a means of disseminating information. Groups of like-minded or goal-oriented people have settled continents, built cities, found cures for disease, as well as played regularly recurring games of poker, which involved the exchange of information and thus the gaining of knowledge. The
advent of the computer in 1980 and the subsequent sophisticated growth of software created a new meaning for communication. In thirty years, nothing has affected us to the extent that the computer has in terms of “commerce, communication, and social interaction” (Baumann, 2010). The use of computers in education is a natural outcome of the idea that rapidly moving information can become acquired knowledge. Studies report that multiuser virtual environments (MUVE’s) are used by 96% of students online. Students utilize online sites to talk about school. Sixty percent of students use social networking to talk about education related topics while 50% exchange information about school assignments (McKibben, 2007).

Individuals can become empowered through social networking; the ideas discussed and the “temporary coalitions” formed can lead to critical thinking on a given topic. Outside the design studio in an alternative environment, the social media exchange provides a basis for learning carried beyond the normal venue. “Practices induced by social media, e.g. communication, participation, co-creation, feedback and rating, get more common in daily environments and in urban spaces” (Ahlqvist, 2010). In a computer lab, students can exchange information while they each pursue their own work on a project. This sharing of experience has patterns and creates relationships based on knowledge and skill possessed by individuals and their communication of these in a collaborative environment. Social networking online provides a model for the continued exchange of knowledge outside the design studio.

Methodology

This study is a basic exploration of patterns and relationships as they develop outside the design studio environment. Observational data and interviews will be used to gather evidence over the course of a semester in a senior design studio. Students will respond to questions concerned with their project development, which includes: (1) with whom the students interacted; (2) what behaviors these interactions promoted; and (3) where these interactions
took place. Patterns and relationships will be observed in a group project assigned in the design studio and studied in alternative learning environments such as online collaborative software and the computer lab. The assigned project will require students to choose their groups, work within the confinement of a budget, and pursue LEED certification for their design. Observable variables include: roles and relationships; planning and activity; information gathering; problem analysis and understanding; and concept generation and adoption.

The focus of this research is on understanding how collaboration within the group affects learning outcomes. Different forms of human interactions act as developmental processes both on an individual level and social level. Social network theory provides a structural analysis mapping the relationships of particular actors or “nodes” (Wasserman, 1994). To understand how students interact with one another, certain degrees of measurement can be analyzed showing how the actor “node” as an individual provides connections within the group structure that affect knowledge creation. Working with certain measurements the relationships of the group and how knowledge is brokered between the actors is identified. The group self defines its own units and develop into cliques.

Using the concept of centrality, several measures provide the basic mapping of the group. “Degree centrality” helps us to understand the number of direct connections a node has and how that connection fits into the group structure. “Between centrality” defines a node between two important constituencies. This actor plays a ‘broker’ role in the network. A high score in “between centrality” has greater influence over information exchange in the network. “Closeness centrality” identifies the node or nodes that have direct and indirect ties to all the nodes in the network (Lazer, 2003). They are in an excellent position to monitor the information flow in the network and have the best visibility into what is happening in the network. The relationship between the centralities of all nodes reveals the overall network structure. Viewing
how these linkages are maintained and created, we can understand the distribution of knowledge.

Behavior of the individual network centralities provides insight into the individual's location in the network. The relationship between the centralities of all nodes can reveal information about the overall network structure (Carley, 2003). A centralized network is dominated by one or more central nodes. If these nodes are removed or damaged, the network quickly fragments into unconnected sub-networks. A highly central node can become a single point of failure; if he/she fails, the group fails. A network centralized around a well connected hub can fail abruptly if that hub is disabled or removed. Hubs are nodes with both high degree and high between centrality (Carley, 2003). A less centralized network has no single points of failure. It is resilient in the face of many intentional attacks or random failures -- many nodes or links can fail while allowing the remaining nodes to still reach each other over other network paths. Networks of low centralization fail gracefully.

Conclusions

The demonstration of social networking as a model for collaborative learning outside the design studio provides a cogent way to analyze learning. With the mapping of nodes in a learning environment and the observation of the forming of cliques, the teacher can see how knowledge is brokered from one group to another, where the strength comes from and where the weaknesses are; thus enabling intervention at strategic points to lend strength to design collaboration.

Works Cited


Today’s graduates enter a world where technology allows real-time collaboration resulting in a multi-cultural workplace and world. Design of interior environments increasingly emphasizes cultural sensitivity toward end users in order for spaces to function effectively (Coleman & Sosnowchik, 2006). The Council for Interior Design Accreditation (CIDA) recognizes the importance of cultural literacy requiring interior design programs to teach “globalization and implications of conducting the practice of design within a world market” (CIDA, 2009). Design graduates are expected to “have a global view and weigh design decisions within the parameters of ecological, socio-economic, and cultural contexts” (CIDA, 2009).

This paper presents a strategy using reflection and storytelling as a methodology (Alterio & McDrury, 2003) where personal heritage was investigated as a basis for exploring cultural awareness. The Heritage Studio was conducted during the spring 2008 – 2010 semesters where 45 sophomore level interior design students (15 students per year) produced three sequential design projects: The Heritage Collage (2 weeks), the Heritage Pavilion (3 weeks), and the Heritage Center (10 weeks). According to an anonymous pre-survey, almost half of the class knew little about their heritage prior to starting the projects.

To begin, students gathered information through interviews with family members and written documentation of family history. Students reflected on their heritage as they shared stories through collage. Common themes expressed throughout the process included connection, disconnection, identity, memory, nostalgia, mystery, persecution, struggle, and
triumph. This process revealed similarities and differences between classmates, broadening the student’s sense of self within the context of the class.

Building upon themes from their collage, students designed site-specific installations at a local museum. Designs were expressed through physical and digital (SketchUp) models. This allowed students to express their story using a 3-dimensional design language.

In the final project, the class collectively developed the design criteria for a community Heritage Center. The student-generated program included spaces for research, cooking, sharing of meals, storytelling, lectures, dance, music, and art. Development of an inclusive design language was required.

At the end of the semester an anonymous qualitative survey was conducted to assess lessons learned. Anonymous student comments upon completion of the studio:

“This class has opened my mind to learning about and understanding others different from myself”.  

“This project has made me think about heritage in a different way. I really thought about what binds people together, what things are similar and relatable through different cultures”.  

“I gained appreciation and knowledge of cultures that are inconceivably different from mine”.  

“Learning about others’ heritages has helped me to better understand people, knowing that first impressions should not be the only ones”.  

Overall the projects enhanced students’ understanding of their personal heritage as well as increased their understanding, appreciation and respect for others. The ability to seamlessly work with multiple cultures is a critical skill for success in a global society (A. Fisher, 2009). As the demand for cross-cultural understanding increases, continued efforts must be made to elevate students’ awareness of their own biases and to appreciate differences in others.
References


In the last year, a critical issue to emerge in the academy has been the Master’s of Interior Design (MID). Many interior design educators have argued that in order for undergraduate students to have research experiences, they need a 5-year first professional degree that would culminate in the MID (Guerin, 2007; Kroelinger, 2007; Weigand & Harwood, 2007). While these opinion pieces are important to the profession and graduate education, whether the field of interior design would value this advanced degree has yet to be determined. As noted by a number of architects, designers have “largely ignored” empirical research, and the design studio remains “embedded in the nineteenth-century” that relies very little on research skills (Kieran, 2007, p. 27). Is a disconnect occurring between the academy and interior design practice? The purpose of this study was to survey interior design practitioners to determine their: (a) definitions of research, (b) perceived attitudes and need for research in interior design practice and education, and (c) attitudes toward graduate education. For this investigation, interior design practitioners who are members of the American Society of Interior Designers (ASID) were surveyed online through a primary contact with ASID (N = 13,000; n = 319 response rate). We asked participants to define the term research and evidence-based design in an open-ended format. Practitioner definitions were quite varied. To illustrate, when defining research some practitioners mentioned the term “systematic” (n = 13), while others used terms such as “discovery”, “expands knowledge” or “advances profession or field” (n = 15), however, most likened research to information gathering. The definitions of evidence-based design were also varied and some practitioners were not familiar with this term (n = 29). We
found that the majority of our sample believed that the information found in research journals influenced their design decisions (59%; n = 145). Yet, when practitioners were asked if they read the Journal of Interior Design (JID), 153 said no, 28 said yes, and 28 read it sometimes. Of those who responded, 73 subjects did not know that JID existed. Participants were asked if a graduate degree in Interior Design was considered valuable to their firm and 129 responded no, while 62 subjects responded with a yes. As expected, most practitioners likened research and evidence-based design to information gathering, and thus overwhelmingly responded that they conduct research and engage in evidence-based design. To the practitioner, research truly involves gathering the relevant information for the project at hand. Some who have reviewed the Journal of Interior Design expressed negative reviews. As suggested by one subject, “Boring, boring, boring….I was extremely disappointed to find that due to research methods and documentation, every single exciting and interesting bit of information was only available after sifting your way through boring, boring, boring rationales…” Practitioners also did not respond positively to the MID as the first professional degree and most firms still do not value graduate education. These results suggest that a disconnect may in fact be occurring between practitioners and educators.

References (APA)


The Sustainable Building Initiative (SBI) is a collaborative effort between interior designers and electrical engineers at Virginia Polytechnic Institute and State University (Virginia Tech) funded by the Institute for Critical Technology and Applied Science (ICTAS) and the Center for Power Electronics System (CPES). A unique partnership between divergent fields of expertise has provided opportunity for the SBI team to explore feasibility of innovative methods for sustainable building and design. A ‘living lab’ will be constructed in Whittemore Hall on Virginia Tech campus where designers and electrical engineers can test new approaches for sustainability in building design.

Members of the team worked collaboratively to design a working lab space where sustainable building systems can be implemented and effectiveness, durability, and aesthetic quality of various products and systems can be tested. The space will utilize Cradle to Cradle Certified products to the maximum potential, including: EcoSolution Q carpet tile by Shaw, Limix floor and wall tiles by Tagawa Sangyo, Tierra acoustical ceiling tiles by Armstrong, Caper Chairs by Herman Miller, and lighting fixtures by Litecontrol. Designers will conduct tests to measure the usability and durability of each product installed. LED and fluorescent lighting will be utilized throughout the space, and the impact of sustainable lighting alternatives on user productivity will be assessed.

The project team explored sustainable alternatives for electric power systems and has developed a DC-based renewable energy powered system as a testing bed for future sustainable home electric power systems. The entire lab will have the ability to convert from AC to DC power, and tests will be run to compare effectiveness and efficiencies of the DC system.
with that of the typical AC power system. The testbed will employ several energy sources, including a wind turbine generator, solar panels, lithium-ion battery bank for energy storage, and a plug-in hybrid car with bidirectional energy flow. The electrical system will be integrated with the architectural design and featured as a major element.

Many building products, methods, and systems are being developed and marketed as sustainable alternatives; however, to be implemented in real projects these products must also meet standards of durability, aesthetics, and effectiveness. Through the Sustainable building Initiative (SBI) project at Virginia Tech, designers and engineers are working collectively to put these products and systems to the test, and to explore the practicality of future sustainable solutions for building design.
Juried Round Table

Sustainability in Workplace Design: Balancing Planet, People, and Profit
Travis Hicks, IDEC AIA IIDA LEED®AP
Assistant Professor, UNC Greensboro, Interior Architecture

Round Table Panel:
- Moderator – Travis Hicks, UNC Greensboro Interior Architecture Dept.
- Anna Marshall-Baker, Chair, UNC Greensboro Interior Architecture Dept.
- Gisele Taylor Wells, Program Coordinator, Forsyth Tech Interior Design Program
- Kathryn Brandt, Graduate Student, UNC Greensboro Interior Architecture Dept.
- Emily Walser, Steelcase, Dealer Sales Consultant

Introduction:
In recent years American businesses have made commitments to environmental design initiatives as well as to LEED certification for their projects. As LEED has become more visible, to the point of being mandated in some jurisdictions, businesses have joined the green movement. At the same time, businesses have experienced record lay-offs and financial losses during our current economic crisis. Corporate America has responded to both the financial and environmental demands that this new milieu has presented; however, there is yet another aspect of sustainability that businesses must balance, namely that of the people who inhabit the workplace. Interior designers find themselves front and center in this balancing act, and this panel discussion will bring academics, professionals, and students together for discussion around the questions below.

Questions to be Addressed in Round Table:
- How have LEED and environmental design initiatives been incorporated into the
workplace?

- How has the economy affected workplace design?

- What effect has the economy had on the psychology of the workplace?

- Do sustainable design goals support business objectives? Vice versa?

- How can educators prepare students to understand a business' needs?

- What are some creative solutions for addressing a decreasing workforce through sustainable design practices?

- What do students need to know in order to tackle workplace design problems in sustainable ways?

- What research and analytical techniques can designers use to promote sustainable design in the workplace?

Appendix: Samples of Recent Workplace Designs by Author

O’Brien/Atkins Office Renovation, Research Triangle Park, NC

Images copyright O’Brien/Atkins

Cisco Systems Building 12 Interior Fit-Up, Research Triangle Park, NC

Images copyright O’Brien/Atkins

Research Triangle Park Headquarters Building, Research Triangle Park, NC

Images copyright O’Brien/Atkins
Service learning projects are important learning situations for interior design students (Lee, Medvedev, & Smith, 2010) and CIDA promotes service projects. In late February 2010, an accredited interior design program was contacted by a state senator to propose ideas for a local state park and help save the restaurant identified for closure due to budget shortages. The senator, sponsor of current professional interior design practice legislation, is an important university supporter. The project is important to the program, university, state design professionals, and the state park community.

The importance of the project was presented to the senior hospitality studio including the potential impact on the local park county with 20% unemployment, the contributions to the program and university, and the potential support to the senator. The challenge was to integrate the project mid-semester in addition to a large franchise hotel project. The studio is structured using a design firm format with the students as junior designers and the professor as lead designer. A studio meeting was called to discuss and the group consensus across two sections was to include everyone in the project.

In early March the professor visited the site (45 minutes from campus) and documented the scope of the project to include a skeet shooting lodge and the restaurant. Following a
presentation on the project, all 24 students participated in the selection of job assignments. Each job description was explained and students were given a sheet detailing the number of students required, timeframe, a short description for each job, and space for their selections (Appendix A). Students were asked to self select their top three jobs and select peers with the appropriate talents for all job descriptions based upon previous work together. The process was explained as a method to guarantee project success since students would contribute with their strongest skills. The professor tallied the results counting the nominations and confirming with self selections. Comments were very positive about the opportunity to have one’s skills validated by peer selection. Students worked on the project the remainder of the semester and presented the week after graduation.

The project was presented to the park community support group and park officials. The state park commissioner requested a meeting and work continues to provide finish schedules for flooring, paint, lighting, window tinting, and furniture changes. A final report will include suggestions for short term and future changes.

The 2010 project is a pilot in developing community service opportunities to serve students with targeted skills to meet an important community need and another park was discussed during meetings. Several states have considered changes in state park systems and the public opinion has validated the need for park systems in our changing awareness of the environment. The potential for other interior design programs will be discussed.
State Park Hospitality Service Learning Project Case Study

Service learning opportunities add value, purpose, and direct outcomes for millennial generation students in the interior design studio. This generation wants to make a difference in the life of individuals or a community (Howe & Strauss, 2000). The service learning project has positive outcomes for students, professors, and community partners (Lee et al., 2010). During spring semester, graduating seniors helped to define design decisions for a regional state park as an added service project during senior hospitality design studio.

Background

In February, 2010, a state senator asked the Interior Design program to assist local leaders at a nearby state park. The “Friends of Henry Horton” is a small group of volunteers with contacts who provide time, resources, and support for park needs. At that time, the restaurant was on a list of probable closures with the 2010-11 state budget. We were asked to provide suggestions for short term and long term improvements to generate interest and contribute to sales and publicity. Many people were concerned since the county unemployment rate was over 20%.

In the class, a professional studio environment is used. New information and project updates are shared in a team setting. Since the semester project was in progress, the proposal was discussed and the class of 24 was the project team. As a cohort, they had worked together during six semesters and they led the students the previous semester during a CIDA reaccreditation visit. A method was devised to enable the whole class to assign tasks based upon their peer and personal perceptions.
Process

The professor visited the site, determined the scope, and photographed buildings. A presentation was presented with a list of eleven tasks and the number of people required for each task (Appendix A). Students were instructed to indicate their preferences (first, second) and the peers for each of the tasks. By the end of the senior year, peers will know strengths and weaknesses. Peer selections were counted and compared to personal preferences. In most instances, peer and personal preferences were in agreement.

There were issues with the project due to the timing during the final semester of courses, the travel distance, existing studio commitments, and a regional flood. Some of the groups worked successfully while others did not follow through with commitments. During the last week of classes, design teams worked to produce presentations to hang in the restaurant during the Mother’s Day buffet. A presentation based upon the two design team findings was made to the Friends group on Monday night after graduation. One student was from the area and she became a leader in the presentation work.

Outcomes

As a result of the presentation, the professor was contacted by the State Parks department and a meeting with the lead design group and the regional director and the assistant commissioner was held three weeks later. The group learned that the restaurant was to remain open. As a state park,
the main issue is that the look had not been updated since expansion in the 1970s and subsequent replacements were not coordinated. Students made suggestions around themes of sustainability, low maintenance, and economic solutions to inherent design problems. The recommendations addressed the lighting, wall colors, flooring, dining chairs, window treatments and lobby seating. The park is known for natural plantings but the existing window treatments obscured the view and created a blue cast to the environment. During our discussion on the drapery, the assistant commissioner began to physically take down treatments. The students witnessed how a positive design suggestion made an immediate impression.

Another meeting with the lead student produced a finish schedule and selections for a final board. Follow up work continues and plans include a special study with current seniors to develop a program and recommendations for the offices and public restrooms. A three year plan including furnishings and finishes is under consideration. Additional outcomes included publicity with the local paper and university coverage.

Discussion

Although the opportunity was challenging for students, the outcomes were significant for the whole group, the interior design program, the park, and the community. Millennial generation students enjoy hands-on studio experiences (Sickler & Pable, 2009). The opportunity to participate in a real world project is important in the senior experience.
Although there were limitations to the experiential-learning case study, the service component was rewarded by substituting points for two tests since not all of the team members were directly involved in studio work. The project was a foundation for future collaborations with the state parks system to positively impact the students, the community, the university, and the state (Jacoby, 2003; Maurrasse, 2001).

References


Appendix A: Job Description and Example of Ballot

Job Descriptions to Students Used to Determine Teams

<table>
<thead>
<tr>
<th>Job Description</th>
<th>Need #</th>
<th>Team</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research: Importance of Parks/Justification</td>
<td>2</td>
<td>A</td>
<td>March 30</td>
</tr>
<tr>
<td>Measure and Check Plans: Skeet Lodge</td>
<td>2</td>
<td>B</td>
<td>March 30</td>
</tr>
<tr>
<td>Measure and Check Plans: Restaurant</td>
<td>2</td>
<td>C</td>
<td>March 30</td>
</tr>
<tr>
<td>CAD Team Support from Measurement Teams</td>
<td>2</td>
<td>D</td>
<td>March 30</td>
</tr>
<tr>
<td>Research Skeet Lodge: Local Sources</td>
<td>2</td>
<td>E</td>
<td>April 2</td>
</tr>
<tr>
<td>Design Solution: Skeet Lodge</td>
<td>2</td>
<td>F</td>
<td>April 9/May 1</td>
</tr>
<tr>
<td>Research Restaurant: Inventory and Sources</td>
<td>2</td>
<td>G</td>
<td>April 9</td>
</tr>
<tr>
<td>Design Solution One: Restaurant</td>
<td>3</td>
<td>H</td>
<td>May 1</td>
</tr>
<tr>
<td>Design Solution Two: Restaurant</td>
<td>3</td>
<td>I</td>
<td>May 1</td>
</tr>
<tr>
<td>Presentation Team</td>
<td>2</td>
<td>J</td>
<td>Week of May 3</td>
</tr>
<tr>
<td>Project Management: Team Coordination</td>
<td>2</td>
<td>K</td>
<td>March - May</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Job Description</th>
<th>#</th>
<th>Team</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research: Importance of Parks and Justification for work and suggestions (This will require delicate perspective and strong writing skills)</td>
<td>2</td>
<td>A</td>
<td>March 30</td>
</tr>
<tr>
<td>Documentation: Measurement and Check Plans: Skeet Lodge Main Area (One person responsible to both and CAD)</td>
<td>2</td>
<td>B</td>
<td>March 30</td>
</tr>
<tr>
<td>Documentation: Measurement and Check Plans: Restaurant (One person responsible to both and CAD)</td>
<td>2</td>
<td>C</td>
<td>March 30</td>
</tr>
<tr>
<td>CAD Team</td>
<td>2</td>
<td>D</td>
<td>March 30</td>
</tr>
<tr>
<td>One on Skeet and One on Restaurant* with support from research team</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Research Skeet Lodge:
Local vendors* and Lighting  
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th>April 2</th>
</tr>
</thead>
</table>
Design Solution Skeet Lodge
Lighting/Ventilation/Furniture*/Accessories  
|   | F |   | April 9/May 1 |
Research Restaurant: Use and Inventory  
|   | G |   | April 9 |
Design Solution One Restaurant  
|   | H |   | May 1 |
Design Solution Two Restaurant  
|   | I |   | May 1 |
Presentation (All but lead on coordination/communication)  
|   | J |   | Week of May 3 |
Project Management (All but lead on coordination/communication)  
|   | K |   | March - May |

Example of Ballot

<table>
<thead>
<tr>
<th></th>
<th>Teams (1, 2, 3)</th>
<th>Recommendations on Classmates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Your Preferences</td>
<td></td>
</tr>
</tbody>
</table>
Student Names in rows
Rows 2-25
This paper reflects on a faculty-led study abroad program to India administered by the authors and its impact on student learning. Study abroad trips are fertile ground for experiential learning. Today most colleges and universities have a renewed emphasis on globalization with programs that help students explore cultures, life experiences, and worldviews different from their own (Association of American Colleges and Universities, 2007). Council for Interior Design Accreditation stipulates that entry-level interior designers should have a global view and weigh design decisions within the parameters of ecological, socio-economic, and cultural contexts (CIDA, 2009). Amongst the study abroad offerings, short faculty-led programs have been rapidly gaining popularity as they appeal to students not wanting to spend an entire semester abroad due to financial or personal reasons. Mckeown (2009, p.8) found in his research, that intense cultural experiences even during a short study abroad program, can result in significant cognitive change and growth in the participants. However, the U.S. Department of Education states that most programs are Euro-centric in nature (U.S. Department of Education, 2005) recommending the need for schools to offer more non-western experiences in an increasingly global world.

For the study abroad program to India, the students enrolled in a semester-long course and the trip took place over two weeks. McCarthy’s 4Mat system with Nussbaumer’s modifications reflects the theoretical framework of the course going through the four stages of experiential education – experiencing, reflecting, thinking and acting. (Nussbaumer, 2001) (See Figure 1).

The four phases were developed as follows:
a. Concrete experience: The students visited significant architectural sites located within and around major cities of New Delhi, Agra, Jaipur and Jodhpur in India. The trip culminated with a visit to a design school and a professional design firm in New Delhi (See Figure 2).

b. Reflective Observation: During the trip, the students maintained their sketchbooks, journals and blogs to record and reflect. After returning, they went through a reflective process in summing up their cultural and architectural experiences (See Figure 3).

c. Abstract Conceptualization: The students selected, explored, analyzed and synthesized a research project in a chosen topic.

d. Active Experimentation: The students designed and installed an exhibit to share their experiences in India (See Figure 4). During this exhibit, the students also raised funds to sponsor educational materials for children in an entire village in India. The funds were donated to a non-profit organization that works to provide quality education to underprivileged children in India. This was consistent with the National Survey of Student Engagement (2007), which found that students are more likely to engage in purposeful activities upon returning to their home campus after a study abroad trip.

The student learning outcomes in this course could not have been achieved in a classroom setting alone. Reflection sessions during and after the trip with the students led to insightful findings for the faculty. The results demonstrate internalization of learning which would be of relevance to instructors who want to conduct similar short-term study abroad trips.
References


Appendix: Internationalizing learning: Reflections on a faculty-led sojourn abroad

Figure 1. Experiential learning model for the study abroad program based on McCarthy’s 4Mat system.
Figure 2. Select photos from travel to India

Figure 3. Sketches from student journals
Figure 4. Mega posters showing student research projects in the exhibit. Each student was asked to select a topic of interest based on Indian architecture. The topics ranged from fort architecture to temple architecture to Hindu to Islamic to contemporary architecture in India.
The Lakeside Sustainable Design Charette was conceived as a way to bring about campus awareness of the interior design profession and environmental sustainability through LEED, and to address 2009 Council for Interior Design Accreditation Standard 5, Collaboration, which has a program expectation of “interaction with multiple disciplines representing a variety of points of view and perspectives.” (CIDA, 2009, p.14)

In the summer of 2009, meetings were held with the Office of Campus Sustainability (housed in the university’s physical plant office) to select a highly visible site that would provide an opportunity for interior design students to work collaboratively with students from other university programs.

The existing Lakeside Café, a centrally-located student dining facility, was selected as the ideal site, and preliminary program parameters were established through meetings with the clients (Auxiliary Services, Dining Services, and facility management). The facility was built in 1983 and had never been refurbished in any way. In addition to aesthetic and energy concerns, the facility needed reconsideration to meet a significant increase in student enrollment and accessibility concerns.
Meetings with Interior Design, Graphic Design and Hotel and Restaurant Management faculty provided the opportunity to refine the program (Appendix A) that would be provided to students at the beginning of the weekend-long charrette, which lasted from 9:00am on Friday morning until 4:00pm on Sunday. A total of 68 juniors and seniors from the three programs participated. In preparation for the charrette, all participating interior design students made presentations in their own words on different LEED credits, using real world examples to illustrate how the intent of the USGBC can be meaningfully realized in design solutions.

Judges for the event included the clients, faculty, physical plant design and architecture staff, LEED-accredited professionals from the community, and sustainability consultants from the university and its energy provider. Judges used a form (Appendix B) with a numerical rating scale to evaluate each of the ten teams in five categories (Sustainability, Viability, Creativity, Teamwork, and Overall Design).

Verbal presentations included PowerPoint visuals, and traditional presentation boards and drawings (Appendices C and D).

The four teams with the highest average scores were selected to present refined drawings two weeks later to the same judges, along with the vice president for finance of the university, who together selected the winning team.

In addition to a monetary reward, the winning team received recognition on campus in print and online resources. In media interviews, students were able to meaningfully communicate the
challenges and opportunities interior design professionals face in protecting and enhancing the health, life safety and welfare of the public.

In student evaluations of the charrette itself, interior design students expressed overall satisfaction with the experience of working directly with students from other programs, and incorporating diverse world views into design solutions.

References

This paper explores a service project called the “Normal Park Makeover” offered to Interior Design students. The project encouraged students to become socially responsible, engaged learners. It mobilized the community to renovate a local elementary school with a seventy-eight year old building and a very small budget. Interior design students were linked with allied professionals and end users to create engaged teams that ensured the school had the high quality educational environment necessary for success. The old proverb that “it takes a village to raise a child” rang clear as the project showed that the whole community has a role to play in the growth and development of its young people.

Service learning has grown in popularity over the past decade because it seems ideally suited to meet student’s personal and academic goals and the broader academic goals of civic engagement and social justice of universities and communities (Eyler, 2002). Honnet and Poulsen (1989) summarized the wisdom of practitioners stating, “service, when combined with learning, adds value to each and transforms both”. Enos & Troppe (2000) found that students who experience service learning learn to question issues of knowledge as to whom it is for and what it can do for a person. They found that service learning tended to empower students to look at the bigger picture as well as consider the applications of their knowledge. Altbach explains that
universities since their medieval beginnings have been “imbued with a sense of responsibility for the public good” (Altbach, 2001). But in the decades, Boyer (1996) sees a “lack of connectedness” in education and a failure to prepare students for life-long learning and participation. The purpose of this project was to create a linking of head and heart that cannot be attained in a classroom setting.

Teams consisted of a designer, contractor, parent, student, and teacher were assigned a public space or classroom to renovate. All teams were encouraged to incorporate sustainable elements. Within a two month allotment, designers created conceptual design plans based on a needs assessment of teachers, parents, and students and solicited needed funding and resources including furniture, accessories, and building materials. Once completed, the design renovation and installation of every room within the building continued around the clock for one full week. All efforts culminated in a grand unveiling and open house covered by local television and newspaper.

The renovation provided students with an environment to enhance the understanding of interior design academics and link otherwise static intellectual material with professional practice, thereby eradicating the concern of lack of connectedness in higher education addressed by Boyer (Boyer, 1996). Students learned how to design in a working environment that involved critical thinking as well as collaboration, finally understanding how one field reinforces the other and that no one is more important than the other. They developed leadership skills, “learning to be effective while learning what to be effective about” (Stanton, 1990). The experience proved that
“service, combined with learning, adds value to each and transforms both” (Honnet & Poulsen, 1989). It awakened student curiosity, connected community, and made learning come alive.

References


The role of sustainability to society is increasing due to the detrimental effects of increased natural resource consumption, fossil fuel dependency, climate change, and population growth. For too long, the healthcare sector of interior design has overlooked these trends. To illustrate, healthcare facilities are one of the largest waste producers in the United States. This waste stream can include syringes, human tissue and organs, pharmaceuticals, mercury, latex gloves, and radioactive waste (Pierce & Jameton, 2004). Hospitals in particular are the second largest consumer of energy due to their intense needs for heating, cooling, and air filtering and are consistently one of the top 10 users of water in a given community (Pierce & Jameton, 2004). When examining the Hippocratic Oath, one crucial tenement of the healthcare industry is to “first do no harm.” Yet as illustrated above, the healthcare industry and its buildings are major contributors to poor indoor air quality, environmental toxins, and medical waste that contribute to increases in asthma, heat stroke, and cancer (Pierce & Jameton, 2004). This poses a grave ethical dilemma and charges designers and others involved in healthcare to consider that a sick planet cannot help in the healing process. Unfortunately, these statistics may not improve in the near future due to the upcoming changes in our population. At this point in time, healthcare spending in the United States surpasses all developed countries at 13% of the GDP (Pierce & Jameton, 2004) and is expected to rise due to longer life expectancies which will result in a building boom (Administration on Aging [AOA], 2003). Sustainable issues are also of concern to those who are older since this portion of our population is at greater risk for both acute and
long-term care stays. Achieving green design in healthcare facilities for older individuals is difficult due to issues related to infection control, durability, and maintenance along with the challenges in creating homelike environments. As a result, many older individuals do not want to leave their home, and 86% want to age in place and remain independent. Unfortunately, many seniors will need to leave conventional housing and move to long-term care due to mental and/or physical health problems. In response to this need, assisted living facilities (ALFs) have dominated new construction for seniors due to their advertised residential appeal (Cutchin, Owen, & Chang, 2003). The major goal of assisted living is to create a supportive social setting that residents can call home. Although assisted living is the fastest growing long-term care alternative (Cutchin et al., 2003), Schwarz (1999) and Imamoglu (2007) suggest that residents may not feel at home in these facilities despite efforts to create a homelike ambience. The purpose of this poster session is to present undergraduate student solutions for the design of a sustainable ALF for older individuals with dementia. In particular, students created smaller-scaled, homelike facilities that took advantage of the restorative properties of nature despite the functional challenges posed by this healthcare building archetype.

References (APA)


and nursing homes. *Environment and Behavior, 39*(2), 246-268


This poster represents a reexamination of the conventional housing model found in suburban America and the implications that a new housing model could have on residential interior design.

Background:

The single-family residence most commonly found in American suburbs is based on a model of density and land-use considered unsustainable by many. Zoning laws which segregate land uses make the automobile a virtual necessity for completing any task in the suburbs, thus increasing carbon emissions and greenhouse gases. As a challenge to conventional zoning, this work explores an alternative model of density that promotes community land preservation, community gardening and agriculture, and higher-density residential development. Within this new developmental framework come new implications on interior design, such as visual and acoustical privacy and separation, opportunities for new types of communal spaces, centralized energy and water conservation solutions, and sustainable finishes that reflect the progressive nature of such a development.
Aims:

The primary aim of this conceptual project is to explore the relationships between land development, zoning, and interior design. Emphasizing conservation, agricultural cultivation, and communal dwelling, this work suggests a sustainable, energy-efficient paradigm for living.

Method:

Beginning with the dimensions of a typical suburban lot, the lot was reconsidered, recombined with additional lots, and redesigned to arrive at a multi-family development that suggests new opportunities for interior design.

Conclusions:

Interior design is critical to re-thinking any notion of residential zoning and development. With new paradigms of development come new interior design problems. Interior designers should be trained to collaborate with developers, planners, architects, and landscape architects in solving these sustainable design problems creatively.

The insurgence of sustainability and “green” buildings has assured the need for students to understand the principles and theories of sustainability. We as educators are responsible for sorting through and identifying what issues our future interior designers need to understand and how they affect the sustainability of our planet, including today’s critical and interrelated environmental, economic, and social climates.

This presentation shows how a culturally specific design project can foster in-depth application of USGBC’s LEED for Commercial Interiors rating system and increase understanding of the triple bottom line while recognizing and strengthening the social connections and contributions that green building brings to society as whole.

The project involved teams of students from the Sustainable Interior Design Practices course working in collaboration with the Seminole Tribe of Florida to propose designs that modernize a cooking chickee (chickee is the Seminole word for house) and thus, help preserve a significant aspect of the Seminole culture through sustainable design.
Using the Principles of Sustainable Design outlined in Environmentally Responsible Design by Louise Jones: Respect for the Wisdom of Natural Systems, Respect for People, Respect for Place, Respect for the Cycle of Life, Respect for Energy and Natural Resources, and Respect for Process, each team’s design proposal reflected elements of the Seminole culture and its context in South Florida. Students studied and used patchwork, artifacts, and tribal dances to frame their design explorations and to inform their application of sustainable building practices. As a result, the designs afforded for tribal practices, identity, and culture as well as sustainable cooking, living, and building.

A significant outcome of engaging the Seminole community with the Sustainable Interior Design Practices course was a comprehensive learning experience that developed student knowledge and ability to apply sustainable design practices, while at the same time, cultivated students’ value system in a manner that seeks to explore how design can support and empower communities and help preserve unique cultures.

The entire project from research and data collection to concluding design presentations are presented as a case study that provides interior design educators with an instructional technique that can improve students’ appreciation of Florida’s native culture and of green building practices while empowering the Seminole community through the application of sustainable design for future building on their reservations.
The practice of sustainable design has led to an increase in energy conserving system technologies in building design and construction through application of Leadership in Energy and Environmental Design (LEED) certification criteria. Requirements to reduce energy consumption to meet energy and atmosphere criteria, as well as the needs of building occupants, are largely satisfied through the use of energy-efficient technologies in building mechanical systems, lighting, and equipment. The benefits of incorporating current and emerging technologies into building design include significant reductions in energy use compared to conventional systems. The tradeoffs for incorporating these technologies however, are high up-front project costs and substantial energy investment in technological production and manufacturing. The visual impact of the technological approach to design can also lead to buildings that are qualitatively generic and lacking in connection to people and place.

Vernacular architecture serves as a valuable source of accumulated knowledge and grassroots technology that optimize building energy performance with minimal environmental impact. Passive design characteristics of vernacular architecture incorporate regional site conditions and work with nature to ventilate and illuminate interior spaces. Building ratios, site orientations, and materials of vernacular structures also contribute to the reduced solar loads and limit the need for mechanical conditioning of building interiors. Applied in conjunction with LEED certification criteria and building commissioning, the vernacular approach increases energy efficiency in green building design and establishes a connection to place that the technological approach alone cannot provide.
The following design proposal for a LEED-Gold commercial office building in Northern Florida incorporates vernacular architectural characteristics of Florida cracker architecture (Figure 1). Passive design strategies native to Florida’s northern region such as elevated structures, thermal chimney effect, and cross-ventilation techniques are explored for their energy-efficient characteristics and applicability to contemporary green building design (Figure 2). Elements of the vernacular approach as well as current and emerging building technologies that are compatible with passive design strategies of the region are incorporated into the design of the commercial office building located in Tallahassee, Florida.

The resulting green building design proposal incorporates the accumulated knowledge of place and climate present in the vernacular architectural predecessors with technology-enhanced building products to meet the interior thermal and lighting expectations of present-day building occupants. The purpose of this presentation is to initiate discussion on the use of passive design for minimizing energy consumption in green buildings and application of LEED certification criteria in a way that is responsive to regional climatic conditions and cultural contexts.
Appendix

*Figure 1.* LEED-gold commercial office building design proposal: South perspective.

*Figure 2.* Sustainable design characteristics of cracker architecture. This figure depicts a traditional cracker building in Northern Florida and associated design characteristics in the vernacular style that contribute to reductions in energy consumption from building use.
Juried Creative Scholarship

Number of submissions reviewed: 39 abstracts for paper presentations, teaching forums, round table discussions and poster presentations.

Accepted:

10 Paper Presentations
4 Teaching Forum Presentations
1 Round Table Discussion
4 Poster Presentations
7 Creative Scholarship Presentations