The Applications of Proxemics and Territoriality in Designing Efficient Layouts for Interior Design Studios and a Prototype Design Studio.

A graduate project submitted in partial fulfillment of the requirements
For the degree of Master of Science in
Family and Consumer Science.

By
Sharon Thompson

December 2012
The Graduate Project of Sharon Thompson is approved:

_________________________________________  __________________________
Conner, Robert D., PhD                      Date

_________________________________________  __________________________
Kohn, Rodica R., M Arch, MFA                Date

_________________________________________  __________________________
Thakur, Anubhuti, PhD, Chair                Date

California State University, Northridge
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Abstract

The Applications of Proxemics and Territoriality in Designing Efficient Layouts for Interior Design Studios and a Prototype Design Studio.

By

Sharon Thompson

Masters of Science in Family and Consumer Science

The purpose of this project was to understand and examine the importance of designing successful spatial layouts and furniture arrangements that will enhance the learning experiences and social interactions among interior design students. Territoriality and proxemics were chosen as the main criterions for the development and design of an interior design studio. Identifying and understanding these selected concepts of environmental psychology helped us further explore the importance of these applications in effectively creating a designed prototype studio for interior design students. Consolidation of all relevant literature was used as a reference for design professionals and educators to improve studio layouts and social interactions among students.

Keywords: territoriality, proxemics, design studios, environmental psychology, spatial layouts.
Chapter One

Introduction

When creating design studios, designers should incorporate certain behavioral elements of environmental psychology such as adding adequate personal, privacy, and territorial zones to create a more functional interpersonal layout for students in their designs. Spatial layout decisions can have a profound impact on the way students perceive and use their built environment. According to Demirbas & Demirkan (2000), the primary space in design education which is used both for learning and social organization is in the design studio. Important spatial issues that affect the physical environment and negatively impact learning are lack of personal space, poor spatial configurations, crowding, uncomfortable furniture, bad or inadequate lighting, wall color, and lack of windows resulting in no natural light or views (Bitner, 1992). The result of a poor spatial layout will affect a student’s productivity and performance during classroom time (Earthman & Lemasters, 1996).

According to McCorskey & McVetta (1978), “An arrangement that is disagreeable to the student may erect a needless barrier, possibly one that will prevent learning in spite of other appropriate behaviors p.104.” Incorporating behavioral elements of environmental psychology in designing a layout can influence mood, emotions, behavior, and learning capabilities toward enhancing productivity in students. It is essential that planners and designers create environmental features that both elicit pleasurable responses and fulfill functional requirements (Steinitz, 1968). The physical structure of a learning environment includes the arrangement of space, materials, and
furniture that is vital to its effectiveness and the amount of learning that takes place (Mc Andrew, 1993).

**Purpose of Study**

The purpose of this project was to identify selected design concepts of environmental psychology such as proxemics and territoriality that can contribute to the overall functioning and design layout of an interior design studio. The goal is to implement the findings from an extensive review of literature in creating a prototype for an interior design studio.

**Justification of Study**

“The design of settings for learning can have a direct impact on motivation, concentration, and performance by affecting comfort, control, attention, access, and enjoyment” (Scott-Webber, Marini, & Abraham, 2000, p.18). A student’s environmental perception of their space will influence their social and behavioral interactions. Based on the literature review, important levels of social interactions that should be addressed when designing studio layouts are privacy, territoriality, proxemics, and crowding because each level can determine the success or failure of a spatial layout. Research suggests that the built environment has an effect on the occupants of a space (Altman, 1970); therefore it becomes especially important to understand how best to design an environment for students in school classrooms (Earthman & Lemasters, 1996).

Each student should have the appropriate space to function mentally, emotionally, and physically. According to Scott (1993), designers and researchers are becoming increasingly aware that people’s attitudes, behaviors, and well-being are influenced by the aesthetic quality of their environment. Even though some researchers suggested that
there are many variables like home environments, natural surroundings, and student activities which affect a student’s performance, one important factor is that a part of the performance can be controlled by educators and design professionals. (Earthman & Lemasters, 1996).

This project explored the importance of using environmental psychology and the applications of territoriality and proxemics to create an effective design studio for interior design students and to consolidate all relevant literature in creating a prototype as a reference for design professionals and educators to improve design studio layouts for interior design students.

**Scope of Project**

The project was driven by the desire to address the many factors influencing the design of classrooms, studios, resource libraries, and other learning spaces in educational settings for interior design students. The goal was to create a prototype of a design studio using selected concepts of environmental psychology that would accommodate interior design students in positively scaffolding their behavior and learning experience. The design of the space includes a new floor plan and 3D renderings of studios and resource library. Selection of materials such as textiles, furniture, images of artwork, hardware, flooring, wall coverings, cabinetry, and accessories will be presented. Finally, the designed prototype will be evaluated for its alignment with the literature review.
Definitions

Accessibility: A building or space that can be approached, entered, and used by persons with disabilities (Harmon & Kennon, 2001).

Construction Documents: A complete set of drawings that include floor plans, notes, schedules, legends, and any required details, as well as written specifications and any other code required information needed to convey what is being built (Harmon & Kennon, 2001).

Effect: result entirely to a single cause because social and biological factors also contribute to that effect (Evans, 2004).

Environmental Dimensions: Environmental dimensions found in physical surroundings include all of the physical factors that can be designed to enhance the user’s spatial requirements (Bitner, 1992).

Environmental Perception: People’s interpretation of the world around them as influenced by their experiences and sensations (Kopec, 2006).

Environmental Psychology: Is the study of symbolic relationships between humans and their environment (Kopec, 2006).

Personal Control: The ability of a person to control his or her environment or situation (Kopec, 2006).

Physical Barrier: indicator of territorial control that is intended to deter or prevent territorial infringement; physical barriers include locks, fences, high walls, road closures, and other barricades (Kopec, 2006).
Primary Spaces: Common areas in territories such as residences and workplaces where communication and social interaction take place (e.g., living rooms and conference rooms) (Kopec, 2006).

Primary Territory: Space, generally owned by an individual or primary group and closed to outsiders, that is controlled on a relatively permanent basis and is of high psychological importance to the occupants (e.g., family residence or business establishments) (Kopec, 2006).

Programming: The research phase of the design (Nielson & Taylor, 2002).

Proxemics: The term “proxemics” was coined by researcher Edward Hall during the 1950’s and 1960’s and has to do with the study of our use of space and how various differences in that use can make us feel more relaxed or anxious (Sheppard, 1996).

Proximal Zones: can be defined to optimize experiences resulting from interactions (Lawrence, 1998).

Secondary Territory: Space of moderate significance to the occupants; psychological control is likely to change, rotate, or be shared with others (e.g., workspace or favorite eatery) (Kopec, 2006).

Space: A definable area such as a room, corridor, entrance, or alcove (Harmon & Kennon, 2001).

Spaciousness: is related not only to the directly perceived size of the interior space but also to the psychologically perceived openness in the space (Scott, 1993).

Spatial configuration: The design and configuration of various elements of the interior space constitutes its spatial configuration. This includes placement of structural, furniture and decorative elements and their design in terms of form and scale. Level changes,
ceiling heights, division of spaces, etc. which define spaces within a single large space are major factors that contribute to the definition of spatial characteristics of an interior (Scott, 1993).

**Specifications:** written information that is part of or an addition to construction drawings that logically communicate the requirements of the construction and installation (Nielson & Taylor, 2002).

**Territoriality:** Territoriality is a behavioral mechanism that individuals utilize to establish and regulate social contact through territorial markers (Altman & Chemers, 1980).
Chapter 2

Review of literature

The literature review for the graduate project will focus on using proxemics and territoriality designing spatial and furniture layouts for interior design studios. Each theory will be explored in detail using concepts of environmental psychology and design guidelines as a base for identifying certain student behaviors and interactions as they are affected by the classroom design and layout. The discussion will focus on defining territoriality and proxemics, analysis of proxemics in interior spaces, relationships between human behavior using proxemics in designed environments, the levels of human needs in the application of proxemics, furniture layout, human behavior and territoriality, application of territoriality in planning design layouts, and classroom seating arrangements and preferences with the application of territoriality.

Proxemics and Territoriality

Proximity can be defined as a spatial location based on different set distances within a physical environment that connect social interactions of its users (Igarashi, Stade, & Vriens, 2010). Edward T. Hall coined the word proxemics in the 1950’s to introduce his interest in man’s physical and personal interaction within public spaces (Sheppard, 1996). Hall identified four interpersonal zones that demonstrated each interaction that normally takes place in a social environment. These four spaces were categorized as intimate space, personal space, social space, and public space.

Intimate space is the immediate area surrounding our bodies and the most intimate and private that involves both physical and emotional interactions. Personal space allows for interaction with selected friends and co-workers were conversations are mandatory.
Within a social space individuals make temporary social contact within an area and public space is an area were an individual do not have direct contact with others (Hall, 1966).

![Diagram of social space and public space]

*Figure 2.1 Personal reaction bubble, (Hall, 1966).*

In interior design, privacy and personal space factors are important when designing layouts because each student needs enough space to perform various tasks and move about without the space feeling physically limited or too crowded. “The control of interpersonal boundaries abets individuals into developing a sense of competence and therefore regulates their social contact with others within a physical environment” (Sommer, 2002, p.859). The use of territorial applications in design give exclusive control of individual areas allowing security, personalization, and the ability to communicate identity and presence supported by zoning arrangements (Cheung, 1997). Therefore, “the physical aspect of a setting, such as furniture arrangement, the shape or size of the room, and the allocation of spaces within the room, can influence its defensibility and how we orient ourselves within a giving space” (Gifford, 2002, p. 860).

In a library setting, students that prefer to use carrels as opposed to a table are more defensive about their space than if they were just using a table (Taylor & Brooks,
Individual characteristics in territorial behaviors can also differ from gender to personality, females and males differ from the way they perceive, personalize, and defend their spaces. Males tend to be more territorial than females and have a more nonsharing behavior than females (Kaya & Weber, 2003; Mercer & Benjamin, 1980). The proper application of territoriality and proxemics will contribute to designing more functional layouts for design studios. Each application will enhance interactions among users and promote control of interpersonal boundaries and give each student the competence to socially interact in their physical environment (Altman & Chemers, 1980).

**Analysis of Proxemics Zones in Interior Spaces**

The primary role of proxemics is to maintain social order and the lack of proxemics can lead to discomfort and conflict (Igarashi, Stade, & Vriens, 2010). Design professionals have been aware of the importance of considering proxemics when designing indoor and outdoor spaces because of the proven effect it has on behavioral and social interactions. “The need for physical privacy and private space is inherent to all human beings” (Igarashi, Stade, & Vriens, 2010 p. 1). Understanding Hall’s (1966) interpersonal distance zones when designing can be an essential tool to guide designers in creating functional and productive design studios that enhance productivity.

Hall (1966), interpersonal distance zones included, 1) Intimacy (0-18”), is kept by two or more people who share a strong bond (e.g., lovers, close friends, and family members), 2) Personal (18”-4”), is used by casual friends or people with close social contacts (e.g., friendly acquaintances, same department coworkers, and members of clubs or like organizations), 3) Social (4’- 12’), is maintained by people who know one another but not really know one another and who come together for a common purpose (e.g.,
friends of friends, casual acquaintances, and fellow employees from other departments) and 4), Public (12’-25’), is used by people whose only association is being in the same place at the same time. In public situations keeping as much space as possible between ourselves and strangers around us is preferred. When this distance is violated we often start to feel crowded, for example many people waiting for a train on the same platform (Kopec, 2006).

**Relationships between Human Behavior and Using Proxemics in Design**

It is important for designers to become familiar with scientific theoretical models primarily from environmental psychology to understand how people behave in built spaces, and in this case, general purpose classrooms at higher education facilities (Scott & Webber, 1997). Recognizing the interaction between the user and their environment becomes especially important in order to understand how to best design a classroom environment for faculty and students. The interior design of each lab, studio, and classroom should reflect not only appropriate aesthetics but the appropriate application of proxemics when arranging furniture and designing spatial layouts for each student to optimize their interactions (Igarashi, Stade, & Vriens, 2010).

The relationship between students’ interpersonal distance and spatial preferences vary from different personality types, cultural differences, and social norms. Therefore, each space should be designed to accommodate these variables (Igarashi, Stade, & Vriens, 2010). “The design of settings for learning can have a direct impact on motivation, concentration, and performance by affecting comfort, control, attention, access, and enjoyment” (Miller, 1994, p.11).
Furniture Layouts

When designing a studio for a student, designers should keep in mind the most appropriate spatial configurations and interpersonal zones that will accommodate all students. Configuring the classroom’s layout in a double U shaped arrangement is best for both student to student and teacher to student interactions according to McCorskey & Scott, (1978). An example of the U shaped and traditional arrangement as shown in figure 2.2.

The traditional classroom configuration has limited interaction between students and teacher, this arrangement completely restricts student to student interactions because the configuration is focused only on the teacher (McCorskey & McVetta, 1978). With the U shaped arrangement, depending on the total size of the space, designers can position each desk according to Hall’s social distance zones. For instance, each desk can be positioned about 18”-4’ apart from one another to allow appropriate personal and social interactions but enough space for privacy and territoriality (Igarashi, Stade, & Vriens, 2010). Therefore, the U-shaped configuration is the best layout for planning a design studio because it offers students a sense of community and promotes social interactions.
Territoriality and Classroom Seating Arrangement Preferences and layouts

Classroom spatial arrangements with well-defined areas can have a positive influence on students’ social interaction and on task behaviors (Budge, 2000; Hofkins, 1994; Moore, 1986). Kaya & Burgess (2007) conducted a study on seat preferences in different types of classroom arrangements and found that students’ preferences in seating not only differed by gender but by different arrangements of tables and chairs. Further results stated that most female students had higher scores on claiming particular seats than males regardless of seating arrangement. Students who preferred sitting at the end of tables had higher scores on claiming seats than those students who took middle seats. Students who sat at the end of the row had a higher need to define their territory than those seated elsewhere (Kaya & Burgess, 2007).

Territoriality is a behavioral mechanism that students utilize when choosing seat preferences (Brown, 1987 p. 860). “Territoriality involves marking, personalization, control, and defense of physical space where the user’s presence is supported and confirmed by its physical arrangement”. This type of behavior is used to establish and regulate social contact through territorial markers such as the placement of one’s belongings (Gifford & Sommer, 2002). When students have the opportunity to create and control their own individual areas it gives them a sense of place, confidence, and identity (Kaya & Burgess (2007). With the appropriate spatial planning and furniture layout applications designers can create the comfort needed for students to succeed in a studio setting.
Chapter 3

The Design Concept

The proposed design includes two interior design studios and a resource library located in the department of Family and Consumer Science at California State University, Northridge. The design’s priority was to incorporate principles of proxemics and territoriality in the spatial layouts and furniture arrangements to address students’ social and academic interactions within a design studio setting. The design process included four steps.

1. Programming
2. Building Codes/ADA Regulations
3. Material Selections
4. Furniture Design and Spatial Layout

Existing Design vs. New Design

Territoriality and proxemics was used as tools in creating spaces where communication take place (Englich & Remmers, 1997). The redesign of the studios provides a better learning environment that offers a more efficient floor plan circulation than the current studio design. It allows students to have their own space per semester that will house a drafting table, storage for personal items, laptop, and a place to house materials, and allow students registered to have a key of their own to lock up units. Having this security feature will increase students’ comfort in knowing that there work or personal belongings will be safe and secured throughout the semester. With the new studio, design students will pick a station for the semester and be locked into that work station until the end of the term. The current studio operations have no set station with
any student key entry which have left students vulnerable to theft and privacy invasion of belongings and design work. The existing configuration and furniture arrangements of the current design studios feels cold, uncomfortable, and lack interactive connections between student and instructors. Reconfiguring the space to a double U-shaped configuration and furniture layout will promote social interactions among students and faculty.

**Programming**

Programming is the research phase of the design process (Nielsen & Taylor, 2002). The new design offers two studios accommodating 24 students each and has been designed with specified applications concluded from the literature review. The goal of the project is to create a functional spatial layout and furniture arrangements by implementing the applications of territoriality and proxemics that will enhance the use of interpersonal and spatial relations amongst students. The design focuses on creating functional work stations and a resource library for studying and interactive connections. The finished design provides each student with their own exclusive work zone that will evoke territorial control and encourage personalization.

Territoriality and proxemics were used as tools in creating spaces where communication take place (Englich & Remmers, 1997). These studios evoke a modern design using straight lines with bold accents of color to enhance the design story. Each Studio will house its very own resource library for sourcing and specifying materials with the latest in computer technology. Table 3.1 is a compilation of the programming criteria for each interior design studio.
Table 3.1

*Programming Table for Design studios*

<table>
<thead>
<tr>
<th>Square Footage</th>
<th>Square Footage</th>
<th>Students</th>
<th>Instructors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio 201</td>
<td>1722 SF</td>
<td>24 Students</td>
<td>+1</td>
</tr>
<tr>
<td>Studio 215</td>
<td>1680 SF</td>
<td>24 Students</td>
<td>+1</td>
</tr>
<tr>
<td>Resource Library</td>
<td>840 SF</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Requirements**

<table>
<thead>
<tr>
<th>Studios(2)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Desk/Drafting Table</td>
<td>48</td>
<td>+2</td>
<td></td>
</tr>
<tr>
<td>Chairs</td>
<td>48</td>
<td>+2</td>
<td></td>
</tr>
<tr>
<td>Computers</td>
<td>48</td>
<td>+2</td>
<td></td>
</tr>
<tr>
<td>Overhead Projectors</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plasma T.V.</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instruction Boards</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display Cases</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Building Codes/ADA Regulations**

The building codes referenced in this section is from (Harmon & Kennon, 2005); all design decisions for each studio design will comply with the ICC, ADA, NFPA, and HSW. All interior doors entering studios will have the proper clearance on pull and push side of door to meet ADA guidelines. Applicable to the ICC and the ADA each interior door will have a 36” minimum clearance to allow adequate passage for accessibility.
Correctly sized fire rated doors and walls will meet the standards of the ICC, NFPA and HSW codes. The life-safety codes for each studio will address appropriate locations of fire extinguishers, signage, audio and visual fire alarms and other safety equipment to ensure the safety of all students.

Each studio will be designed to the recommendations of the ADA guidelines allowing proper turning diameters of 60” to meet wheelchair guidelines while also addressing proper seat and counter heights. All material selections for each studio will comply with appropriate fire, life, safety codes for commercial use. In keeping with compliance of the building and safety codes each room’s occupancy load allowances have been calculated for design reference (Harmon & Kennon, 2005). As shown in table 3.2 & 3.3.

Table 3.2

*Existing Occupancy Load Allowance*

<table>
<thead>
<tr>
<th>Existing Rooms</th>
<th>Existing Load Factors</th>
<th>Existing Size of Space</th>
<th>Existing Floor Area</th>
<th>Existing Occupancy Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio 201</td>
<td>20 net</td>
<td>42x35</td>
<td>1470 SF</td>
<td>74</td>
</tr>
<tr>
<td>Studio 215</td>
<td>20 net</td>
<td>42x34</td>
<td>1428 SF</td>
<td>71</td>
</tr>
<tr>
<td>Resource Library</td>
<td>50 net</td>
<td>33x30</td>
<td>990 SF</td>
<td>20</td>
</tr>
</tbody>
</table>
Table 3.3

*New Occupancy Load Allowance Table*

<table>
<thead>
<tr>
<th>Rooms</th>
<th>Load Factor</th>
<th>Size of Space</th>
<th>Floor Area</th>
<th>Occupancy Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio 201</td>
<td>20 net</td>
<td>42x41</td>
<td>1722 SF</td>
<td>86</td>
</tr>
<tr>
<td>Studio 215</td>
<td>20 net</td>
<td>42x40</td>
<td>1680 SF</td>
<td>84</td>
</tr>
<tr>
<td>Resource Library</td>
<td>50 net</td>
<td>42x20</td>
<td>840 SF</td>
<td>17</td>
</tr>
</tbody>
</table>

**Material Selection**

The selection of materials proposed in each studio was aimed at achieving sustainable criteria. The flooring selection for each studio was a choice of stained concrete to add color to the existing flooring in each studio. A modular carpet tile system was chosen for the resource library to give the area warmth and comfort while offering long lasting durability and style. Wall treatments will consist of both low VOC paints and eco-friendly wall papers. Upholstery selection for chairs will also abide accordingly to fire and building codes. The lighting selection will offer low energy efficiency systems made with innovative recycled materials. Lighting of choice will be a mixture of recessed and track lighting systems. All studio furniture will be made of the latest in ergonomic technology to promote each health and productivity.

The shelving systems throughout the studio and design library will be made from recycled materials and re-useable hardware. Window treatments will have a solar tint
adhered to each glass pane blocking out in coming heat but allowing natural light indoors. A simple motorized light controlled shade will cover all studio windows. Miscellaneous equipment will be housed in customized units that will collaborate with the overall design.

**Color Palette and Design Style**

The proposed design style will consist of a modern contemporary aesthetic with a color scheme of greens, blues, yellows, and whites. The design is sleek, bold with modern lines. Metals and glass will be used for finishes in custom cabinetry and custom tabletops. The flooring choice will consist of modular rug floor title for the resource library and colored rubber flooring for both studios. Textured wall paper will be used in studios in a vibrant bold color for an accent wall. The resource library will have the same wall treatments as the adjoining studios to keep the design cohesive. Modern style furniture will be selected for all desk, chairs, storage units, and cabinetry. A mid-century modern piece will be chosen as a sitting vignette in the resource library.

**Furniture Design and Spatial layout**

Each student will have an independent modular work station that will include a drafting table, laptop computer, work area, and storage for personal items, classroom work and materials. All units will be set up in a double U-shape configuration for easy instructor access while promoting individual privacy for each student. The chosen configuration addresses the design application of territoriality and proxemics as it relates to creating appropriate spacing, boundaries, privacy, and furniture layouts and arrangements.
The preliminary design of each modular unit will consist of materials made from green products and each chair will be ergonomically designed for student’s comfort with adjustable levels. The design will equip each student with an all in one home office experience to enhance creativity and productivity within the design studio. The prototype is designed to house different elements for one student to occupy. Each modular unit will be arranged in a double U-shaped classroom layout that will promote interaction between students and instructor but give enough personal space for students to feel comfortable. This design will not include high privacy walls around work areas because it limits student and instructor interactions. The privacy wall around the current desk design leave students feeling isolated and not part of a classroom setting. As shown in Figure 3.5.
The example shown in figure 3.5 show how difficult it can be for students to interact with one another and how participation within the studio is limited because of the height of the privacy barriers. With the redesign these privacy barriers are removed to promote social interaction and to encourage classroom participation. Students will no longer feel isolated or closed off due to the poor designed desk areas provided in each studio currently.
Chapter 4

Drawings of Proposed Redesigned Studios

This chapter presents images of the proposed redesign of the interior design studios and resource library for the department of Family and Consumer Science at the California State University, Northridge. Images include all perspective drawings, elevations, floor plan, 3D model, and materials selected for the project. Images are scaled to fit page.

Figure 4.1 Current Studio Floor Plan
Figure 4.2 New Studio Floor Plan
Figure 4.3 New Studio Floor Plan rendered
Figure 4.4 Perspective View of Resource Library Southeast Wall
Figure 4.5 Perspective View of Resource Library
Figure 4.6 Perspective View of Resource Library Southwest Wall
Figure 4.7 Perspective View of Custom Cabinetry and Fabric Racks
Figure 4.8 Perspective View of Printing Station
Figure 4.9 Aerial View of Instructional Support Office
Figure 4.10 Perspective View 1 of Instructional Support Office
Figure 4.11 Perspective View 1 of Classroom 201 Layout
Figure 4.12 Aerial View 2 of Classroom 201 Layout
Figure 4.13 Aerial View 3 of Classroom 201 Layout
Figure 4.14 Aerial View 1 of Classroom 215 Layout
Figure 4.15 Perspective View 1 of Classroom 215 Layout
Figure 4.16 Perspective View 2 of Classroom 215 Layout
Figure 4.17 Perspective View 3 of Classroom 215 Layout
Figure 4.18 Perspective View 4 of Classroom 215 Layout
Figure 4.19 Elevation of South Wall Featuring New Entry Access into Library
Figure 4.20 Elevation of Direct Entry into Library
Figure 4.21 Water Wall Feature for Resource Library South Wall
Figure 4.22 Art work for Studios
Figure 4.23 Chair Chosen for Students
Figure 4.24 Instructors & Office Faculty Chair

Figure 4.25 Instructional Support Office Desk
Figure 4.26 Instructors Desk
Figure 4.27 Color Palette for Design Project
Chapter 5

Final Discussion of Project

The prototype design of the interior design studios at California State University, Northridge fulfills all programming requirements noted in table 3.1 and implements theories of proxemics and territoriality to enhance spatial configurations and social interpersonal relations. The design will create an environment for students to enhance productivity, creativity, and promote positive behaviors that will enhance the design studio experience.

Developing the new design had its challenges because of the current space allowed to reconfigure the two studios and recreate a layout of the adjoining design library. Each studio’s width was increased by 6’ x 6” to accommodate the double U-shape configuration. Decreasing the area of the design library by 13’ feet required new calculations of the occupancy load to comply with building and fire code regulations.

New Library Design with Direct Entry Access

The existing library had an occupancy load of 20 and with the new design; the recalculation of 17 will continue to meet the building and code requirements for the amount of students enrolled to occupy safely (Harmon, & Kennon, 2005). With the reconfiguration of the design library, two adjoining staff offices were taken out to increase the space in length and the instructional support office is now integrated within the design library for continue access and support to students.

The new design of the library also has an additional entry from the main hallway that will allow student access during operating hours with the same access code students
use to enter studios. With the new additional library entry, students can have direct access without classroom interference.

**Benefits of a Double U-shaped Configuration**

The double U-shaped configuration was chosen for the studio layouts because it offers room for instructors to engage and interact with students on a more intimate level. Instructors are not limited to the front of the classroom but are encouraged within this configuration to teach throughout the classroom. A double U-shaped configuration also allows students a direct unobstructed view of the instructor and active participation as a group (Hurt, Scott, & McCroskey, 1978).

**Sustainable Elements**

Textiles chosen for this project are commercial grade and GREENGUARD® certified and will contribute to LEED® certification. Recycled materials were used for wallpapers, window coverings, ceiling treatments, and flooring selections. Lighting and electronic equipment furnished for each studio is energy efficient and works with the Building Technology Program to reduce 20% of energy cost per studio [http://www1.eere.energy.gov/buildings/](http://www1.eere.energy.gov/buildings/). The custom water feature provided by Harmonic Environments in the resource library will be designed using the latest technology in green design, including efficient LED lighting and high efficiency pumps that will recycle water through a remote pump built out of 75% recycled materials [http://www.harmonicenvironments.com/](http://www.harmonicenvironments.com/).
Limitations

Based on the literature review, selected criterion of environmental psychology such as territoriality and proxemics were researched and applied to this project. The applications of territoriality and proxemics were solely used to create functional and efficient layouts within an interior design studio. The use and effect of these concepts were explored in creating the chosen layout for the design. Further examination of applying other environmental psychology elements can be explored in designing and creating efficient layouts for interior design studios. Color scheme and material selections for this project are only prototypical and not based on literature review.

Conclusion

The redesign of the interior design studios at California State University, Northridge will offer design students a creative and tailored learning environment, which will enhance interactions among students and faculty to promote control of interpersonal boundaries while giving each student the competence to socially and academically interact in their physical environment (Altman & Chemers, 1980).
References


   In L. Pastalan & D. Carson (Eds.), Spatial behavior of older people (p. 1-24).


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