

# **Color Education in the Interior Design Curriculum**

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*Color Education in the Interior Design Curriculum*

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Color Education in the Interior Design Curriculum  
by Jessica Bantom

Question/Problem Investigated

This study was conducted in order to define what constitutes color education in the undergraduate interior design curriculum. The study was also intended to assess students' knowledge of color upon completing their design education and preparing to enter the profession.

Research Design

The research for this study was conducted via the following: an evaluation of the curriculum of 96 accredited interior design programs and several course syllabi and supporting materials; a survey of final-year students regarding their views of color education; an interview with a former Council for Interior Design Accreditation (CIDA) site visitor to define criteria for assessing color proficiency in a design program; and a color exercise administered to final-year students to examine their practical color application skills.

Analysis

The study revealed that almost half of the evaluated interior design programs offer a color course. The majority of the courses cover more subject areas than color theory, including color psychology and the application of color. Interior design students generally lack the ability to appropriately apply color in design projects based on program requirements.

Key Findings

Most interior design color courses focus primarily on color theory in instruction, exercises, and chosen texts. Color education is inconsistent among design programs and often does not cover the application of color in interiors. Color education standards are needed for the interior design curriculum.

Conclusions

While color education is being addressed in interior design programs, it still requires evaluation and modification. Interior design students are being taught color but not in the context of interiors, which leaves them at a disadvantage upon entering design practice.



## 1. INTRODUCTION

It is often assumed that an interior designer has a knack for color, as one of the many highly developed aesthetic sensibilities attributed to one who manipulates space into a pleasant living environment. Color is commonly viewed as an accessory – one of the most easily applied elements at a designer’s disposal to transform a given space. However, upon closer inspection and a deeper understanding of the art and science of interior design, it becomes conceivable that color, like any other facet of design, is much more complicated than that. A design education is intended to prepare aspiring designers to appreciate, understand, and utilize all such facets of design but given the general perception of color ability as an inclination as opposed to a result of study, what place does color have in the totem pole of interior design subject areas?

My own educational experience and personal interest in color led me to investigate this matter. I have always had an appreciation for color and how it makes me feel, whether in the context of a piece of art, an article of clothing, or a room in a home. Because I had attributed so much power to the use of color, I assumed that it would surely be covered in depth in an interior design program. After all, everything that a designer specifies from wall coverings to accessories has a color, and all of those selections had to be made on some logical basis. Where else would designers learn what factors into proper color selection than in their interior design programs? I was eager to get to the class that covered color as an element of design but soon found that the lectures and assignments did not go beyond color theory – the color wheel, color harmony, and color systems. I figured that maybe, as my education continued, the subject of color would be addressed again – perhaps in the context of the design studios. While it was

touched upon briefly in different courses, it was never addressed to the level of detail I anticipated. I was not sure what I was looking for but I knew there had to be more to the study of color than what I saw on a color wheel.

It is that search for color knowledge that led me to conduct this study. After a survey of programs at other local universities, I found that either they did not offer a course on color, or the course they offered was limited to color theory. I eventually broadened my scope and searched for workshops on the subject. Only then did I find seminars offered through the International Association of Color Consultants/Designers – North America (IACCNA). The series of seminars focused on color research, how humans experience color, and applied color for interiors – all of the information that I knew had to be out there somewhere. But as I traveled across the country to attend the seminars, I wondered why this information was not readily available to me in a university-level interior design program. I wondered why this information was so hard to find and whether this was the case at universities outside the Washington DC metropolitan area. This study represents the culmination of my investigation into color education in university-level interior design programs.

### Statement of Problem

This study is intended to determine what constitutes color education in the undergraduate interior design curriculum. In a precursory examination of interior design programs, it is not uncommon to find that many feature a segment of a course – if not a whole course – on color theory. Through these courses, students learn the basics about color, including the color wheel, the concepts of color schemes (e.g., complementary, analogous),

saturation, and color studies. Students generally come away from these courses with an enhanced understanding of how colors work together, how they can be manipulated to achieve a desired effect, and the basic aesthetic properties of color. While all of this information is invaluable to an aspiring interior designer, it seems to serve as a mere starting point for the color education necessary for interior designers. Once students are equipped with the color basics, they are essentially on their own to figure out how to apply that knowledge in interiors. Furthermore, there are additional color subject areas that are extremely relevant to interior design that students are not exposed to in the course of their design education. This combination of factors led to the evaluation of interior design programs that comprises the majority of this study, in an attempt to assess the overall importance attributed to color in these programs. Another focus of this study is to assess how knowledgeable students are about color as they enter the design profession, in order to ascertain whether tomorrow's designers are being properly equipped to make educated color selections.

### Rationale and Purpose of the Study

The purpose of this study is to call attention to color education as a potential gap in interior design education. The study provides insight into the level of importance interior design programs attribute to color and the breadth of color knowledge to which they feel their students should be exposed. The results of this study could be valuable in terms of defining some sort of standards for color education in the interior design curriculum to ensure that students attain the knowledge necessary to create and implement successful color plans according to the function of the space and the needs of

the inhabitants. The findings may also serve as a frame of reference for structuring a color application course within interior design programs.

This study also calls attention to color as a specialized area of interest for interior design research, as both an area requiring further research and as an existing body of knowledge that is currently available to aspiring and practicing interior designers. Those whose knowledge of color does not extend beyond color theory are deprived of proven color research that could help them to enhance their designs and to develop a solid basis for their color selections. The ability to refer to supporting research also strengthens the reputation of interior design as a credible field of study.

#### Hypotheses/Goals and Objectives

The main hypothesis of this study is that the majority of interior design programs do not feature a course on color in their required curriculum. The few color courses that do exist focus primarily on color theory and aesthetic principles of color, as opposed to color research, and principles for the application of color in interiors. The color education component of the interior design curriculum does not focus on the subject areas that prepare students to make educated color selections that are appropriate for a given space and/or situation, and students are often not prepared to select colors on any other basis besides aesthetic-based principles. Furthermore, there are not any well-defined requirements for color education in the interior design curriculum.

Through the survey component of this study, which assesses graduating interior design students' views on their color education, it is anticipated that many students will express that they feel prepared to make educated color choices based on their color education despite the fact that it is largely limited to color theory. However, it is also

assumed that most students will express a desire for coverage of additional color subject areas in their interior design program. Students who receive even a modicum of instruction in the application of color in interiors are expected to make more practical color selections than those who receive no such instruction.

The main goal of this study is to identify what constitutes color education in interior design programs accredited by the Council for Interior Design Accreditation, and to compare that to other established specialized programs focusing on color application. This comparison will likely uncover some inconsistencies between these approaches to color education and pinpoint some subject areas – such as color psychology, the physiological effects of color, and color association, among others – that may be beneficial to incorporate into Council standards. Another closely related objective is to identify the specific, existing color education requirements for accreditation to see if they support comprehensive color education in design programs. Lastly, an additional anticipated end result of this study is an outline for a course on applied color for interiors, encompassing color theory as well as practical information to prepare students to select appropriate colors for interiors.

### Scope and Limitations

In this study, the investigation of the color component of the interior design curriculum is limited to interior design programs that are accredited by the Council for Interior Design Accreditation. This is due to the fact that the Council is the accrediting agency for interior design programs in the United States and Canada, and sets the standards for interior design education. The assumption is that evaluating accredited programs will provide a view of what is considered the “norm” in interior design

education as a whole. This study surveys a sample of the interior design programs that were accredited as of November 2005.

There were also limitations placed upon supporting components of this study. The survey that was used as a part of this study was distributed to seniors in undergraduate interior design programs (and to those in their final design studios in Associate's programs). The survey was limited to these students in order to obtain an assessment of their feelings about their color education as they near the end of their programs and how prepared they feel to enter the design profession with the color education they have acquired. The survey was distributed to students in accredited and non-accredited programs in the Washington DC metropolitan area based on the identification of resources that would facilitate the survey process, and with the intention to compare the color education experiences of those in both accredited and non-accredited programs. The color exercise component of this study was also limited to seniors in an accredited interior design program to compare the results against the Council standards for accreditation.

### Background or Context for the Study

There is very little existing information about color education in the interior design curriculum. The only available curriculum that emphasizes color application in interiors is the course of study available through the IACCNA, a division of the International Association of Color Consultants/Designers (IACC) which was founded in 1957. The IACCNA's teachings are intended for design professionals pursuing certification as color consultants, and are not required of any interior design student;

however, they provide the best basis for comparison in terms of specific color education standards.

Additional specialized information related to color education does exist but its focus is architecture, not interior design. For example, Werner Spillmann, a color education pioneer, developed a specialized course of study on the subject in Europe that mainly addressed architecture. Any existing studies dedicated to color education also relate to color application in architecture, and do not focus on American subjects. While there is basic information that can be borrowed from these architecture-related sources and applied in the context of interiors, this study treads on new ground, specifically focusing on university-level color education in the interior design curriculum in the North America.

## 2. RELATED LITERATURE AND RESEARCH

In the process of researching the subject of color education in the interior design curriculum, there was very little available material from which to draw information. The major sources of existing information regarding color education focus on architecture as opposed to interior design, such as a study involving European students of architecture. Only two sources connect color education and interior design, one of which is the curriculum of the North American Association of Color Consultants/Designers (IACCNA), a professional organization that offers seminars to those interested in pursuing color knowledge and accredits color consultants in the United States and Canada. The other is a study that focuses on the approach to the color design process among students in one particular accredited interior design program. As this study is based upon the evaluation of accredited interior design programs, the Council standards and accreditation guidelines also provide a frame of reference for understanding the expectations related to color education. Yet another source is the architecture-based color educational program developed by color specialist Werner Spillmann. Together, these sources serve as the basis for background information for this study. Their varied nature alone is an indication of the limited knowledge that has been compiled on the subject.

One of the most relevant color education studies was performed by Jan Janssens and Byron Mikellides, and published in 1998. The study focused on the following areas of color education among architecture students:

- Color research (primarily sources and results of color research)

- Color nomenclature, defined as knowledge of the Natural Color System – or NCS – a widely accepted color system in Europe
- Expectations and results of color education

The most noted portion of the study consisted of a questionnaire that was conducted among first and final year students at three architecture schools in Sweden and two in the United Kingdom. The other components of the study consisted of interviews with color lecturers and an “appraisal of educational curricula” (Janssens and Mikellides 1998, p. 329).

The results of the Janssens & Mikellides study revealed several key findings, the first of which is the disparity between the color education that students expected upon entering their respective programs and the knowledge they actually received. Most of the final-year students reported that very little of their education actually focused on color. It was also found that students did not often seek outside sources for color information (e.g., books and magazines), and only about ten percent attended a color course outside of school. These facts lead to an extremely valid question: If students are not receiving color education in their school programs, where and how are they getting educated on color, if at all? According to this study, the students expect to receive color knowledge through their schooling and demonstrated little effort to obtain it elsewhere. Perhaps this alone is an indicator that color in design education requires further consideration.

The study also addressed students’ knowledge of color research, in an effort to determine whether color research had actually made its way into the architectural curriculum. The results suggested that students received very little color research education, as there was very little difference between the knowledge level of the first year

versus final year students when asked about color researchers, research projects, and research findings. Assuming that color research is an integral part of color education, this lack of knowledge represents a large gap in architectural color education. The study went on to report that lecturers indicated that there was little time for color and that color courses revolved more around color exercises than lectures, thereby reflecting an implied ambivalence toward color research from the instructors themselves.

While this study addresses architectural color education in European institutions and only touches upon a few of the elements of color education, its findings are still pertinent to overall design education. Janssens and Mikellides' research calls attention to the students' perceived importance of color in their education, as well as the need to expose students to color education – including color research – via their design curriculum. This indicates that students have a general appreciation for the role of color in design but it is not being reinforced in their education. Based on the feedback received in this study, there appears to be some reluctance to dedicate the time and effort to these matters on the part of educators. Regardless of the reasoning for this phenomenon, it is possible to speculate that if the importance of color knowledge is not impressed upon students in their schooling, it may not be an area they choose to explore further as practicing designers, which would leave them and their prospective clients at a great disadvantage.

Another color study was performed by the thesis writer in 2005. The objective was to gain insight into the views and knowledge about color design among undergraduate interior design students in an accredited North American program. The study was modeled after a study of design professionals conducted by Diane Smith and

was intended to test her theory that “designers tend to use color in an ad hoc fashion, with little theoretical knowledge” (Smith, 2003, p. 360). The design student study was conducted to determine whether this theory had its roots in design education. The main goals of the study were:

- To determine the importance of color in the design process among interior design students
- To determine what sources students use to select colors
- To determine if students with color education attribute more importance to color in an environment than those without color education
- To determine if students see the value in color education

The study was conducted by distributing a survey to students in various interior design classes at the university. A total of 87 surveys were evaluated.

The findings from the study can be classified into two major categories: 1) those related to general concepts of color in the design process, and 2) those related to specific roles of color in design. Regarding the general concepts, the majority of students claimed to have had some kind of color education and would recommend including color in an interior design curriculum. In terms of the design process itself, approximately half of the students incorporate color into the design process in the design conception phase. However, only half of the students specifically allotted time to develop a color concept. When asked what sources they use to select color schemes, most students indicated that they turn to fabric swatches, followed closely by magazine and book photos, and paint samples. Most respondents select colors based on personal preference.

While an overwhelming majority of the students agree that color is important to interior design, the degree of importance related to specific applications of color in an interior varied. Students were asked to indicate the degree to which they agreed with the importance of certain color applications in interior design – ranging from ‘Strongly Disagree’ to ‘Strongly Agree.’ Most students strongly agree that color is important in decoration, ambience, and image. Most students agree that color is important for safety coding, perception of space, and wayfinding. When it comes to the importance of color in relation to building form, most students are neutral. All findings from this study are presented in Tables 1 and 2.

**Table 1**

*Results of Student Survey on Color in the Design Process*

% educated in color	82%
No:	18%
% who incorporate color in:	
Design conception/idea generation	51%
Schematic design	13%
Design development	37%
Finish and material selection	28%
% who consult the following when selecting color schemes:	
Magazine/book photos	68%
Fabric swatches	79%
Paint samples	62%
Other	18%
% who select colors on the following basis:	
Personal preference	53%
Color theory	37%
Color research	30%
Finish/material sample availability	32%
Other	13%

% able to visualize in color while designing:	71%
Sometimes:	29%
% who specifically allot time to develop a color concept:	55%
No:	45%
% who agree color is always important to interior design:	93%
Sometimes:	7%
% who would recommend including a unit on color in an interior design curriculum:	86%
No:	14%

**Table 2**

*Student Survey Results on the Importance of Color in Aspects of Design*

	% Strongly Disagree	% Disagree	% Neutral	% Agree	% Strongly Agree
Decoration	11	0	4	34	51
Safety Coding	11	15	15	36	23
Perception of Space	10	1	8	44	37
Building Form	11	6	46	24	13
Wayfinding	11	3	21	43	22
Ambience	11	0	12	25	52
Image	11	0	4	32	53

The findings from this survey revealed several interesting points about students' views and approaches to color in design. The results indicate that students have a general appreciation for the importance of color in interior design and education. However, students do not seem to have a great appreciation for the importance of color as a tool. Furthermore, students seem to assign great importance to color in terms of aesthetics (e.g., decoration and ambience) but less importance in terms of function (e.g., wayfinding and building form.) It is also worth noting that while most students recognize the

importance of color in interiors and the design process, only about half actually dedicate time to developing a color concept. Perhaps this signals a disconnect between theory and practice.

One of the objectives of the study was to determine what sources students used when selecting colors. It seems that students rely heavily upon fabric, books, and paint samples to select colors. It is interesting to note that less than 5% of the students referred to clients/client preferences as resources for selecting color schemes or as the basis for selecting colors, respectively. Another objective of the study related to color education as a factor in the level of importance assigned to color in an environment. In analyzing the responses from both those with and without color education, there was no noticeable discrepancy regarding the perceived importance of color in interior design and the various functions of color based on color education or lack thereof.

When comparing these findings with those from Smith's study of design professionals, some similarities surfaced. As was found among students, a large percentage of professionals also integrated color into the design process in the design conception/idea generation phase. In her study, Smith also found that designers had an appreciation for the importance of color in interior design education and they "indicated that designers should be educated in color" – both sentiments that were shared among students (Smith, 2003, p. 363). However, the professional designers viewed color work as a task for junior designers to take on to freely express themselves. This is a rather ironic notion when one considers that color work is about much more than a designer's personal expression, and the majority of the designers claimed to be educated in color.

One notable difference between the professionals and the students was the greater overall level of importance assigned to the functions of color (decoration, perception of space, etc.) among the professionals. In Smith's study, the majority of the designers agreed color was highly relevant in each aspect the students were asked about in this study, whereas the students expressed strong agreement on the importance of only three of them. In contrast, more designers agreed that color is highly relevant to perception of space, building form, and wayfinding, three aspects that students did not find overwhelmingly important.

In summary, there are several possible implications of the findings uncovered in this survey – and most seem to point to the need to evaluate what constitutes color education. While the findings reveal that most students are receiving some education in color, many of their responses indicate knowledge that differs dramatically from what is taught by color specialists. For example, the students rely heavily upon personal preference when selecting colors. Those with specialized color education, such as those who are taught according to the color curricula to be discussed later in this section, learn that color design is based on much more sophisticated principles than the designer's taste. There are several factors such as psychology, color association, the functions of the space, and the well-being of the inhabitants, among others, that should drive color decisions.

The students' views of the importance of specific functions of color in interiors points to another potential weak spot in their color education – color application. Specialized color education programs emphasize the varying functions color can serve in an environment, including all of those inquired about in this study. This knowledge

builds an understanding of color as a design tool that is not consistently expressed among interior design students. This knowledge gap signals a disconnect between color education and color application in design education. Another aspect of color education that received relatively little attention from the students was color research, as in the Janssens and Mikellides study. When asked the basis for their color selections, barely a third chose color research.

One particular European architectural color program addresses many of the shortcomings discovered in the aforementioned student-related studies. Founded in 1987 and spearheaded by Werner Spillmann, a professor of architecture at Winterthur Polytechnic in Switzerland, the Colour Course Centre featured a research-based color design curriculum. The discussion of Spillmann's approach calls attention to many more aspects of color education than those examined in the aforementioned studies. According to a survey of Spillmann's contributions to color education authored by Verena Schindler, he developed an innovative and holistic approach to color education, establishing color as a "basic element of architectural education" (Schindler, 2005, p. 53). His program was comprised of architectural courses, in addition to courses on:

- Color and interior space
- Color and psychology
- Method of conceptual color planning (Schindler, 2005, p. 61)

Through these courses, Spillmann's objective was to provide color education that trained design professionals to think of color from a physiological, psychological, contextual, and structural perspective. Additionally, he hoped to utilize his "method of conceptual color planning" to develop an appropriate color concept (Schindler, 2005, p. 61). This

course of study is based on the importance of designing for human needs, and evaluating those needs from many different angles that had not previously been explicitly incorporated into design education.

Several points differentiate Spillmann's teachings from most formal color curricula, chief among which is his emphasis on a method of color planning. He advocates incorporating color planning early in the design process, based on the notion that information discovered during the programming phase could potentially guide appropriate color selection as a project progresses. Spillmann also emphasizes the importance of on-site supervision of projects to observe the actual appearance of colors, as color can often vary when applied. The final point of his methodology addresses the importance of post-occupancy evaluations to assess users' perceptions of the colors used in a space and to judge the effectiveness of the color concept (Schindler, 2005, p. 62). In reviewing existing North American color courses, there was only one reference to color planning or methodology, which reveals a potential weak point in interior design color education. While it is useful to teach students about color psychology and physiological effects of color – as some programs do – it is even more useful to teach them how to apply that knowledge in the context of a project and instruct them when and how to gather the correct data and effectively utilize it in the design process.

Although Spillmann is no longer teaching due to health complications, his course of study is being carried on by renowned lecturer and architect Paul Burki, a colleague at what is now referred to as the Zurich University of Applied Sciences Winterthur. Burki teaches a color program that addresses various color-related architectural issues in addition to the following topics: