Problem Solving and Critical Thinking for Designers

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I dedicate this book to my nieces Julie and Jennifer who as wives, mothers, and professionals think critically, problem solve, and make decisions every day.

"If you already know what you are after, there is usually not much point in looking."

—Tim Brown, *Change by Design*

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Preface

Do you know what you should do when the husband and wife give conflicting opinions—and approvals—to design suggestions? Is climate change of significant importance to you so that you should become more involved in a practice focused on sustainable design? What will you consider when you next vote for a president? How can you design a facility to be comforting and functional to provide medical treatment for cancer patients?

These dissimilar questions in one way or another relate to the essence of this book. They are situations and dilemmas that will require your skills in problem solving, critical thinking, and decision making. Improving these skills makes you a more sought-after employee and designer, effective business owner, and fulfilled individual.

The interior design profession requires effective problem solving and critical thinking, as they impact all phases of the design project and most work activities of the interior designer. Whether you are a student or professional designer, much of what you do involves these skills. Although most of us do not even think about what we do in terms of these activities, they are a constant part

of design. They are also skills that you must perform successfully outside your professional career.

The creation of interiors happens because of the designer's application of design knowledge and skills to solving the problem presented by the client. The creation of an interior that satisfies and thrills a homeowner, wows guests of a new restaurant, comforts patients in medical spaces, and helps all sorts of other businesses achieve their business goals does not happen simply because a designer has applied memorized facts about design to the project.

Several years ago I took some business classes, and one of the professors made an indelible impression on me. He taught us that there was no one right, absolute answer to almost anything in business. There is a process, of course, of thinking through the problem in most cases, but often there was more than one way to get to an acceptable answer.

That is, of course, true of interior design as well. There are few absolute ways to design any space or interior. The solutions and "right answers" vary greatly by the actors involved in the drama of design. Two designers given the same parameters and goals for the same project will always come up with two different solutions. It is actually one of the beauties of the profession. Getting there happens from acquiring an enormous amount of techniques, information, and skills in order to design any type of interior space in the 21st century. Getting there also involves mastering the art of problem solving, using critical thinking, and learning how to make decisions.

Employers have been clamoring for "thinking" designers. Design firm owners talk constantly about their experiences with the newest generation of professionals. They chat about how they

have many positive attributes, yet the less experienced professionals have a hard time performing comprehensive problem solving and critical thinking. To be honest, it is not just the newest professional who lacks these skills. Many designers have forgotten how the process of problem solving makes a positive impact on the effective progression of a project from initial programming through the final installation.

Based on numerous comments and discussions with educators and professionals, this book will help both the student and professional designer find concise information to help them increase problem solving and decision making skills. The reader will explore topics that are essential to finding effective success regardless of one's position in the industry. Although the examples are primarily those related to interior design, other design professionals will find much relevant material to apply to their design specialty.

Let's be clear—this is not another book about how to do programming or basic space planning. Chapters 1 and 2 present an overview of critical thinking and its importance to the interior designer. Chapter 2 highlights a discussion about for whom we really design and tips on using time effectively. It also includes a brief discussion on an important new business model referred to as design thinking. This fascinating subject has stood the business community on its ear in recent years, and it is important for designers to understand how it might impact the design profession.

The next four chapters present design problem solving starting with defining the problem to the process of reaching a decision. Chapter 3 discusses project and business goal development and problem definition and concept statements. Chapter 4 then moves to discussing the topic of asking questions. Included in this

chapter are sections on ways to improve listening skills, avoiding disputes, and negotiation techniques. In Chapter 5, the discussion focuses on "looking for answers" or the process used to conduct research to develop facts and explore a research project. Chapter 5 also includes an overview of evidence-based design and a section on assessing information from the Internet. Chapter 6 brings the problem-solving process to a conclusion with a discussion on the decision-making process and strategies useful in making decisions.

The final chapter looks at decision making with a different eye as it explores ethical decision making. The ethical misdeeds of individuals reported in the media, and the ethical misdeeds of designers as well, make clients think twice about trusting their interior designer. Topics include how ethics and business can be in conflict and what clients expect from designers.

Each chapter concludes with a series of items and cases for discussion. Instructors may choose to use these for class discussion or written assignments. Professionals will find these thought provoking, as many are situations shared with me by other designers. Like all case study methodology, they are for discussion, and as such do not have absolute answers. One might say they encourage the Socratic method of teaching rather than a more traditional approach of lecture. There may be many "right" answers, just as design rarely has an absolute answer to any design project.

I look forward to feedback on the lively discussions that will undoubtedly ensue.

Acknowledgments

When asked by my editor to do this book, I found the idea intriguing. I started my research about critical thinking by having conversations with numerous designers and educators. I became convinced that it was a topic that needed a platform. To all those peers who answered my questions, thank you for your input and encouragement. Thank you also to John Martin-Rutherford, who had a very positive conversation with my editor and me as we contemplated this project.

I need to thank my friends and family for being very understanding of my moods and stress during this project. It goes without saying that the interior design community has been very gracious to me over the years, and I could not have done this book without the support and friendship of peers. I feel truly blessed that this book became a reality and could not have been done it without all of their support.

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Thank you as well to all those students and grads—part of the millennium generation that inspired this book. You have a lot to give to us old-timers, just as we have a lot to share with you. Let's move forward to a mutually beneficial relationship!

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Thinking Critically

In September 2008, the banking industry nearly failed in the United States, resulting in a massive worldwide recession. Some predicted that the economy would take years to recover. What does this have to do with the interior design profession and learning how to *think critically*?

The design and construction industry were particularly hard hit. Homeowners lost their homes to foreclosures. Builders lost the opportunity to obtain credit for construction loans. Many companies went out of business, reducing opportunities for commercial design work. Thousands in the design/build industry lost their jobs or their businesses. Interior designers and design firm owners were faced with critical decisions about how to operate during this challenging time.

Developing critical thinking skills is essential in the complex world we live in today. It is a necessary skill in both your professional and personal life. Thinking critically is what design business owners, practitioners, industry members, and students must do to sustain their positions in the industry through good times

as well as bad. Every day you must make sense of what is happening amidst an onslaught of information via the media. Who to believe? Who has the "correct" information and ideas? Design professionals must think critically to design projects for clients, grow professionally, and make critical personal decisions. Design firms fail even in good economic conditions.

Thinking critically impacts design decisions made during the project process, the operation of a design practice, and personal decisions. What codes impact the design of an interior? What is the best way to evaluate products that claim to be sustainable? How should a business owner set up design contracts to ensure that the client will pay his bills? How do you know that the information on which you rely is accurate? Where did the information come from?

Answering questions such as these will require thinking critically, as there are few easy answers anymore. The world and the design profession have become incredibly complex. You are bombarded with information from numerous sources. Thinking critically is a vital skill in your daily life and your profession. As you will see, thinking critically impacts many of the tasks associated with the interior design process.

WHAT IS CRITICAL THINKING?

Critical thinking is highly valued by the business community, including, of course, the design professions. Students, entry-level, and practicing designers need to learn to think more carefully and critically. Thinking critically impacts you in many ways, including determining client needs, solving difficult space plans, making business decisions, and dealing with clients and others with interests in the project.

So what is critical thinking? *Critical thinking* "consists of an awareness of a set of interrelated critical questions, plus the ability and willingness to ask and answer them at appropriate times."[1] It is thinking oriented toward consideration, evaluation, and the synthesis of information, resulting in a decision. It helps you in all sorts of decision-making scenarios and involves:

- Asking appropriate questions
- Sorting out information
- Evaluating options
- Making an informed decision

Of course, not all thinking is critical thinking. When your mind is in "operation," you are *thinking*, which essentially is active use of your brain. When you decide where to go to lunch, you are engaging in thinking. Agreeing on which events to schedule for the association you belong to involves thinking. Determining which products you would like to specify for a project involves thinking. Of course, some may argue that these examples also represent critical thinking.

You likely will be involved in many issues that will require your ability to problem solve and think through what is happening around you. Making sense about what is going on in the larger scheme of things is important to the interior designer. Events and decisions by others impact the profession and what goes on beyond an individual's immediate world. Understanding that outside world is central to today's successful professional.

Critical thinking should not be thought of as criticism or something that is negative in connotation. When you think critically, you are not being asked to find fault with the subject at hand, nor is it assumed that you are looking to do so. Criticism is very

different from thinking critically. More about this perception appears later in this chapter.

WHO IS A CRITICAL THINKER?

Developing critical thinking skills will help make you a more valuable employee and a more prudent individual. Are you clear about how the legislation of design practice (or the lack of it) impacts your work as an interior designer in your jurisdiction? What will you do when you are certain a colleague behaves unethically? Are you concerned about the lack of direction on the environment? Maybe right now you are thinking only about how to complete the project you were recently assigned in studio or whether to go out with friends this weekend.

Your complex world requires you to seek information and make decisions beyond the most obvious. Your great grandparents didn't have a lot of choices on many of the things that you take for granted today. Deciding where to go to for groceries is an example. If the neighborhood store didn't have it, your great grandparents didn't get it. Today, there are numerous options, with huge selections of products to purchase. Because of this, even which store to frequent involves thinking critically.

Designers are critical thinkers because the many decisions that are made during the process of designing an interior and operating a business are not simple. The vast majority of those decisions directly impact clients and users of interiors. That in itself is an awesome responsibility. Making a wrong choice on fabrics, for example, can affect the health, safety, and welfare of the clients and other users of interiors. Violating local laws by deciding not to obtain required licenses impacts the individual, her business, and her professional standing—and the client.