Book Review

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Design Thinking in Technical Communication: Solving Problems Through Making and Collaboration

—Reviewed by
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***Index Terms*—*Collaboration, design thinking, maker movement, technical communication.*

Design Thinking in Technical Communication targets two main audiences. The book primarily addresses students and instructors of technical communication, and also addresses industry practitioners. The book provides practical and theoretical examples that both the primary and secondary audiences can incorporate in their pedagogy and industry practices. The author includes learning activities at the end of each chapter that teachers/instructors can emulate in the technical communication classroom. The approaches in the book make it a significant contribution for the teaching and practice of technical communication.

The author organizes the book into five chapters and a conclusion.

- Chapter 1: Introducing Design Thinking (and Making) for Technical Communication
- Chapter 2: The Maker Movement and Its Influences on Technical Communication and Higher Learning—A Look at Three Makerspaces
- Chapter 3: Design Innovation—Designing Humane Technical Communication
- Chapter 4: Making and Design Thinking as Pedagogical Strategies for Social Advocacy
- Chapter 5: Cultivating Radical Collaboration in Technical Communication
- Conclusion: Disputing and Innovation in Technical Communication Through Making and Design Thinking

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Chapter 1 sets the foundation of the book. It focuses on the importance of design thinking and making in technical communication and other disciplines. The author highlights design thinking principles and the ways that they can be used to solve wicked problems—problems that are ill-defined, ambiguous, or not solvable by a singular correct solution. Tham provides an overview of wicked problems and proposes that design thinking, particularly in the maker community context, can provide an effective approach to solving them. Tham highlights misconceptions around the term *design thinking*, and posits that the book "seeks to rectify these misconceptions starting with a historical account of design thinking" (p. 5).

Given the vast literature presented in the chapter, Tham asserts that there is an "opportunity to identify the viability of a maker pedagogical approach for technical communication, through the perspectives of design thinking" (p. 15). He "considers technical communication pedagogy a wicked problem beyond its procedural complication," and argues that "making and design thinking offer a social and materialist dimension to such problem solving in technical communication" (p. 17). This chapter reminds designers to remember the users of their products so that they design documents that are usable and accessible. Tham argues that design thinking accounts for the experience, hope, needs, reactions, and behavior of users.

Chapter 2 captures the history of the maker movement and talks about the three "makerspaces"—collaborative workspaces for designing and building—that he used for his research. The maker movement is seen as a relevant area of interest in teaching and learning.

Tham argues for the need for material writing in technical communication, and believes that emphasis should be placed on the materiality of technical communication, an approach that will go beyond knowing how to use technologies to write. Tham shows the importance of the maker culture and the need for it to be part of higher education. The author reiterates that design thinking and making should be an integral part of technical communication pedagogies and practices, especially user-centered design, usability, audience, and collaboration.

In Chapter 3, Tham discusses one of the roles of the technical communicator, the technical communicator as advocate, and advocates for social innovation in technical communication. The technical communicator's role as a social advocate starts from the design thinking stage to create user- and human-centered designs to solve social problems. The author gives examples that explain how technical communicators can stand in the gap of social advocacy. To do this, Tham points out that user advocacy

> means recognizing equal power dynamics, actively combating unjust treatment through design and communication, and positioning justice at the center of our practice. (p. 66)

In short, user advocacy is key in technical communication as it is a step toward achieving social justice.

Chapter 4 addresses the incorporation of design thinking and making in technical communication pedagogy. Using a technical communication service course as a case study, the author discusses how we can do away with traditional assignments in such courses and make way for design thinking and making strategies. Tham claims that design thinking would instill learning habits in teams, which will help increase the course learning experience. He establishes the need for social advocacy in the previous chapter and uses design thinking and making in this chapter to advocate for social justice in technical communication pedagogy and practice.

In Chapter 5, Tham explains the impact of collaboration in solving problems in technical communication. He describes radical collaboration and the ways that design thinking can foster collaboration to support social innovation. He concludes that "collaboration is innate to technical communication" (p. 117). Though there are challenges with collaboration in and out of the classroom, it is significant in technical communication.

In the Conclusion, Tham admonishes students, instructors, professionals, and industry practitioners to change technical communication by paving the way for design thinking and making. He summarizes the need to adopt design thinking as a methodology in technical communication to make designs user- and human-centered, and to advocate for social justice in our approaches to teaching, learning, and practice in the field. Thus, he calls for a rethinking of technical communication pedagogy "to focus less on genres (memos, feasibility reports, instruction manuals, user guides, research reports, etc.)" (p. 126).

Tham argues that design thinking is a necessary component of technical communication and shows how it can be incorporated into technical communication practice and pedagogy. The examples and learning activities presented in the book make it a valuable guide for students, teachers, and practitioners of technical communication. Instructors of technical communication will find the learning activities presented throughout each chapter of the book particularly useful.