CREATING

DESIGN

THINKING

LEARNING

FOR

JOURNEYS

TRAINING

THAT

AND

GET

DEVELOPMENT

RESULTS

SHARON BOLLER

LAURA FLETCHER
Creating design thinking for training and development results

Sharon Boller  Laura Fletcher
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Introduction

The stories captivated us. The first one was the story of Doug Dietz, an industrial designer for GE Health. He shared it in a TED Talk as he described his pride in his design of an MRI machine. His pride turned to distress as he stood in a hospital hallway and watched a young child crying as she approached the MRI scanning room with her parents (TEDx San Jose 2012).

As they neared the entrance to the MRI room, the dad bent down to his daughter and said, “Remember, we talked about how you need to be brave.” The machine Doug so proudly designed terrified young patients (and even adult ones) when they needed a scan. Eighty percent of kids required sedation to successfully get a scan. Doug was mortified and vowed to redesign the experience of getting a scan by involving those who feared it the most: preschoolers. The result of this design-thinking approach to redesigning the experience of a scan meant that one hospital reduced its sedation rate from 80 percent to 1 percent.

The second story happened at Stanford University, where a class was challenged with designing a cheaper incubator. One team went to Nepal, where they visited the rural communities where babies were most at risk of dying from premature birth or low birth weight. In observing the communities and talking with these families, they realized the task wasn’t just to build a cheaper incubator, it was to design one that was accessible to families who would never make it to a hospital. The biggest constraint was environment, not cost (ABC News 2011). Their human-centered, design-thinking approach gave them completely different insight into how to solve the problem. Instead of a high-tech, sleek incubator made with low-cost parts, they created a low-tech incubator that looked like a small sleeping bag and maintained an infant’s body temperature for four hours. It could be recharged for another four hours by putting it into boiling water for a few minutes. The Embrace Nest infant warmer has helped more than 200,000 babies (Extreme Design for Extreme Affordability; Standford University).
In training and development, our stories may be less dramatic, but there is a desperate need for a human-centered approach to designing learning. Our industry tends to think first about creating courses and workshops instead of recognizing learning as a journey that involves many steps and stages. The experiences we have at each stage of the journey either propel us forward or cause us to exit. We spend billions of dollars each year on training solutions without significant success stories to share in terms of results or rave reviews from learners. That’s a problem if people opt out of the journey or the journey leads to nowhere. When that happens, we have failed our learners and our organizational needs.

This book offers a primer on how to apply design thinking techniques to training and performance development. Design thinking is a problem-solving methodology that focuses heavily on involving users of a solution in its design. We start with a brief primer on design thinking and then introduce you to our LXD Framework, a way of integrating design thinking techniques with instructional design. We show and tell how to use a variety of tools that can help you create an optimal learning experience. For us, optimal learning experience means three things:

- It delivers value to learners.
- It solves a problem for the organization.
- It produces a measurable outcome.

And note how we frame it as a learning experience. We don’t create learning. Instead, people have an experience as they learn. The learning typically comes from a variety of means, including formal training programs, resources, and experiences. At times you will see learning experience design referenced. Other times we may reference training. When we reference training, we are talking about a formal event. When we reference a learning experience, we are talking about a collection of activities that a learner participates in or has access to that support learning something.

Design thinking can be for anyone in training and performance development, which itself encompasses a lot of roles and titles. Are you a learning designer, learning architect, instructional designer, L&D professional, HR professional, chief learning officer, training professional, or talent development
professional? Our industry uses lots of different acronyms and role titles. For clarity’s sake, we reference training and performance development professionals to encompass all these possible roles. This book is for you.

Here’s what you’ll find within this book:

- **Section 1: Get Acquainted With the Concepts** summarizes what design thinking is and how to connect its steps to training and performance development. This section also introduces our learning experience design (LXD) framework as a means of incorporating design thinking techniques within the process of training program and learning experience design.

- **Section 2: Get Perspective and Refine the Problem** focuses on the early steps in the framework. It includes tools that help you gather perspective from all the stakeholders associated with a request for training and helps you refine the problem for which training was predefined as a solution.

- **Section 3: Ideate, Prototype, and Iterate** contains tools that help you involve your learner and business stakeholders in designing, developing, and testing your solution.

- **Section 4: Implement and Evaluate** walks you through what’s needed to ensure people benefit from what you developed. Within it, we provide tools and techniques for activating what you’ve designed and measuring your impact.

- **Section 5: Sell Your Use Case** offers insights on how to sell the use of design thinking techniques to develop training solutions within your organization. It includes two case studies you can use to help showcase the power of design thinking in training and development.

Armed with the concepts and techniques in this book, you can move beyond creating events to creating experiences that produce measurable results.
SECTION 1
GET ACQUAINTED WITH THE CONCEPTS
Imagine that you and your friend Suzy agree to go on a vacation together. Suzy is all-in on the idea of a friend vacation, but she’s not much into planning. “No worries,” you tell Suzy. “I love planning trips. I’ll take care of everything. All you have to do is show up.” Because you want to ensure you both have a great vacation, you agree on the timing, climate, and budget, but you tell Suzy to trust you for the rest.

You dive into planning. You find a perfect hiking trip for the two of you. Suzy and you have gone on a couple hikes before and seemed to have fun, so you are confident she’ll love it. Your week-long trip features daily long hikes, tent camping, and backpacking your supplies between camping destinations. Your trip will be a fantastic respite from the frenzy of daily life. The campsites you’ll stay at are primitive and have no electricity. There is no cell phone reception either, ensuring you get fully off the grid.

The designated day of departure arrives. You reached out to Suzy a few days prior and told her to meet you at the airport at 8 a.m. with shorts, t-shirts, and hiking shoes. There’s no mention of any other type of clothing, which is when Suzy starts to get a bit nervous. However, she arrives at the appointed time and you excitedly share your destination and itinerary. Suzy’s face says it all: She’s horrified. She lets you know she H-A-T-E-S camping. Her idea of “active” differs dramatically from yours. To her, a couple of three-mile hikes in a week is active, particularly if coupled with a leisurely day of pedaling a bike around a cute little seaside resort town. She wants a hot shower and a
clean, cozy bed every night. Finally, she has no desire to carry her food—she wants it served in a restaurant.

What the heck happened? You thought you had good info on Suzy, but you made several assumptions fueled by limited facts. With those assumptions, you proceeded to plan a vacation that did not match her wants or needs. The result was an unsatisfactory vacation for both of you, as neither of you got what you wanted or needed from it.

Right now, you are probably thinking, “I would never do this. Obviously, someone who is going on a vacation needs to give input into the destination and the activities. Otherwise, it will be a horrible experience for that person. This is a crazy, unrealistic example.”

You’re right. It is crazy.

But guess what? People inside companies do different versions of this kind of crazy all the time.

How and Why Learning Fails to Be a Solution

If you’re reading this book, you are likely looking for a way to make a training or performance development solution produce bonafide performance and operational results for your company. If you are like us, there are three possible ways to sabotage your efforts:

- **You fail to clarify exactly what results the company wants to attain.** You lack knowledge of the needs of the business: the “why” of the solution from the business’s perspective and what operational result the business hopes to achieve. If no one can specify the destination, it’s difficult to design a journey to get there.

- **You make assumptions about learners instead of gathering perspective from them.** You gather demographic data (experience, education, tenure) and you even craft learning objectives. What you miss doing is diving deep into empathy-building. You don’t take time (or don’t feel you have the time) to get perspective from learners on their daily realities: what they think, feel, see, hear, and do related to whatever you’re focusing on helping them learn. You don’t fully understand the context in which they will be
asked to apply what they learn or what constraints their real world may pose in doing that application. When you don’t gather input into their attitudes and daily worldview, you must instead rely on assumptions: either yours or those of a business stakeholder. You (and they) may be right, but statistically the odds are high that you are wrong. Relying on assumptions is dangerous territory to be in. Assumptions made with limited data tend to be wrong. The Amazon Fire phone is a great example of this and is referenced in two different business articles on the danger of assumptions (Forbes 2016; Fortune 2016).

- **You—and your stakeholders**—focus on training as an event **rather than a set of experiences**. This focus tempts you into designing stuff that people in your organization cannot easily implement or maintain. Learning is not an event that happens once and is done. It is a journey—a learner travels with a defined starting point and ending point and requires multiple opportunities to retrieve and practice use of learning along the way (Karpick and Roedinger 2008; UCLA’s Bjork Learning Laboratory Research 2012). Training is commonly viewed as a business-centered process (BCP). It is designed as such, which means it usually is event-focused: a workshop, a conference, an e-learning course, or even a series of e-learning courses. It focuses exclusively on the business’s needs or wants and doesn’t typically consider the people who are the target of the event or solution.

The antidote to learning efforts that fail over and over? Design thinking and its “sweet spot.”

**How Do You Stop the Crazy?**

Design thinking, in contrast to business-centered processes, is a human-centered process (HCP). It starts with a focus on people rather than the business desire for profit. It originated in the late 1950s as a problem-solving technique that quickly morphed into a product development technique. Companies realized that to create products that people would buy, they needed to start with
the target user rather than the company’s goal of making money. Profit would come from a solid understanding of what people wanted and needed and what their pain points were. Product developers needed to find a “sweet spot” between what target buyers would find useful, what a company could profitably make, and how that product could be made within the constraints that both buyers and the business had. Its successful adoption in technology-based product development has pushed it to wider and wider usage across lots of sectors, including training and development. It’s a natural fit because training and development already has processes that are similar. Design thinking provides a terrific overlay to existing training design processes and gives practitioners great tools and techniques to add to their toolbox.

The design thinking process provides a means for defining problems from multiple perspectives, brainstorming possible solutions, prototyping those solutions, and then testing and iterating to optimize the best approach. When you are creating training or job support tools, you can use tools and techniques from design thinking to design solutions that hit the “sweet spot” between three forces (Figure 1-1):

1. what the business wants or needs to achieve operationally (such as some sort of measurable goal)
2. what learners perceive as useful, relevant, engaging, and a valuable use of their time and effort
3. what can be realistically implemented and sustained given technology or environmental constraints that exist for the business and the targeted users.

For you to be effective at using design thinking steps and techniques, you need to understand each component of the Venn diagram, so let’s dive a bit deeper.
The simple definition of a great learning experience is one that:

- Delivers value to the learner (solves a problem they have). The learner may be an employee, a customer, a patient, or anyone who the business is trying to train to do something or help understand something.
- Is easy to use (avoids creating “miserable” moments due to clumsy or unclear directions).
- Is enjoyable to use (creates “magical moments” that delight the learner or make them want to continue their experience).

Think about Uber or Lyft and the app you use to request a ride from either company. First, that service—as represented by the app—solves a huge problem for many travelers: finding safe, reliable transportation when taxis aren’t easily located. Second, the app is extremely easy to use; it is “intuitive,” which means it doesn’t require instructions. You learn how to use it by using it. Third, it’s “enjoyable.” You have the cool little map with the image of the car as it works its way toward you. You can see who your driver is, how others have rated that driver, and exactly what your trip will cost you. You don’t have to tip or fumble with money. Those are all plusses that equate to “enjoyable.”

Now think about a typical learning solution you might devise under the auspices of training and development. This solution might be an e-learning course or even an entire curriculum within your organization.
• What problem is the course or experience solving for the learner (not your organization)?
• What value is it providing to the learner?
• How enjoyable is it for the learner to complete?

Those are intriguing questions, because you likely don’t consistently think of things from the learner’s point of view when you design training. Instead, you are probably very focused on the constraints or the person making the request. Requests are typically accompanied by constraints. Therefore, you often think about what’s possible within the timeline or budget you have. You think about what the business says the solution needs to include. You think about content that needs to go into it and how you’ll get that content. You likely don’t start with, “How would the learner describe this experience? Will they enjoy it? Find it valuable?”

Bottom-Line Performance (now merged with TiER1 Performance) does an annual learning trends survey. In 2018, it added a question specifically focused on the frequency with which learners were involved in a solution’s design. The survey results suggest room for growth (Boller and Boller 2019). In many situations, subject matter experts (SMEs) and stakeholders claim the role of learner in the design meeting and assume they know what the learner wants, needs, and feels. No one verifies these assumptions with the learners themselves. Typically, this approach is well-intentioned: People want to save the learner’s time. Unfortunately, making decisions based on assumptions about the learner’s work context, constraints, wants, or needs leads to solutions that don’t produce business results (and therefore don’t meet the business needs). They also seldom meet learner needs and wants.

Take a look at the survey responses (Table 1-1). You’ll see some positive trends here—and lots of room for growth. Given our own experience in the industry and the hundreds of projects we’ve been involved with, we know that it can be extremely challenging to get “voice of the learner” insights and perspectives. As we evaluated these results, we felt the always percentage was inflated.
Table 1-1. Bottom-Line Performance Annual Learning Trends Survey: Learning Involvement Question

<table>
<thead>
<tr>
<th>2019: How often do you include target learners in your training design process?</th>
<th>Percent of Responses</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always; target learner involvement is mandatory part of our process</td>
<td>26.17%</td>
<td>67</td>
</tr>
<tr>
<td>Usually; we try to do so every time, but sometimes it doesn’t happen</td>
<td>32.81%</td>
<td>84</td>
</tr>
<tr>
<td>Sometimes; it depends on the initiative</td>
<td>28.52%</td>
<td>73</td>
</tr>
<tr>
<td>Occasionally; we only do so for very important initiatives</td>
<td>8.59%</td>
<td>22</td>
</tr>
<tr>
<td>Never</td>
<td>3.91%</td>
<td>10</td>
</tr>
<tr>
<td>Total respondents</td>
<td></td>
<td>256</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2018: How often do you include target learners in your training design process?</th>
<th>Percent of Responses</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very often</td>
<td>15.97%</td>
<td>19</td>
</tr>
<tr>
<td>Often</td>
<td>42.86%</td>
<td>51</td>
</tr>
<tr>
<td>Sometimes</td>
<td>20.17%</td>
<td>24</td>
</tr>
<tr>
<td>Rarely</td>
<td>18.49%</td>
<td>22</td>
</tr>
<tr>
<td>Never</td>
<td>2.52%</td>
<td>3</td>
</tr>
<tr>
<td>Total respondents</td>
<td></td>
<td>119</td>
</tr>
</tbody>
</table>

The Left Circle: Business Needs

Healthy businesses define financial targets they want to hit each year. They also usually have longer-term financial targets that are three to five years out.

The top-line financial target that businesses typically focus on is revenue and ways to increase it. The bottom-line financial target is profit and ways to increase profit margins and overall profits. A focus on these two metrics helps ensure a company has enough cash and a good cash flow. Cash and cash flow (having enough cash to pay bills when bills are due) are the lifeblood of a business. Consequently, a lot of what a business does in terms of strategies and initiatives is with an eye toward growing revenue as well as increasing profits.
so that the business has enough cash to continue to operate and grow. Initiatives targeted toward improving employee engagement link back to revenue and profitability. Happy employees tend to be loyal, productive employees. Productive employees generate revenue and profit for the business.

Businesses typically have annual financial goals (cash, profit margin) they want to achieve. They then define business initiatives that support these financial—or operational—goals. Here are a couple of examples:

- A company’s one-year financial goal might be to increase revenue by 20 percent (or perhaps to increase revenue related to a specific product by 20 percent). In support of that goal, the company might identify an initiative designed to help it either attract new customers or sell more goods or services to existing customers, such as launching a new product or service.
- A company’s goal might be to increase its profit margin by 5 percent. While this can be attained by growing revenue, it might also be achieved by reducing the cost of delivering goods or services. One mechanism for reducing cost of goods or services is to adjust processes so those goods can be delivered more efficiently. Another mechanism for decreasing costs might be reducing ramp-up time for new hires so they reach maximum productivity more quickly. A third initiative might be to reduce quality problems, which also enables improved efficiency.

In short, business needs are typically driven by a need to increase revenue, improve cash flow, or improve profitability. Any training or learning solution you design should drive some sort of operational result, such as:

- increasing sales (which improves revenue, and, eventually, cash available to the business)
- speeding up the time it takes to close a sale or deliver a product (which improves cash flow)
- making someone or something (such as a process) more efficient (which lowers costs and improves profitability)
- increasing employee engagement, which can have a positive impact on employee retention as well as productivity.
C-suite leaders and upper-level managers must focus on business needs and results. This is not because they are solely focused on money. It’s because they know jobs depend on this focus. If a company lacks enough cash or profitability, jobs are lost.

The Right Circle: Business and Learner Constraints

Decisions about how you will design, build, and deploy a solution must factor in constraints: learner, technical, environmental, and business.

These are common categories where constraints exist:

- **Time.** This includes time to create something, time required to implement something, time required to sustain something, time available to undergo a learning journey, and time available to support someone who is on a learning journey. It may also be a date by which something has to be done.

- **Budget.** What dollars are available to pay for development and implementation of a solution as well as ongoing maintenance of a solution? What return on investment does the company expect and how soon does it need to be achieved?

- **Skills.** What skills does the company have—or can gain access to—to design and build the solution?

- **Technology.** What software, hardware, and device limitations exist?

- **Access to needed people or other resources.** People you need access to include stakeholders who pave the way for a project to get done, subject matter experts who contribute insights, and target learners who provide perspective. Other resources you may need access to include space and testing tools.

There’s a cautionary tale in discussing constraints. Often people assume there are constraints that may not really exist. Constraints should always be verified by those who are assumed to be creating them. Go ahead and brainstorm all the constraints you can think of; just check them all out before assuming they are all correct.
The Five Steps to Design Thinking

We’ve outlined the problem we hope to solve with this book: shifting from a sole focus on the business or content when designing learning experiences to a learner-focused approach that gets to a win-win for learners and the business. We’ve also explained the three factors practitioners need to balance to remedy this problem.

The question remains: How exactly does one go about “finding the sweet spot?”

The rest of the book provides answers as well as examples. Before we move on, though, we want to give you a quick primer on the traditional design thinking model that served as our starter for modifying how we design a better learner experience. The model features five steps: empathize, define, ideate, prototype, and test (Figure 1-2).

Figure 1-2. Traditional Illustration of Design Thinking Approach to Product Development

Design thinking does not have its origins in design; it’s a problem-solving approach that’s been around for decades and has uses across lots of industries. It’s most useful when problems or optimal solutions are fuzzy. It’s human-centered, which means it starts by focusing on people rather than business goals. Product developers often use a design thinking approach to design products because the products ideally solve some sort of problem or need that buyers or users have.
Product developers take an iterative journey through these steps:

- In the **empathize** step, designers spend time gaining perspective from target users of a potential need that a product might solve. This perspective-gathering process, done via observations or interviews, enables them to build empathy for the users and their wants and needs. During this step, designers spend time observing users in their environment so they can see potential needs or problems in the context of the user’s daily experience. They interview them, asking questions about their likes and dislikes, their thoughts and feelings, their pain points, and their motivators. They build a clear picture of how people might use a potential product and what value the product can provide—from the user’s perspective.

- The second step is to **define** a problem that exists from both the business’s perspective and the user’s perspective. Here’s where business goals enter the picture. A user may have a need, but the business must be able to solve that need while also making a profit. Once this problem (or opportunity) is defined and constraints begin to emerge (for example, the product must be portable; it cannot cost more than $X to produce, and so on), designers can begin to . . .

- **Ideate** and brainstorm possible solutions to the problem, seeking solutions and ideas that fit within that sweet spot of user needs, business needs, and technology or environmental constraints.

- The next step is to **prototype**—quickly and cheaply—the most promising and intriguing solutions.

- Target users then **test** these solutions. Designers seek user feedback and observe users interacting with the prototypes, weighing user feedback against technical constraints and business needs.

- Observation and user feedback help designers **iterate** on their original ideas and prototypes, making improvements that align with the sweet spot they are trying to stay within. Implementation is implied but not really stated. That’s because some products continuously iterate (think software-as-a-service products that push out new releases every few weeks to months).
Work on Your Own

Think about a product or service that you love, whether it's Uber, the Starbucks app, an online grocery ordering service, a life-changing childcare product, or even a great restaurant that you frequent.

Consider why you love it. What need or want is it satisfying for you? What need does the service satisfy for the business? And what constraints are factored into that product or service’s design?

Your needs drive your use of the product or service—not the needs of the business. In the same way, the learners’ needs will drive the value they receive from whatever solutions you create, not the needs of the business.

Summary

In this chapter we introduced you to the fallacy of trying to design solutions without considering the needs of the end user. Just like you shouldn’t plan a vacation without consulting the other vacationers, organizations need to avoid designing training programs and learning solutions without input from learners.

We then walked you through a problem-solving approach that brings users of a solution into the process of designing that solution: design thinking. Its starting point of “empathize” helps designers create a balance between users, the business, and environmental constraints. In chapter 2, we’ll talk about how to take this basic design thinking model and use it to develop more learner-centered solutions, shifting away from a primarily business-focused model to one that equally balances the needs of learners with the needs of the business.
Sharon Boller

Sharon Boller is a managing director at TiER1 Performance, where she focuses on helping clients figure out how to activate their business strategies through their people. She partners with her colleagues at TiER1 to bring together the disciplines of learning, change, communication, technology, and creativity to create blended solutions that enable people to do their best work.

Prior to joining TiER1 Performance, Sharon was the CEO and president of Bottom-Line Performance (BLP), a learning solutions firm she founded in 1995. She and her partner/co-owner Kirk Boller grew BLP from a single-woman sole proprietorship to a $4 million-plus company with a highly skilled team of diverse capabilities. Under the direction of Sharon and Kirk, BLP produced communication, education, and training solutions for life science companies, manufacturing, energy companies, and more.

Sharon is a frequent speaker at industry conferences on topics such as performance-focused learning design, UX, technology and trends, learning game design, and design thinking. She is the author of two other books published by ATD Press: *Teamwork Training* was published in 1995, and *Play to Learn: Everything You Need to Know About Designing Effective Learning Games* was published in 2017 with co-author Karl Kapp. Her company is the recipient of more than 30 awards from organizations such as Brandon Hall, Horizon Interactive Awards, and Life Science Trainers and Educators Network.

Her industry interests are wide-ranging and include storytelling, emerging technologies, business strategy, leadership, learning, and experience design.
Laura Fletcher

Laura Fletcher is a seasoned learning consultant with 15 years’ experience in learning and development. She served the clients of Bottom-Line Performance for over seven years, where she designed and developed award-winning solutions ranging from instructor-led workshops to mobile apps. It was during her tenure as manager of Instructional Design at Bottom-Line Performance that her ID team became something of a design-thinking “incubation lab,” experimenting with design thinking techniques and integrating them into the design process.

After leaving Bottom-Line Performance, she joined Salesforce, where she consults with leaders and teams to cultivate advancement- and leadership-readiness. She continues to rely on design thinking to ensure programming meets the needs of thousands of diverse, global employees while also delivering value to the business.

She has a master’s degree in Human Resource Development from the University of Illinois and lives in Indianapolis with her husband and two children.
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In Design Thinking for Training and Development, Sharon Boller and Laura Fletcher share how they adapted the traditional design thinking process for training and development projects, going beyond the user experience (UX) to the learner experience (LX).

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