

2ND EDITION

# TECHNOLOGY FOR TRAINERS

THOMAS A. TOTH

# **TECHNOLOGY FOR TRAINERS**

SECOND EDITION

THOMAS A. TOTH

**atd**  
PRESS

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All images courtesy of Thomas Toth.

ATD Press is an internationally renowned source of insightful and practical information on talent development, training, and professional development.

ATD Press  
1640 King Street  
Alexandria, VA 22314 USA

**Ordering information:** Books published by ATD Press can be purchased by visiting ATD's website at [www.td.org/books](http://www.td.org/books) or by calling 800.628.2783 or 703.683.8100.

Library of Congress Control Number: 2015944998

ISBN-10: 1-56286-939-6  
ISBN-13: 978-1-56286-939-7  
e-ISBN: 978-1-60728-281-5

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Printed by Versa Press, Inc., East Peoria, IL

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# PREFACE

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**WELCOME TO THE** second edition of *Technology for Trainers*. In the 10 years since the first edition, it's remarkable how far technology has progressed—social media, smartphones, tablets, phablets, web 2.0, e-learning software, interaction software, the rise and fall of Flash. I am excited to be able to update this book and provide you, the learning and development professional, with a new version of this technology-centered book.

Even though more technologies are now available to the e-learning developer, traditional training professionals are still being asked to create e-learning—regardless of computer expertise. Business leaders and human resource professionals are asking the training team to create engaging e-learning training programs, thinking that the development of such programs is easy. They expect that any training professional will have some experience developing e-learning, and if not, simply purchasing some software and spending a week learning will get anyone up to speed and delivering quality e-learning. After all, isn't developing e-learning as simple as throwing a few PowerPoint slides together and dropping it into a learning management system? Drop in a few “quality” knowledge check questions and the project is done. Simple, effective, fast.

## **What Makes This Book Different?**

This book is unique because it maintains a focus on the technology but is targeted toward the technology-hungry learning and development professional. It is not geared toward information technology professionals or those who already have a firm grasp of computer technology. Rather, it's designed to explain the technology necessary to turn a training designer's vision into a workable, functional e-learning project.

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Readers of this book will not be taken through a step-by-step development process, nor will they become Internet or e-learning experts, able to program complex e-learning interactions using the latest development software. But by the conclusion of this book, readers will be able to talk intelligently to their designers and technology groups about the technologies necessary to turn a training vision into a reality. And they will be able to make decisions about which software to use and how to identify the technical building blocks of an e-learning project.

### **What's Inside?**

Each chapter of the book addresses a specific process, technique, or technology. Each chapter builds on information presented in the ones before. As a result, it is best read cover to cover. However, if you are faced with a specific e-learning challenge, feel free to jump to a chapter that addresses a need.

### **Chapter 1: What Every Trainer Needs to Know About Technology**

This chapter provides you with an overview of the book and gets you excited about what you'll be reading in upcoming chapters. It also looks at the “build versus buy” dilemma and some of the new changes for e-learning delivery.

### **Chapter 2: The Modern Training Team and Process**

This chapter answers some important questions about the modern training team: What does it take to bring e-learning from design to screen? What is the process for creating an engaging e-learning project? What elements need to be planned out before starting to program a project? It also describes the roles of the training team and offers a step-by-step guide for designing a quality e-learning program.

### **Chapter 3: Delivering on Smartphones and Tablets**

The modern workplace has many ways to consume information and training. Learners are no longer locked to their computer screens to take e-learning courses. But programming and designing training for smaller screens (tablets and smartphones) has its own specific design considerations. This chapter offers some suggestions and best practices for e-learning designers and developers distributing training courses over mobile devices.

## **Chapter 4: E-Learning Development Software**

E-learning developers have many new software options from which to choose. While much of this software is targeted specifically to developing e-learning—great news for designers and developers who have to create e-learning projects on the fly—the plethora of options can make choosing a bit confusing. This chapter demystifies the e-learning development software options and presents a case for and against purchasing an “off-the-shelf” tool.

## **Chapter 5: Simple Coding—Knowing a Little Can Be a Big Help**

This chapter breaks down simple markup language; looks at how text, graphics, and media are placed on a webpage; and touches on some of the core functionality of a web browser. This chapter also explains HTML5, which is the current version of HTML, and how other technologies contribute to it.

While technical, do not fear this knowledge and skip this chapter. The languages of the web are not so complex that you need an information technology degree to understand them. This chapter goes over the basics, and it will go a long way to understanding how code turns training ideas into reality on the screen.

## **Chapter 6: Graphics—Choice Depends on Purpose**

This chapter discusses the types of graphics being used on the web and explains the appropriate use for each graphic type. It contrasts vector and bitmapped graphics, both important for understanding and using products like Adobe Photoshop and Illustrator. At the conclusion of this chapter, you will have added abbreviations like GIF, JPG, and PNG to your vocabulary and know which one to use for the best graphic look.

## **Chapter 7: Graphical User Interface—The Key to E-Learning**

Here is a rule of thumb: If you have to add a help file to an e-learning project so that your learners know how to navigate the program, you have designed a bad interface. While e-learning development software has largely standardized user interfaces, you’ll need to understand the key elements of a user interface—the graphics, the buttons, look, and feel—if you choose to create your own. The interface is the “frame” in which you hang your e-learning

“painting.” You don’t want to have a beautiful portrait hanging in a warped and pitted frame, nor do you want your learners distracted by an inappropriate or confusing interface. This chapter will help you make some good decisions about the look and feel of your e-learning interface.

### **Chapter 8: Fonts and White Space—How E-Learning Use Is Different**

Words on a screen are not the same as words on paper. This chapter dives into the differences between font faces, sizes, spacing, layout, and white space for the screen and for print. Understanding these issues can help you decide how much or how little text you actually place on the screen for your learners to read. These issues only constrain how the content is displayed, not the content itself! This chapter provides examples of good textual displays to use in order to increase the readability of text in your e-learning programs.

### **Chapter 9: Animation—Just Enough, Never Too Much**

This chapter aims to educate you on the joys—and evils—of animation on the web. It goes over the concepts of, the uses for, and the implementation of animation in an e-learning project, as well as the basics of Flash-based animation and HTML5-based animation.

### **Chapter 10: Multimedia—Using Audio and Video in E-Learning**

This chapter tackles the basics of traditional audio and video formats that can be integrated in e-learning programs. It reviews the limitations for delivering them on mobile platforms, as well as best practices for creating quality audio and video files.

### **Chapter 11: Interaction—Creating Content to Engage the Learner**

Trainers have traditionally relied on classroom activities to engage learners and determine if they are comprehending the material. But most e-learning projects lack that human element—direct trainer interaction. Learners working through e-learning projects are motivated both by their desire to learn, and by the creative simulations, quizzes, and interactions built into the project.

This chapter explains the concept of interactivity in e-learning programs. It shows you how to create unique and engaging learner-focused interactions. Even if you are working without an e-learning development software tool, you can still create fun and engaging interactions.

## **Chapter 12: The Learning Management System**

Learning management systems are key for the modern training administration and function. They no longer just track classroom training. They also deliver e-learning courses and report on completion activity. This chapter tries to demystify the complex but important training technology of learning management systems.

## **Chapter 13: E-Learning Development— Two Real-World Examples**

This chapter ties the knowledge and technologies covered in previous chapters and shows how to turn them into actual client projects. It offers examples of real-world projects with the nitty-gritty details on their development processes.

## **Resources**

The list of books, websites, and other resources at the back of the book can help you as you continue your quest to learn more about designing and developing e-learning projects.

## **E-Learning Glossary**

This book contains a very valuable e-learning glossary provided by the Association for Talent Development. Note that a few definitions are specific to this book and are not included in the online version. These definitions, which are not part of the official Learning Circuits glossary, are denoted by an asterisk.

## **How to Use This Book**

*Technology for Trainers* covers the basics of graphics and interface design, demystifies the e-learning specific software options, introduces animation concepts, and discusses the basics of Internet technology. Specific software applications are used to illustrate key points, but not in the same detail as a

## PREFACE

vendor's feature or promotion would. The idea is to provide real-word examples to those on the front line who have to create the graphics, code, and e-learning programs that improve a learner's performance in the workplace.

The task is much more than merely designing a web-based project. Designing e-learning isn't too different from creating traditional training programs. In other words, the elements of effective training and development are the same regardless of the method of delivery. E-learning just requires adding some new skills to your already robust training knowledge and experience.

## Acknowledgments

This book is my fourth, both as an author and contributing author. It's a labor of love, because even 10 years after the first release of the book, many thousands of people still freak out about this e-learning stuff. The training industry once feared that e-learning might render the instructional designer or facilitator obsolete. That just isn't true anymore—e-learning is just another card in the training professional's deck of options. Understanding it is critical to the success of any training professional, but the need for great instructional material and amazing facilitators is not going away.

This book is for my students, attendees, and e-learning peers who have allowed me to continue doing the work I love. Although I've been doing this for a long time—I'm frequently referred to as "the old time programmer"—I still enjoy covering the evolution of the technology in this space. Change is the only constant in the universe, and when we are tasked with developing learning programs using technology that significantly changes every 12 months, it's a fun ride.

Thomas Toth  
September 2015

# 1

## WHAT EVERY TRAINER NEEDS TO KNOW ABOUT TECHNOLOGY

**TECHNOLOGY IS EVERYWHERE.** It's on our desks, in our cars and back pockets, and floating in the air all around us. Today, countless mobile devices—smartphones, tablets, and now the hybrid phablets—connect us to high-speed Internet, anywhere and everywhere. More and more professionals are capitalizing on this connectivity to perform their jobs—in fact, it would be hard to find a job in the United States that doesn't rely on some level of technology.

But with these new technologies come new challenges for training professionals. Learners are turning to technology to help them improve job performance, understand more about a specific topic, and even earn higher education degrees. As a training and development professional, you have a responsibility to create programs and content that leverage these technologies. And yet, many training and performance improvement groups are not positioned educationally or technologically to take advantage.

After all, technology can be quite menacing. Creating, hiring, or training a team charged with developing content to be delivered via technology can be overwhelming. You know you want it. You know you need it. But where do you even start? Do you hire someone to develop it? Do you buy some e-learning software? Do you expand your team? How much does your team already know? How much do you need to know?

### **Technology Can Be Intimidating**

Because technology is changing constantly, what is popular or a best practice today may be different tomorrow. Skills learned today may soon be obsolete, resulting in an exhausting, never-ending churn of learning the newer and better.

Part of the technological anxiety is trying to straddle the gap between what you really need to know to do your job and what you can safely ignore. Bridging that knowledge gap is what this book is all about. As a training and development professional, you need to be able to articulate how certain technologies will impart the knowledge your learners need to change or improve their performance. How can you, leveraging what you know and understand about their needs, help learners?

But remember, e-learning is not the only way for people to learn. Just because technology is everywhere doesn't necessarily mean that it is the solution to all training problems. Consider technology to be one option for you and your learners. Do not push a technology-based training solution when other options are a better fit. As you bring technology-based learning ideas to your projects, don't become so enamored of technology that you eliminate other forms of learning from your repertoire. E-learning is just one card in your deck.

#### **TECH TIP #1**

As a training professional, you need to figure out what you really need to know to do your job and what you can leave for others. You need to understand the capabilities and limitations of the technologies available. And you need to know what you can do and what you can delegate to others. Using a team approach can improve the quality of your e-learning program from a development and learning perspective and avoid wasting your time, the time of your e-learning developers, and—most important—the time of your learners.

Furthermore, just because you can do something doesn't mean you should. As you read through this book, you may have ideas about simulations and interactions that would be amazing learning experiences. Your vision for the design is clear, but you may not have the skills to make your vision a reality. Or perhaps you have the skill to accomplish the vision, but your organization doesn't have the budget to implement it or the infrastructure to support it. Technical limitations are hiding around every corner.

Understanding key concepts, terms, and technologies can make you a valuable asset to a team working to implement e-learning programs. Being able to describe solutions and overcome limitations can get the project programmed and into the hands of your learners. Knowing just enough about the technologies available can help you determine the best path forward.

### **Abacadabra**

This book is filled with magic tricks—tricks that will dazzle your learners. But more useful, this book is filled with the secrets behind the tricks. While you may not be able to perform the sleight of hand, understanding what it takes to make the card disappear or the lady float around the stage gives you an appreciation of both the magician performing the feat and the skill involved in making it happen.

*Technology for Trainers* reveals the secrets of the e-learning developer. Developers and programmers are not the only ones who can create great e-learning programs. Quality programs are within reach of anyone willing to invest the time into learning the methods and skills—the magic—involved in creating them. This book introduces the design, technology, and structure of e-learning programs so that you can develop your own or work closely with other learning or technology folks to produce high-quality programs.

After reading this book, you'll have the confidence to design effective e-learning and maximize the potential of your projects. With the knowledge you gain, you'll be able to provide better direction to your team, make better buying decisions, provide more effective feedback, and help your designers and developers create better e-learning. You'll be able to sit comfortably in front of a computer screen and understand what is going on behind the browser and inside the e-learning development tool. You'll feel comfortable in meetings with web and e-learning suppliers so that when the acronyms start to fly, you'll be able to contribute meaningfully to the conversation.

It's not easy, and things will continue to change. But for now, this book will bestow the necessary knowledge and skills to get you acclimated to the environment.

### **Moving Along**

No doubt you've found yourself in situations where you've come up short in discussions about e-learning technology. You may even feel overwhelmed by the myriad abbreviations and acronyms that computer gurus toss around so easily.

Not to worry! You do need a grasp of some terms and concepts to design and create e-learning, but you don't need to know them all, nor do you need in-depth knowledge of them. But how do you know what you need to know? That's where this book comes in.

Perhaps you've identified some terms or concepts that you think you need to know. Exercise 1-1 can help you identify some knowledge gaps and see how you'll be able to address them using this book.

Chapter 2 discusses the roles of the e-learning designer and developer and offers some development secrets to help you in both roles. You'll see how to develop a project to the point where it is ready to pass to the designer.

#### EXERCISE 1-1. IDENTIFYING THE KNOWLEDGE GAPS

Think about the times when you've heard about technology concepts, terms, and abbreviations but didn't know exactly what they meant. Don't worry about inaccurate spelling or exact wording. Jot them down in the left column and go on to complete the middle column as you glance through the table of contents at the front of this book and the glossary at the back. After you finish reading this book, look back at this exercise and place a checkmark in the right column for each item that you now know more about. The first row is completed as an example for you.

## WHAT EVERY TRAINER NEEDS TO KNOW ABOUT TECHNOLOGY

<i>Concept or Term to Learn</i>	<i>Where You Might Find Relevant Information in This Book</i>	<i>Introduced to the Concept or Term ( ✓ )</i>
JPEG	glossary, chapter 6	✓

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