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Michael Allen's e-Learning Library

# **Designing Successful e-Learning**

Forget What You Know About Instructional Design and Do Something Interesting



# Michael W. Allen



John Wiley & Sons, Inc.

## About this book

### Why is this topic important?

In some ways, instructional design missed the boat. Powerful authoring tools coupled with the Internet and low-cost, media-capable computers expanded the sea of instructional possibilities dramatically and did so almost in an instant. Both synchronous and asynchronous communication capabilities exploded and also brought interactive, multimedia-capable mobile devices into the mix. Experienced instructional designers find guidance lacking in classical literature and design principles, while inexperienced designers are drowning in alluring capabilities.

#### What can you achieve with this book?

You are looking at a lifesaver. This book redirects and narrows the focus of instructional design to those things that matter most in creating successful e-learning applications. Interactive media possibilities easily swamp well-intentioned efforts and reinforce the tendency of organizations to focus on the presentation of information. But with this book, you'll find not only effective ways to design meaningful, memorable, and motivational experiences. You'll also find a blending of successful behavioral change principles. Based on dozens of research studies, these principles will help you design learning events that go far beyond the transmission of information to achieve behavioral change and targeted performance levels.

## How is this book organized?

This book is divided into three parts.

## Part I Scenarios

These short scenarios capture common situations in which instructional designers often find themselves. The decisions designers made are listed for you to judge before you read Parts II and III, so you can assess your approach and instincts against thoughts presented in this book.

## Part II The Art and Science of Instructional Design-

#### A Balanced View

Research, theories, and popular approaches are identified and discussed as a backdrop for presenting the Success-Based Design techniques discussed in the remainder of the book. The need to prepare learners for learning and to assist them in transferring new abilities to applied performance mandates a design perspective that's expands outside the box of simply preparing learning modules.

### Part III Designing Successful e-Learning

The chapters of Part III step through each phase of learning and stage of behavioral change, presenting applicable instructional design concepts and techniques. A matrix of the components of interactivity (context, challenge, activity, and feedback) crossed over the critical characteristics of learning events (meaningful, memorable, and motivational) provides the structure.

## About the library series

After success with Authorware, Inc. and Macromedia, I felt that I had made a contribution to learning that would satisfy me through retirement. And retire Mary Ann and I did . . . for a few months.

But as my colleagues and I observed what happened with tools that made development of interactive learning systems so much easier to master, it was clear the job wasn't done. Instead of wondrously varied instructional paradigms burgeoning forth, offering more learning fun and effectiveness to the benefit of people and organizations everywhere, we found dry, boring, pedantic presentation of content followed by posttests. The very model of instruction that was drudgery without technology was being replicated and inflicted on ever greater numbers of captive audiences.

Making technology easier to use provided the means, but not the guidance, necessary to use it well. To atone for this gross oversight on my part, I formed Allen Interactions in 1993 with a few of my closest and most talented friends in e-learning. Our mission was and is to help everyone and anyone produce better technology-enhanced learning experiences. We established multiple studios within our company so that these teams of artisans could build long-term relationships with each other and their clients. Studios develop great internal efficiencies and, most importantly, get to understand their clients' organizations and performance needs intimately—sometimes better than clients understand them themselves.

Although our studios compete in the custom development arena, we also share our best practices openly and freely. We exhibit our applications as openly as clients allow, hoping they will stimulate critique and discussion so we can all do better and so successful ideas can be broadly applied. We teach and mentor in-house organizations that aspire to create great learning applications. And, in close association with the American Society for Training & Development (ASTD), we offer certificate programs to help participants develop effective design and development skills. This series of books is another way we are doing our best to help advance the field of technology-enhanced learning. I've not intentionally held back any secrets in putting forth the best practices our studios are continually enhancing.

This, the second book in the series, presents an expanded view of instruction, looking not only at the key factors of successful learning experiences, but also at what influences learners and performers before, during, and after instruction. Six books are planned for this library, each to be focused on one major aspect of the process of designing and developing great e-learning applications. I plan to address learner interface design, project management, deployment, and more. When the series is compiled, I hope it will be a useful tool for developing great and valuable learning experiences.

## Michael Allen's e-Learning Library

Volume 1	Creating Successful e-Learning—
	A Rapid System for Getting It Right First Time, Every Time
Volume 2	Designing Successful e-Learning— Forget What You Know About Instructional Design and Do Something Interesting
Volume 3	Successful e-Learning Interface— Making Learning Technology Polite, Effective, and Fun
Volume 4	Managing e-Learning Development— Creating Dramatic Successes Even With Outrageous Timelines, Budgets, and Expectations
Volume 5	Deploying e-Learning Successfully— Improving Performance Takes More Than Good Instruction
Volume 6	Evaluating e-Learning Success— Making Evaluation Inexpensive and e-Learning Priceless

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For Carl Philabaum whose interface design talent remains unequalled and whose perspectives on computing brings me hope.

# Foreword

I was very pleased when Michael Allen asked me to write a foreword for his new book, *Designing Successful e-Learning*. Michael Allen is an e-learning pioneer who has a deep knowledge and tremendous experience in designing world-class e-learning solutions. Because of his passion to move the advancement of e-learning to the next level, he shares with the reader his unique expertise, specific insights, and concrete examples for designing effective online learning.

In this foreword, first we'll discuss a conceptual framework that provides a continuum of online learning capabilities, then preview the contribution Michael Allen's new book offers to our collective abilities to produce learning that is *meaningful, memorable, and motivational,* and finally explore a snapshot of the future of learning in a virtual world.

When I published the English edition of *The e-Learning Fieldbook* in 2004 (www.elearningfieldbook. com), e-learning was in the initial developmental stages. I gathered case examples of leading practices in major Fortune companies and organizations worldwide and found that one of the most critical success factors for the adoption of e-learning is the capability to design high quality and effective e-learning. In reviewing a large number of e-learning programs launched over the years, I am still convinced that this is one of the key and most interesting challenges for all e-learning professionals.

Four years ago, there were many projections that the e-learning field would experience exponential growth. These forecasts have actually been surpassed due to a great extent by the seminal work of pioneers like Michael Allen in maximizing the quality and effectiveness of e-learning design.

## **Online Learning Continuum**

It is a real page-turner...usually describes an exciting, dynamic whodone-it novel that keeps you engaged from the first moment right up to the last page. However, the early world of e-learning produced exactly the opposite, e-learning courses with limited instructional design *e-reading page-turners* or PowerPoint<sup>®</sup> slides that were read online, with limited interaction and no dynamic exchanges. Learners engaged in this type of e-learning were disillusioned and initially turned off about learning online. This experience supported my firm belief that e-learning excellence requires the right investment in instructional design, founded on proven didactical/learning theories and principles. The Online Learning Continuum figure below depicts applications of e-learning methods that support effective learning and the design requirements at each stage.

As you move along the continuum from e-reading to e-learning, it is important to note that the degree of investment in instructional design increases the further out you move. Simulations, gaming, and scenario-based e-learning courses are the most powerful learning experiences, because they provide people with opportunities to do the



job in a simulated environment. Designing this level of e-learning solutions requires a combination of well-educated and experienced elearning designers who have a drive to enhance the e-learning experience, the right design and development methods and tools, and last but not least, sufficient design and development time. This can result in high-impact e-learning solutions that are dynamic, engaging, fun, and effective.

## Why is the book important?

As a leader in applying the theories of behavioural, cognitive, humanistic, and social theory to the development and design of e-learning programs, Michael believes that online learning must surpass a course focus to include all of the stages of growth and development required to generate behavioral change-the ultimate outcome of learning. His focus embraces the complete online learning process from pre-program online learning investments, through excellent e-learning course design, to post-program actions that embed the learning in new behaviors.

The theoretical literature on learning and growth can be difficult to master and even more challenging to integrate into e-learning, but Michael has made this easy for all of us. He explains this thinking in clear and accessible language, amplifies the theories with research results, and describes popular approaches by applying these theories to learning and growth. Taking the illustrations even further into the field of e-learning design, he offers useful scenarios and practical examples of how these theories can be employed in online learning programs, providing readers with concrete ideas to leverage them in their own work.

# Where does e-learning go from here?

A myriad of online learning solutions have emerged over recent years, including self-paced e-learning, virtual classrooms, simulations, games, and communities of practices,

A number of integrated learning solutions provide people with access to information/knowledge over time and support the e-learning design advocated by Michael Allen. Whereas people in the past searched in books and with colleagues and friends for knowledge, today Google has become the *killer application* for learning. Podcasting, both for sound and video, has been launched

## Spectrum of Formal and Workplace Learning



Access to Information / Knowledge

by many enterprises and proven to be a very effective medium too for sharing knowledge with a younger generation, as universities are leveraging the ubiquitous iPod<sup>®</sup> and its competitors to provide students with access to curricula and online lectures.

Collaborative learning applications, including communities of practice, expert networks, and online simulations, are experiencing rapid growth and will have a strong future as they support the teambased learning style of Generation Internet. The classroom has been transformed in many organizations from lecture-based and PowerPointdriven events toward a facilitated learning continuum. Classroom Certification of Competences

simulations and expert performance coaching provide people with a real work experience in a safe environment and support the integration of new behaviors into the workplace.

Most enterprises are in the process of defining a new learning strategy that will provide knowledge and skills to their people when they need it. All learning solutions shown in the visual above will be part of this extended blend of learning.

Personally, I am convinced that the next generation of e-learning solutions will be 3-D virtual learning environments comparable to Second Life (www.secondlife.com). Second Life is a 3-D global virtual world built and owned entirely by its residents. Since opening to the public in 2003, it has grown explosively and is inhabited by millions of people from around the globe. Even the U.S. presidential race has town meetings inhabited by avatars of the candidates and joined-in by residents of the virtual world. In the business world, these 3-D learning environments will include employee avatars and will provide the learner with a complete, real, interactive, and collaborative learning experience that is completely learner-centric.

Very interesting times ahead of us all—but it's clear to me that emerging technologies will provide new opportunities for developing e-learning solutions. However, they will only be adopted and successfully implemented if solid instructional design methods and human cognitive and behavioral learning practices have been applied.

I hope that you will enjoy this book and will apply the knowledge in your daily work, taking e-learning to the next level.

Nick van Dam, Ph.D. Global Chief Learning Officer for Deloitte Founder & Chairman, e-Learning For Kids Foundation www.e-learningforkids.org

# Preface

Writing a short book on instructional design is difficult. Just as Mark Twain mused that he didn't have time to write a short letter and so wrote a long one, this short book took me far longer to write then I anticipated. But it also took me to points of interest I didn't anticipate with results I find exciting.

I didn't want to simply restate points I've made in previous books, no matter how important and valid I think they are and no matter how often people ignore them, gleefully creating boring and dreadful learning experiences aplenty. Those points are made as well as I know how, and while I do revisit some of them in this book, I wanted this series to move forward, as I hope my own thinking about e-learning and instructional design is.

The perspective of forgetting what you "know" about instructional design is helpful because in creating e-learning that doesn't work and is, indeed, so often boring, designers frequently defend their decisions based on what they feel is solid knowledge about how design should be done or about how humans learn. I don't often find myself disagreeing about the referenced research, but if the science is true and the e-learning are poor, there's a problem in translating principles to application.

Problems often occur in generalization. A study reports that learners preferred narration of on-screen text; therefore, narration should always accompany on-screen text. Of course, that's not always true or a good design decision. One has to be extremely careful and thoughtful in translating research findings to practice. The proof is, of course, "in the pudding." If the e-learning is ineffective, the design wasn't good, no matter how defensible referenced research may be.

In this book, I've tried to combine the two poles of wisdom-what we know from research and what we know from experience-to create a core set of recommendations and guidelines. In developing this approach, I discovered something I think is truly profound, exciting, and practical. It's the Stages of Change model by James Prochaska, John Norcoss, and Carlo DiClemente developed from a meta study of research done on how humans change their behavior patterns. This research strongly suggests that for people to change their behavior they must traverse welldefined stages in a specific sequence.

If they do not satisfy the requirements of each stage, any observable changes will be short-lived. The model lists techniques that have proven successful in helping people work through the stages and achieve behavioral change.

As we look at this model from the instructional point of view, it points out the need to prepare learners for change before we begin teaching them how to change. And it points out how we must assist learners after they have begun to apply new skills so that they won't fall back into less desirable behavior patterns. This perspective demands that we design outside the box of instructional modules and think more broadly about the things influencing learners before (Pre-instruction phase), during (Instruction phase), and after instruction (Performance phase). By taking a broader perspective, we can see how blending e-learning technologies with informal learning, learning support, and performance support can strongly increase the prospects of achieving performance success.

Finally, I took another look at two powerful concepts I've introduced in previous books and presentations: 1) interactive events are constructed of four components—context, challenge, activity, and feedback, and 2) instructional events must be meaningful, memorable, and motivational to achieve desired results. In this book, I've combined these concepts into a 4 x 3 matrix to provide a structure for discussing specific design guidelines that seem, in my practice, to be successful time and time again.

There has long been a problem of how to discuss instructional design. We are crippled by the lack of a generally understood vocabulary about instructional design, and therefore, when people discuss designs, they often feel they're in agreement when it later turns out they were far from it. I think the matrix helps by providing a conceptual language designers can use to talk both among themselves and with other stakeholders about design decisions.

I hope you'll find the perspectives and tools introduced in this book helpful as you move your own thinking about instructional design forward.

> February 6, 2007 MWA

# Part One Real-World Contexts

Believing that learning experiences are most interesting when they begin with a challenge—not a daunting challenge, not a potentially embarrassing experience, but a challenge that immediately focuses learners on the task at hand and shows them they have applicable skills (if they do) and that there's still something to learn (if there is)—we begin Part One with a set of very modest challenges.

The first three challenges are embedded in scenarios drawn from experience with organizations that are searching for ways to be effective with e-learning. For each scenario, I've listed design principles these organizations have put forth to guide their work. Some of the principles obviously came from traditional instructional design curricula. Others came from personal preference, an intuitive sense of what would be best, or who knows where. Sometimes, I'm truly mystified.

I'm asking for your opinion of each principle proposed before you read what I have to say about it. Some of the listed principles I can support; others I find problematic. I'm sure you will too. You and I might agree, I might change your mind, and I might not. In work that's as creative as e-learning, where we are working with many variables, there are few indisputable rights and wrongs. Even what might seem to be a ridiculous shortcut, such as "give no feedback," can be an excellent principle in some circumstances. While there is a great body of research to draw from, the innumerable variety of circumstances designers contend with makes instructional design much more of a problem-solving practice than a technology.

## The question is: What would you do?

# In This Part

What I hope to do in this part is get you thinking and questioning. Few people believe e-learning is achieving its potential. Too much of it is embarrassingly bad from almost any point of view. But there are times when it has provided amazing learning experiences—experiences that have changed individual lives, opened the door to new careers, and helped organizations not only survive, but achieve spectacular bottom-line performance. This potential would be too great an opportunity to ignore, even if e-learning weren't so attractive because of its ability to reduce instructional costs.

This book is all about questioning what we think we know about instructional design. It's far more important that designs lead to successful performance than comply with tradition, principle, or theory. So think about the principles listed in the first three scenarios and note what you think about them.

In Scenario 4, I'm asking you to list your most cherished design principles. I'm only looking for ten. If you're an experienced designer, you'll have trouble reducing your list to just ten, although as you begin to list them with a questioning mind, you might feel like withdrawing a few that seemed like good candidates at first. If you're new to the field, you might have trouble coming up with ten, but just think about the learning experiences you thought were exceptionally good and draw principles from them. You can also draw from the ideas in the previous scenarios. Try to come up with ten if you possibly can.

# **Scenario 1: Hoboken Automotive Devices**

Hoboken Automotive Devices excitedly launched new interactive courses on leadership, performance evaluation, and sexual harassment in 2005. Their internal team of ten people, plus almost as many external independent contractors, designed and built the courses following the successive approximation protocol. They had never tried this method before, but resolving a few points of confusion here and there only brought deeper appreciation for the process.

Margaret Applegate was named project manager. She received her master's degree in instructional design six years ago, earning almost straight As. She's been working as a technical writer and instructional designer at Hoboken for almost ten years and has rolled out numerous electronic reference manuals and interactive user guides.

To make sure they didn't waste their funds, course designs were consistent, and quality standards were met, Margaret set criteria for their e-learning projects. Among Margaret's requirements were the following:

- Courses will be broken down into short modules, rarely requiring a learner to spend more than twenty minutes to complete each one.
- Behavioral outcome objectives will be listed for learners at the beginning of each module.
- Lessons will be highly interactive, requiring frequent user input. Game formats, such as Jeopardy or Wheel of Fortune, should be used to keep learner interest high.
- To gain positive learner reactions, learner errors should be minimized.
- Task concepts and processes are presented clearly and demonstrated before learners are asked to perform them.
- To make the procedures covered in the courses workable as corporate standards, content must be complete and suitable for new employees as well as for recurrent training.

The review committee was very excited about the courses from both a content and design point of view. The interactive games were clever, the overall graphic appearance was fresh and energetic, and the content seemed to be exactly right. Initial reviews from employees were very positive.

What's your take?				
Do you think Hoboken Automotive Devices is successful with their e-learning under Margaret's direction?	O Yes O No	<b>t's your take?</b> If No, why not?		

For each of Margaret's requirements below, check whether you think it was a good idea or a bad one. Note why you think his requirements are good or bad or what you would do:

1. Courses are broken down into short mod-	O Good	Why?
ules, rarely requiring a learner to spend more	O Bad	
than twenty minutes to complete each one.	O Don't Know	
2. Behavioral outcome objectives are listed for learners at the beginning of each module.	<ul><li>O Good</li><li>O Bad</li><li>O Don't Know</li></ul>	Why?

## Scenario 1

<ul><li>O Good</li><li>O Bad</li><li>O Don't Know</li></ul>	Why?
<ul><li>O Good</li><li>O Bad</li><li>O Don't Know</li></ul>	Why?
<ul><li>O Good</li><li>O Bad</li><li>O Don't Know</li></ul>	Why?
<ul><li>O Good</li><li>O Bad</li><li>O Don't Know</li></ul>	Why?
	<ul> <li>Good</li> <li>Bad</li> <li>Don't Know</li> <li>Good</li> <li>Bad</li> <li>Don't Know</li> <li>Good</li> <li>Bad</li> <li>Don't Know</li> <li>Bad</li> <li>Don't Know</li> <li>Mathematika</li> <li>Mathematika</li></ul>

# Scenario 2: Water Mountain Beverage Company

Ichiro of Water Mountain Beverage Company has always been a meticulous instructional designer—organized, punctual, and charismatic. Everyone trusts Ichiro, both those inside and outside the training department. Trainers have confidence in Ichiro's experience and his ready knowledge of learning research. Division leaders actually recognize their naiveté about instruction, but feel that because Ichiro is in charge, their training is superior to the competition's and gives them a competitive advantage.

e-Learning at Water Mountain Beverage Company is used widely. It has saved significant training expenses. It has saved so much, in fact, that they now develop and deliver about three times the amount of training offered in the past, and training expenses still total less than before. Employees accept e-learning, although they often have to be coerced to take it. There are plenty of jokes about things they find poorly done, and everybody shares cheat sheets to minimize the time needed to complete lessons.

Ichiro has used successive approximation—the process detailed in the first book of this library—for some projects, especially where there are political sensitivities in the organization and where courses have high visibility. But he doesn't like the level of control he gives up in the process. After all, personnel supervisors aren't instructional designers. Why should their opinions about content and interactivity be debated? It just wastes time.

Ichiro prefers the manageability of gathering information, completing a needs analysis, performing a task assessment, choosing appropriate media, storyboarding the design, getting the thing built, and rolling out the instruction. It's hard and complicated, but he knows how to get it done. He likes the expediency of letting each specialist do what he or she does best, and getting on with it.

But successive approximation has yielded some project wins for him. When he knows a project is ill conceived, for whatever reason,