Multimedia-Based Instructional Design

COMPUTER-BASED TRAINING
WEB-BASED TRAINING
DISTANCE BROADCAST TRAINING
PERFORMANCE-BASED SOLUTIONS
SECOND EDITION

William W. Lee
Diana L. Owens
About This Book

Why is this topic important?

Making training solutions available in a timely manner is increasingly critical to add value to an organization. Training groups that are seen to be responsive and in touch with the corporation's needs are perceived to add increased value. Therefore, a consistent, replicable, and efficient instructional design model that enables rapid development is increasingly critical. Projects move faster when everyone in a training organization or project team understands, adopts, and follows a consistent model.

What can you achieve with this book?

The purpose of this book is to provide a consistent, replicable, and efficient model that will get training and performance solutions to market at the time they will provide the optimum benefit.

How is this book organized?

This book is divided into four parts. Part One is Multimedia Needs Assessment and Analysis. This part explains the activities that must be completed for twelve types of analysis and assessment and a rapid analysis model that can be used once each of the individual activities is completely understood. Tools are provided for each type of assessment and analysis to document and track the data and results of analysis. Part Two is Multimedia Instructional Design, which explains how to develop a Course Design Specification. A Course Design Specification creates the "rules" for all project members to follow to make a project run more efficiently and effectively. Again, tools are provided to complete each activity. Part Three is Multimedia Development and Implementation, which outlines the common and unique elements of producing computer-based, web-based, distance broadcast, and performance-based solutions. Useful task tracking and development tools accompany the explanation of each delivery media. Part Four is Multimedia Evaluation. This part describes how an organization can develop an evaluation strategy and, further, how to create an evaluation plan for each project. Specific instructions on how to collect and analyze data within each project plan are included to help project teams complete an evaluation that is credible, consisting of both validity and reliability. Four appendices contain completed examples of tools, and a fifth appendix shows examples of the tool templates that are included on the CD ROM.
About Pfeiffer

Pfeiffer serves the professional development and hands-on resource needs of training and human resource practitioners and gives them products to do their jobs better. We deliver proven ideas and solutions from experts in HR development and HR management, and we offer effective and customizable tools to improve workplace performance. From novice to seasoned professional, Pfeiffer is the source you can trust to make yourself and your organization more successful.

Essential Knowledge  Pfeiffer produces insightful, practical, and comprehensive materials on topics that matter the most to training and HR professionals. Our Essential Knowledge resources translate the expertise of seasoned professionals into practical, how-to guidance on critical workplace issues and problems. These resources are supported by case studies, worksheets, and job aids and are frequently supplemented with CD-ROMs, websites, and other means of making the content easier to read, understand, and use.

Essential Tools  Pfeiffer’s Essential Tools resources save time and expense by offering proven, ready-to-use materials—including exercises, activities, games, instruments, and assessments—for use during a training or team-learning event. These resources are frequently offered in looseleaf or CD-ROM format to facilitate copying and customization of the material.

Pfeiffer also recognizes the remarkable power of new technologies in expanding the reach and effectiveness of training. While e-hype has often created whizbang solutions in search of a problem, we are dedicated to bringing convenience and enhancements to proven training solutions. All our e-tools comply with rigorous functionality standards. The most appropriate technology wrapped around essential content yields the perfect solution for today’s on-the-go trainers and human resource professionals.
Multimedia-Based Instructional Design
Multimedia-Based Instructional Design

Computer-Based Training
Web-Based Training
Distance Broadcast Training
Performance-Based Solutions
Second Edition

William W. Lee
Diana L. Owens

Pfeiffer
A Wiley Imprint
www.pfeiffer.com
CONTENTS

List of Figures and Tables xiii
Acknowledgments xvii
Introduction: Getting the Most from This Resource xix

PART ONE Multimedia Needs Assessment and Analysis 1
  1 Introduction to Multimedia Needs Assessment and Front-End Analysis 3
  2 Needs Assessment 6
  3 Front-End Analysis 15
  4 Audience Analysis 18
  5 Technology Analysis 22
  6 Situational Analysis 28
  7 Task Analysis 31
  8 Critical Incident Analysis 36
  9 Issue Analysis 39
 10 Objective Analysis 42
 11 Media Analysis 55
 12 Extant Data Analysis 73
To Walter M. Lee

—Bill Lee

To my husband, Terry, for his feedback and support, wonderful sense of humor, and the many things I have learned from him that have contributed to this text

To my parents, Luella and Bill Dubois; my son, Rob MacKey; and his wife, Jessica, for their constant demonstrations of love, encouragement, and support

—Diana Owens
## List of Figures and Tables

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.1</td>
<td>Components of E-Learning Implementation</td>
<td>xx</td>
</tr>
<tr>
<td>I.2</td>
<td>Introductory Page of Automated Project Management Tool</td>
<td>xxiii</td>
</tr>
<tr>
<td>I.3</td>
<td>Xegy™ Conceptual Framework</td>
<td>xxv</td>
</tr>
<tr>
<td>2.1</td>
<td>Five Types of Need</td>
<td>6</td>
</tr>
<tr>
<td>2.2</td>
<td>Data-Collection Techniques</td>
<td>8</td>
</tr>
<tr>
<td>3.1</td>
<td>Types of Front-End Analysis</td>
<td>15</td>
</tr>
<tr>
<td>3.1</td>
<td>Instructional Design Phases and Time Ratio</td>
<td>17</td>
</tr>
<tr>
<td>7.1</td>
<td>Adult Learning Theory</td>
<td>32</td>
</tr>
<tr>
<td>7.1</td>
<td>Task Analysis Diagram</td>
<td>33</td>
</tr>
<tr>
<td>7.2</td>
<td>Task Order</td>
<td>35</td>
</tr>
<tr>
<td>9.1</td>
<td>Issue Analysis Model</td>
<td>41</td>
</tr>
<tr>
<td>10.1</td>
<td>System Flowchart</td>
<td>43</td>
</tr>
<tr>
<td>10.1</td>
<td>Domains of Learning</td>
<td>44</td>
</tr>
<tr>
<td>10.2</td>
<td>Levels in the Cognitive Domain</td>
<td>45</td>
</tr>
<tr>
<td>10.3</td>
<td>Levels in the Affective Domain</td>
<td>45</td>
</tr>
<tr>
<td>10.4</td>
<td>Levels in the Motor and Psychomotor Domain</td>
<td>47</td>
</tr>
<tr>
<td>10.5</td>
<td>Ordering Objectives</td>
<td>48</td>
</tr>
<tr>
<td>10.6</td>
<td>Five Parts of an Objective</td>
<td>49</td>
</tr>
</tbody>
</table>