TH201TI: Developing Effective Detailed Design Documents and WBT/CBT Storyboards

Session Objectives

• Evaluate project scenarios to determine design solutions
• Assess key principles of detail design documents
• Develop an e-learning detail design document integrating the key principles
• Develop a storyboard incorporating the key principles

Presenters

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Introduction

New to WBT/CBT? Changing roles? About to start the instructional design for a WBT or CBT? In this session, find the answers to all your questions about detailed designs and storyboards.

Writing a detailed design document is both art and science. It is science because there is a process and steps to follow. It is art because each project does not easily fit into a cookie-cutter mold.

An effective detailed design begins with a basic outline; then, the expertise of the designer, parameters of the project team and needs of the client are incorporated to shape the final product. Effective storyboards are created using a few key principles, once a detailed design document is completed.

The detailed design is your roadmap for developing the storyboards; the storyboards then fill the features into that roadmap.

After years of experience, the speakers have found a handful of key principles that lead to faster client approval and fewer edits during the design and development process. In this session, you’ll learn those key principles, receive sample WBT/CBT detailed design documents, sample storyboard documents, and practice writing them yourself!

Objectives

First it is important that you understand this presentation will focus on the instructional designer’s perspective and that when we use the word e-learning, we are referring to Web-Based training. The learning objectives for this session are:

- Evaluate project scenarios to determine design solutions
- Assess key principles of detail design documents
- Develop an e-learning detail design document integrating the key principles
- Develop a storyboard incorporating the key principles

Target Audience - Instructional Designers
Activity #1

e-learning Challenges

Visit each of the five stations of e-learning development. At each station, write 1 to 3 challenges you have faced during this phase of eLearning development.

Five Stations/Phases

1. Content Gathering and Analysis
2. High Level Design
3. Detailed Design
4. Storyboarding
5. WBT Modules (Alpha, Beta, Final)

Objective: Assess key challenges to effective e-learning design and storyboarding

<table>
<thead>
<tr>
<th>Step</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Go to each of the five stations.</td>
</tr>
<tr>
<td>2.</td>
<td>Take two minutes to discuss and brainstorm challenges you have faced in that phase of e-learning development.</td>
</tr>
<tr>
<td>3.</td>
<td>Record 1-3 challenges on a sticky note and on the next page in your handout. Be prepared to share your story with the group.</td>
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<tr>
<td>4.</td>
<td>Continue at the station until the music stops.</td>
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<tr>
<td>5.</td>
<td>Record the challenges on the next page of your handout.</td>
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<tr>
<td>6.</td>
<td>Move to the next station and repeat.</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Challenges</th>
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<td>Content Gathering/Analysis</td>
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</table>
# Detailed Design Development Steps

During the Detailed Design phase consider all the learning components, i.e. pre-instructional activities, content presentation, learner participation, assessment, follow-up activities. Provide as much information as possible to ensure understanding of the final deliverables.

<table>
<thead>
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<th>In order to...</th>
<th>You should...</th>
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| 1. Identify learner characteristics | □ Identify common learner characteristics.  
□ Design instruction that incorporates different types of learning strategies to meet the needs of the entire population. |
| 2. Identify content and content resources | □ Identify content as related to the stated goals or purpose of the training (textbooks, research, curriculum guides, expert opinion, client or user opinion).  
□ Gather and analyze the materials (time, importance of content, and cost of development). |
| 3. Develop instructional objectives | □ Analyze the goals for types of objectives needed, i.e. knowledge, skill, and attitude.  
□ Determine the terminal objectives and enabling objectives that support the learning.  
□ State the learning objectives in observable and measurable terms. |
| 4. Identify instructional strategies (learners need to make a connection between the new knowledge and existing knowledge) | □ Develop your strategy based on the content and learning requirements.  
□ Consider all alternative delivery methods and select the best media based on the strategies.  
□ Include elements that get the learner’s attention, make the training relevant, and build the learner’s confidence. |
| 5. Sequence content (flow and chunking) | □ Include prerequisite information if appropriate.  
□ Organize content in an appropriate sequence (simple to complex).  
□ Develop content in smaller chunks using lessons or units.  
□ Determine appropriate pacing, i.e. when to include examples and practice.  
□ Incorporate an organizer so that the learner knows what to expect in each lesson, i.e. overview, objectives, content, practice. Sequence each lesson to follow the same organization.  
□ Develop sample assessment items |
| 6. Determine practice methodology (presentation method, case study, role-play, games, simulations, etc.) | □ Consult with the client on the appropriateness of the presentation methods chosen – even if they have already been determined.  
□ Include enough practice for each objective to ensure student success. |
| 7. Conduct review  
Internal review  
Client review | □ Include an internal review during each step of the ID process.  
□ Provide clear directions to the client on how to review the materials, i.e. include areas of concern. |
Activity #2
Application to “Real Life”
Problem

The most important aspect of design is that all elements of the instructional design link back to the overall performance goal and performance/supporting objectives. Everything that takes place in the instruction should, ultimately, support the achievement of the overall performance goal.

Work with your partners to build a detailed design using a scenario provided. Determine how to incorporate the Detailed Design Development Steps into your document.

Objective: Develop an e-learning detail design document integrating the key principles

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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Work with your partners to complete a detailed design document. You are a team of instructional designers that must complete this project the fastest/simplest way possible with a small budget and tight timeline.</td>
</tr>
<tr>
<td>2.</td>
<td>Open your bag and use your supplies to build a bridge. Everything you need, including the audience analysis, is included.</td>
</tr>
<tr>
<td>3.</td>
<td>Consider the Detailed Design Development Steps while writing the DDD.</td>
</tr>
</tbody>
</table>
| 4.   | Use the following parameters when writing the DDD:  
    - You are developing a two to three minute WBT.  
    - Write a minimum of two objectives, but no more than four.  
    - Include an introduction in your course.  
    - You may include one of the following media – photo, animation, voice over, graphic and/or video.  
    - Include a conclusion in your course. |
| 5.   | Take 15 minutes to build your bridge and write the DDD. |
| 6.   | Record your email addresses on the last page of the DDD. |
Activity #3
Discussion - Storyboard Template and Steps

During the storyboard development phase: use the detailed design document as a guide, stay focused on the objectives, include interactivity and work with the production team.

Reflect back to the e-learning challenges and the five stations of e-learning development. You are now ready to begin phase 4 – storyboarding. How will you proceed?

Review the storyboard template and compare it with the Storyboard Development Steps to orient yourself with the document and identify the parts.
## Storyboard Template

<table>
<thead>
<tr>
<th>Step</th>
<th>You should...</th>
</tr>
</thead>
</table>
| 1. Use the detailed design document as your guide | - Stay focused on the objectives. Regularly check to make sure the materials support the learning objectives.  
- Keep the learner analysis in mind. Develop to the typical range of abilities for your audience.  
- Present the content in small chunks using lessons or units.  
- Determine if the pacing outlined is still appropriate, e.g. when to include examples and practice. |
| 2. Write storyboards | - Incorporate sound adult learning principles to increase retention and transfer of knowledge.  
- Use appropriate examples to tie new information with existing knowledge.  
- Present new knowledge using creative, interactive activities to motivate the learner.  
- Target each subtask for a skill objective, and provide instruction that allows the learner to perfect smaller skills first, finding success and growing in confidence along the way.  
- Develop learning materials for attitude objectives that focus on the behaviors, providing learners with clear examples and non-examples of the appropriate ways to act in order to support the objectives.  
- Work closely with subject matter experts to determine metrics that reflect the learners’ attainment of appropriate attitudes. Once there is agreement on the appropriate measures, develop training materials to ensure that learners are aware of actions needed to show compliance with attitude standards and objectives.  
- Use concrete words that create clear mental images, e.g. illustrations, active sentences, examples and text to explain a graphic.  
- Use visual tools, if appropriate, to lay out a sequence of steps, hierarchy, or flow.  
- Use instructional cues, e.g. first, second, third and transitions, when applicable, to move the learner from one idea to the next.  
- Open the course with a splash page (introduction to course).  
- Incorporate the organizer from the detailed design document so that the user knows what to expect in each lesson, e.g. overview, objectives, content, practice.  
- Always spell out the details to avoid confusion during production. Do not take shortcuts in the process or you risk misunderstandings and greater costs. |
| 3. Develop practice items | - Incorporate practice questions in key areas of the learning materials to ensure the learner is focusing on the most important information provided in the training.  
- Carefully design the practice to address a specific objective.  
- Incorporate immediate feedback so the user can confidently advance to the next step.  
- Offer the user an opportunity to review the material if mastery of the objective is not accomplished. |
<table>
<thead>
<tr>
<th>Step</th>
<th>You should . . .</th>
</tr>
</thead>
</table>
| 4. Work with production team | □ Identify all players at the beginning of the project, if possible.  
□ Make e-Learning interactive, but remember that instruction should be the priority.  
□ Use a variety of media to accommodate different learning styles.  
□ Determine the level of interactivity that will be incorporated into the training.  
□ If appropriate, ensure that the user has the ability to begin and exit the course as required.  
□ Know your skill limitations and engage team members.  
□ Monitor each stage of production to ensure the design guidelines are followed.  
□ If a prototype or template is available, review with the client early in the development phase.  
□ Ensure at the design phase that all intended users can access the program and all the features.  
□ Determine the media and materials that are within the project budget, as well as convenient and practical for the learning environment. |
| 5. Develop scripts | □ Ask the question, “Should we incorporate the written script for visual learners?” Audio is a good medium for presenting verbal information, but consider the cost.  
□ Ensure you have the right subject matter expert participating at the beginning of development.  
□ Remember time constraints when working with your subject matter expert. |
| 6. Develop or capture supporting content (screen captures, Captivate files, online simulations, glossaries, quick reference guides) | □ Provide job aids that summarize the new information to support retention of new knowledge.  
□ Determine if step-by-step instructions are applicable; if yes, develop a job aid.  
□ Include a mechanism for the user to increase the size of a screen capture when presenting system training.  
□ Determine if glossaries or quick reference guides will be printable. If yes, ensure the user has the capability and that the production team is aware of the fact early in the project. |
| 7. Review | □ Include an internal review during each step of the ID process.  
□ Provide clear directions to the client on how to review the materials, i.e. include areas of concern.  
□ Ask clarifying questions and incorporate feedback. |
Activity #4
Storyboard Puzzle

Work with your partners to complete a storyboard puzzle. Refer to the template and Storyboard Development Steps to help you organize the pages.

**Objective:** Develop a storyboard incorporating the key principles

<table>
<thead>
<tr>
<th>Step</th>
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<tbody>
<tr>
<td>1.</td>
<td>Work with your partners to complete a storyboard puzzle. You are a team of instructional designers that must complete this project within a tight timeline.</td>
</tr>
<tr>
<td>2.</td>
<td>Open your envelope and use your supplies to build a storyboard. Everything you need is included.</td>
</tr>
<tr>
<td>3.</td>
<td>Consider the Storyboard Development Steps and template while completing the puzzle.</td>
</tr>
</tbody>
</table>
| 4.   | Use the following parameters:  
  - You are developing a two to three minute WBT.  
  - Include an introduction in your course.  
  - You may include one of the following media – photo, animation, voice over, graphic and/or video.  
  - Include a conclusion in your course. |
| 5.   | Take 15 minutes to complete the puzzle. |
Co-speakers

Georgianna Marie is the President and Owner of The GMarie Group, a training and development consulting firm located in Chandler, AZ. In her role as leader of The GMarie Group, Ms. Marie oversees the design and development of large- and small-scale performance improvement projects, many of which include learning deliverables.

Ms. Marie has a BA in English and Philosophy, an MA in Psychology and an M.Ed in Instructional Technology. Georgianna and The GMarie Group team utilize principles of human behavior and adult learning to help individuals and teams excel. Specifically, GMG’s work focuses on how to structure effective and efficient interventions to address specific performance issues.

With over a decade of experience of working with adult learners and managing multiple learning projects, The GMarie Group incorporates hands-on business knowledge with adult learning principles in their learning project and products.

Jayne Klein is a Performance Consultant/Instructional Designer for The GMarie Group. Ms. Klein has designed and developed storyboards, performance-based assessments and interactivities for web-based training, print-based self-study workbooks with on-line assessments, and instructor led training. She has teamed with a web development company to develop and implement storyboards. In addition to being the lead Instructional Designer on projects, Ms. Klein has held the project manager role and assisted with project development by reviewing materials and ensuring the instructional alignment of materials.

Ms. Klein has a BS in General Business, and an M.Ed in Learning and Instructional Technology. Jayne has worked with the GMarie Group since August 2002. Jayne and The GMarie Group have developed User Guides and Storyboard Templates to increase the efficiencies of the development process for the use of the instructional designers associated with The GMarie Group.
Detailed Design Development Steps

During the Detailed Design phase, consider all the learning components, i.e., pre-instructional activities, content presentation, learner participation, assessment, follow-up activities. Provide as much information as possible to ensure understanding of the final deliverables.

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- Consider all alternative delivery methods and select the best media based on the strategies.  
- Include elements that get the learner’s attention, make the training relevant, and build the learner’s confidence. |
| 5. Sequence content (flow and checking) | - Include prerequisite information if appropriate.  
- Organize content in an appropriate sequence (simple to complex).  
- Develop content in smaller chunks using lessons or units.  
- Determine appropriate pacing, i.e., when to include examples and practice.  
- Incorporate an organizer so that the learner knows what to expect in each lesson, i.e., overview, objectives, content, practice. Sequence each lesson to follow the same organization. |
| Develop sample assessment items | - Create sample test items during the design phase to match the objectives. |
| 6. Determine practice methodology (presentation method, case study, role-play, games, simulations, etc.) | - Consult with the client on the appropriateness of the presentation methods chosen – even if they have already been determined.  
- Include enough practice for each objective to ensure student success. |
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Storyboard Template

<table>
<thead>
<tr>
<th>Page #</th>
<th></th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Main Heading</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Secondary Heading, if appropriate</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Text</th>
<th>Graphic(s) Description and Placement</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Notes to Web Developers</th>
<th></th>
</tr>
</thead>
</table>

| Screen Layout |  |
### Storyboard Development Steps

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- Use instructional cues, e.g. first, second, third and transitions, when applicable, to move the learner from one idea to the next.  
- Open the course with a splash page introduction to course.  
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### Storyboard Development Steps, continued

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| 7. Review and revise | - Provide job aids that summarize the new information to support retention of new knowledge.  
- Determine if step-by-step instructions are applicable. If yes, develop job aid.  
- Include a mechanism for the user to increase the size of a screen capture when presenting system training.  
- Determine if glossaries or quick reference guides are needed. If yes, ensure the user has the capability and the production team is aware of the fact early in the project. |
| Internal review | - Include an internal review during each step of the ID process. |
| Client review | - Provide clear directions to the client on how to review the materials, i.e. include areas of concern. |
| Revise | - Ask clarifying questions and incorporate feedback. |