Chapter 2.10
Creating a Multimedia Instructional Product for Medical School Students

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ABSTRACT

Because most medical school textbooks do not adequately address pain management, the American Academy of Pain Medicine wanted to create TOP MED, an online textbook that would address this need for different specialties and which also could be used as a textbook for the Introduction to Pain Management course. This online textbook would cover 11 topics and consist of the latest findings from the most renowned experts in the different disciplines of pain medicine. This case study is a description of the process of designing and producing the online textbook.

INTRODUCTION

The American Academy of Pain Medicine (AAPM) is the medical specialty society representing physicians practicing in the field of pain medicine. Because most medical school textbooks do not adequately address pain management, the academy wanted to create TOP MED, an online textbook that would address this need for different specialties and which also could be used as a textbook for the Introduction to Pain Management course. This online textbook would cover 11 topics and consist of the latest findings from the most renowned experts in the different disciplines of pain medicine.

This case study is a description of the process of designing and producing the online textbook, including how we determined what to cover and how we involved the subject matter experts and translated their content into interactive, entertaining learning segments.

E-LEARNING PROGRAM

The academy had created reference materials online, and they published articles, but this was their first program that was designed for teach-

ing medical professionals. One requirement was that the program have similar production values to television; they did not want something that looked like PowerPoint slides; they did not want talking heads; and they did not want just video. SmartPros, Inc. developed TOP MED for the American Academy of Pain Medicine. The author served as the instructional designer and overall project manager.

ACADEMIC AND ADMINISTRATIVE ISSUES

The academy wanted TOP MED to be an online textbook, not an online class. The typical use would be, say, in a course on pediatrics. When the professor wanted to cover pediatric pain, the students would turn to TOP MED to find out the different ways the children felt pain, how to assess pain in children, how children react differently to drugs, and how pain affects children's, and their family's, lives.

The academy also wanted there to be an assessment at the end of each section so that the professor and the students could determine knowledge acquisition.

The use of video created an interesting problem. The client wanted the course to look as if the video was full screen, but bandwidth considerations prevented the use of full-screen video. One solution could have been to find or build a proprietary solution to serve and access the video. Another could have downloaded the video onto student machines during off-hours. We wanted a more standardized and immediate solution, so we took advantage of a feature in Flash that allowed us to blend video into a Flash animation. We built a virtual "set," which blended in with the video to give the appearance of full screen video without the huge bandwidth requirements.

As a textbook for medical school students, TOP MED has to be authoritative, drawing scientific content from experts. We needed people at the top of their field, individuals who were either

conducting or utilizing the latest research. Then we needed to distill and transform their knowledge into lessons for individuals who might become general practitioners, not necessarily pain specialists or researchers.

But if we just wanted to present content, we could have produced a book, audiotape, or video. We wanted to benefit from the unique advantages of a Web-based instructional system, using high quality video, student interaction, assessment and feedback, flexible navigation, tracking, and reporting.

The client wanted the actual lessons to primarily be delivered via video, but they were adamant that the content not be delivered as talking heads with bullet points. They wanted the material to look like full screen video. This is problematic over Internet protocols, because, to be of reasonable production quality, video requires significant bandwidth. We were able to solve this problem by using video embedded in Flash animations. By blending the video in with a digital set, we minimized the size of the video, but the set looked like the video was full screen.

We decided on 12 units, which could later be expanded:

1. Introduction
2. Neurobiology of pain
3. Neuropathic pain
4. Analgesics: NSAIDs and COXIBs
5. Analgesics: Opioids and Adjuvants
6. Patient evaluation
7. Acute and postoperative pain
8. Musculoskeletal pain
9. Cancer pain and palliative care
10. Pediatric pain
11. Misuse and abuse of pain medications
12. Race, culture, and ethnicity in pain management

The rationale for sequencing the modules was that we would begin with an introduction to TOP MED and a review of how pain is perceived in the medical community and the population as a

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