



Background

The Pharmacy Technician Training Program will be a source of training for U.S. Air Force, Army, Coast Guard, Navy, and Veterans Health Administration (VHA) Pharmacy Technicians. Assisted by Concurrent Technologies Corporation (CTC), a nonprofit research and development company, the goal is to develop SCORM-compliant courseware to be shared by federal agencies and incorporated into the Pharmacy Technician Training Program. This blended program will meet the goals of the stakeholders as well as the ADL functional requirements of accessibility, reusability, interoperability, and durability. The training will be conducted at the Military Education and Training Campus (METC) at Fort Sam Houston, Texas, throughout the VHA, and at Government locations around the world.

This effort is being conducted in five phases. During the first phase, an in-depth analysis of existing Pharmacy Technician Training Programs within the VHA, DoD, and Coast Guard was completed. In addition, a design was developed for a combined federal program that would:

- Be comprehensive, yet customizable to learner agencies and diverse job roles.
- Standardize training for Pharmacy Technicians across federal agencies.
- Integrate Web-Based training (WBT) with classroom, lab, and clinical training for a blended learning approach, while increasing the efficiency of the training.

The analysis was documented in two volumes: a program comparison and a curriculum comparison. A requirements analysis delineates program design requirements, providing context for all known requirements and establishing a baseline for validating that the requirements are met in the final product. The requirements drove both the design and development of the training program and support final testing and validation. Based on these requirements, a design concept detailed all aspects of the design, development, and delivery of the web-based program components. Design prototypes were developed at several points during the process to validate the design and make refinements through usability and pilot testing.

Full scale design and development of the SCORM-compliant courses is currently underway. Planning for program integration, deployment, and sustainment is occurring simultaneously to ensure effective assimilation into the larger training systems. Refer to the resources below:

http://www.medbiq.org/events/conferences/annual_conference/2007/presentations/Twitchell_01_workshop.html
<http://astd2008.astd.org/PDF/Speaker%20Handouts/ice08%20handout%20TU318.pdf>

Business Situation

Pharmacy technicians function throughout the federal government in varying capacities for a wide variety of stakeholders. Currently, each of the project stakeholders develops internal training based on job requirements, makes arrangements to have their pharmacy technicians trained through another stakeholder's training program, or hires technicians already trained in accredited programs. The current effort falls under the VITAL Collaborative Training Network, a group of federal agencies seeking to create and share healthcare training. It also coincides with a DoD Base Realignment and Closure (BRAC) mandate which calls for the consolidation and streamlining of healthcare education for the Services.

Outcomes

For the purposes of this particular case study, project outcomes are described in terms of the ADL "ilities," with special emphasis placed on reusability. The building block approach enabled by LMSs and SCORM promotes maintainability of content and reuse of content components in future versions and in other healthcare training programs.

- The consolidation of these programs will result in increased consistency in skills and knowledge of federal pharmacy technicians.
- This program and its components will be used by several different federal healthcare education programs and will be accessed by federal Pharmacy Technicians throughout the world.
- Program components will be maintained centrally, ensuring up-to-date quality instruction for participating agencies, but will be delivered on multiple LMSs to train federal pharmacy technicians.
- The program will adapt to individual learners by applying sequencing and navigation to remediate learners who need additional practice on topics and to provide learners with agency or role-specific content.



Federal Pharmacy Technician Training Breaks New Ground with Innovative Collaboration Model

Reusability is being realized in four different areas.

- **Content:** The topics chosen for conversion to WBT were selected based on their applicability to other Pharmacy Technician courses and other healthcare training programs within the federal government. Topics such as anatomy, physiology, and calculations have wide potential for reuse. SCOs are organized according to Enabling Learning Objectives (ELOs) to maximize reusability.
- **Instructional Strategies:** Content has been designed into proven instructional strategies that allow for consistency across the content while ensuring effectiveness of the content. Because these strategies are separate from the content, they can be used to rapidly produce additional instruction, including content for other training and education programs.
- **Interface:** An interface for federal healthcare training was designed for use in multiple programs. It is based on industry standards, with screen space optimized for instructional activities. The interface eliminates “branding” within the content that could reduce reusability. Branding is provided in each LMS.
- **Software Architecture:** The architecture was designed for efficiencies associated with both content and software development. Text content and assets (graphics, audio) are abstracted from the instructional activities to allow repurposing of these activities with other content, the cascading of code revisions, minimization of testing and bugs, and the ability to revise content outside of the development tool.

Best Practices/Lessons Learned: Involve All Stakeholders in Defining Commonalities in Joint Healthcare Curriculum

Some of these factors were intentionally incorporated into the project, others were lessons learned, and some were a direct reflection of combined talent and resources.

Collaborative Teamwork: Give special attention to building a team for collaborative efforts. For the design of truly sharable training, stakeholders should be incorporated early in the process. Much thought and time is needed for the selection of team members who:

- Have the knowledge and ability to make the requisite decisions
- Will be able to participate throughout the life of the project
- Are effective in a team environment

Through common goals, neutral facilitation, openness, and sharing of input, trust will develop, leading to cooperation and team productivity.

Team Member Development: Particularly in the early stages of an organization’s implementation of the SCORM specification, it might be necessary to educate team members about SCORM 2004 sequencing and navigation capabilities. When the goal is to develop sharable content, reaching agreement on “core” content is the main task, but each organization also has the option to develop contextual segments of content that can be delivered to only their own target audience. This alleviates some of the pressure to agree on everything.

Adaptive Process: Built on a standard ISD model, the process was adapted to the collaborative nature of this project, as well as unique program aspects such as organizational initiatives. Additional attention was applied to aspects related to reusability, particularly in the analysis and design phases.

Prototyping: Building program components through successive prototype iterations allowed testing of SCORM sequencing and navigation components in multiple delivery environments, leading to an optimal user experience.

Application of Sequencing: Broad agency requirements lead to a solution that supports extensive sequencing behavior, from the simple to the complex. “Transitional SCOs” aid learner movement through the sequence. SCORM objectives and structure are clearly defined and repurposable, making them reusable across courses.

Contact

Dr. David Twitchell, David.Twitchell1@va.gov

Contact

Ms. Rebecca Bodrero, bodrero@ctc.com