Current Technology Use Among WTP Awardees

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National Clearinghouse

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Presentation highlights

• Quick summary of awardee technology assessment and results
• Collaborators who help develop and implement use of technologies
• Overview of types of technologies
  o Classroom technologies
  o Web-based technologies
  o Indirect technologies and resources
  o Virtual simulation technologies
• Best practices for technology use
• Limitations in use or deployment of technologies
Summary of awardee technology assessment and results

- **60 questions** were asked to determine awardees’ implementation, deployment, and evaluation of classroom, Web-based, virtual simulations, and indirect technologies.

- Total of **20 responses** received (17 complete; 3 incomplete/skipped).

- Representation from **all programs** – DOE, HDPTP, HWWTP, ECWTP, and IDR – but fewer responses received from DOE and ECWTP awardees.

- **Use of virtual simulations technologies is limited** amongst awardees.

- Generally, there was **no difference** between ATT used for awareness-versus operations-level training in any of the programs.
Collaborators who provide assistance in development, implementation, or guidance for use of technologies

Other awardees & Consortium partners

Institutional extension programs (e.g., UC Davis extension)

SBIR awardees (e.g., inXsol)

Software & application developers (e.g., Y-Stress, Inc.)

MetaMedia
Overview of Types of Technologies
For what programs does your organization primarily deploy or implement use of ATT? Please check all that apply.

- Department of Energy (DOE)
- HAZMAT Disaster Preparedness Training Program (HDPTP)
- Hazardous Waste Worker Training Program (HWWTP)
- Environmental Careers Worker Training Program (ECWTP)
- Infectious Disease Response (IDR)

N = 17
Use of Classroom Technologies

- Video Player (DVD, VHS etc.)
- Microphone/AV
- Bring Your Own Device (BYOD)
- In Class WiFi
- Pad/Tablet Devices
- Desktop Lab Classroom Computers
- Large Display Monitor (LED/LCD)
- Interactive Whiteboard
- Overhead Projector Camera/Digital
- Overhead/Viewgraph Projector (Classic)
- Laser Pointer
- Wireless Clicker
- LCD/LED Projector

N = 17
Use of Web-based Technologies

- Gaming to support training – group or leaderboard
- Gaming to support training - individual
- Phone/Tablet app with training content
- Phone/Tablet app for reference/tools (i.e. ERG)
- Simulation of device or equipment
- Simulation for training – scenario based
- Self-built eLearning Using Other
  - Self-built eLearning using Adobe Captivate
  - Self-built eLearning using Articulate Storyline
- Purchased/Commercial eLearning Modules
- Custom built eLearning modules

N = 16
Use of Indirect Technologies & Resources

- xAPI based Tracking
- SCORM Based Tracking
- Web Cam
- Badge (electronic tokens)
- WIKI/Blog
- QR code, RFID, Bar code
- Quiz/Assessment tools
- Survey/Poll tools
- Standalone Registration System
- Learning Management System

N = 8
Use of virtual simulations technologies

Involves primarily:

- Specialty training device/simulated equipment/patient
- Simulation 3d goggles

\[ N = 19 \]
Examples of best practices

• Look at the specifications of equipment before buying

• Verify internet access/WiFi signal availability in the training area prior to start of training

• Make sure the students have downloaded all the necessary software

• Include a lesson plan for trainers

• Implement mobile first strategies that employ scenario-based content with as much beta testing as possible

• Introduce [training technology] along with paper options

• Provide an alternate classroom-based activity for times that glitches occur or for locations where technology is not able to be used
Limitations in Use or Deployment of Technologies
Examples of limitations

- Logistics & Cost
- Transportation
- Accessibility
- Adaptation
- Expertise
- Instructors & Trainers
- Target Audience
Best Practices in Using Technology in HAZMAT Training

March 29–30, 2017 | The Condado Plaza Hilton
San Juan, Puerto Rico

Sponsored in conjunction with

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*Additional Slides*
Other technologies or social media platforms used for training or as indirect technology resources

- Screen Share/Distance Learning (gotomeeting, blackboard etc).
- Instant Messaging, Chat, Text
- Message Boards or Forums
- Social Media (twitter, FaceBook, LinkedIn)

N = 10
Examples

**Examples of social media platforms:**
- Facebook, Twitter, Youtube, Soundcloud, Instagram, Pinterest

**Examples of online forums or message boards:**
- “TRU-Net – The Trainers & Researchers United Network (TRU-Net), is an effort to formalize the link between CPWR’s consortium of safety and health researchers and its extensive training network and provide these researchers, trainers and their trainee ready access to each other’s experience and expertise. TRU-Net consists of a private online forum where researchers and trainers can ask safety and health questions, find answers, and share related information, and a formal mechanism to engage a broader cross-section of trainers and their trainees in specific research projects...”
- Google groups

**Examples of screen share/distance learning technologies:**
- GotoMeeting, Moodle, GotoWebinar, Zoom, Canvas
Are finances and human capital limiting your ability to implement training technologies?

“Yes, the use of SIM technology is very expensive and somewhat cost prohibitive for our DIDRT program. Therefore, we have to utilize SIM technology on a limited basis in our healthcare training population only.”

“Yes. Existing staff/human capital are maxed just maintaining and updating existing curricula. Online capabilities are limited and require integration into a learning management system, which is our membership database. So a link between designing the curricula online and placing it online to work and function on a learning management system is a gap right now.”

“No. The greater challenge to selecting an ATT is making sure we choose a technology that enhances the overall learning experience for all of our consortium members.”

“Instead of creating our own online e-learning platform and support center for our peer trainers, we choose a free program called Moodle. Also, in order to get our virtual reality activities up and running we had to find the least expensive smart phones with the capability we wanted as well as inexpensive virtual reality readers such as google cardboard ($12.50) instead of the $100+ models.”
Examples of technologies organizations have chosen not to use

“Some consortium partners have foregone the use of technology as part of their courses given the diverse literacy levels of students, noting that in these situations technology “would likely be a complicated challenge more than an asset.” In cases where we arrange training in distant locations (for example, in the Pacific Islands or rural Alaska), materials are shipped in pelican cases, so we typically don’t purchase fragile equipment that may break in transit or might not arrive back to our location like tablets, laptops for student use, virtual reality equipment or software.”

“PowerPoint – used minimally in training courses mainly to project an image to illustrate a discussion point or to provide an example of a hazardous scene.”

“CSEA has decided to not use webinars for any compliance or proficiency training.”

“Adobe Connect has costs issues and band width issues. We initially decided to use Adobe Captivate but we are limited on how interactive the course can be because of infrastructure and technology limitations on the side of the end user (learner). Issues with Flash, etc. and band width are a problem we are still working through. We are also having difficulty in locating a central LMS that all of our target learners can access.”