

CDC Laboratory Training Program

Rick Parry

Chief, Laboratory Training Branch

CLIAC Meeting

March 2014

Center for Surveillance, Epidemiology, and Laboratory Services

Laboratory Training Branch



Laboratory Training Branch

- **Mission:**
 - Provide continuing education opportunities designed to enhance the capability and capacity of the public health, clinical, and agency laboratory workforce.
- **Training Topics:**
 - new diagnostic testing procedures for current and emerging public health threats
 - laboratory safety and security
 - quality management
 - regulatory compliance
 - emergency response and preparedness
 - bioinformatics for laboratory surveillance



LTB collaborates with CDC and public health laboratories, other federal agencies, the Association of Public Health Laboratories, and other partners to design, develop and deliver needs based training programs of public health significance to the public health and clinical laboratory workforce.



Instructional Design Process

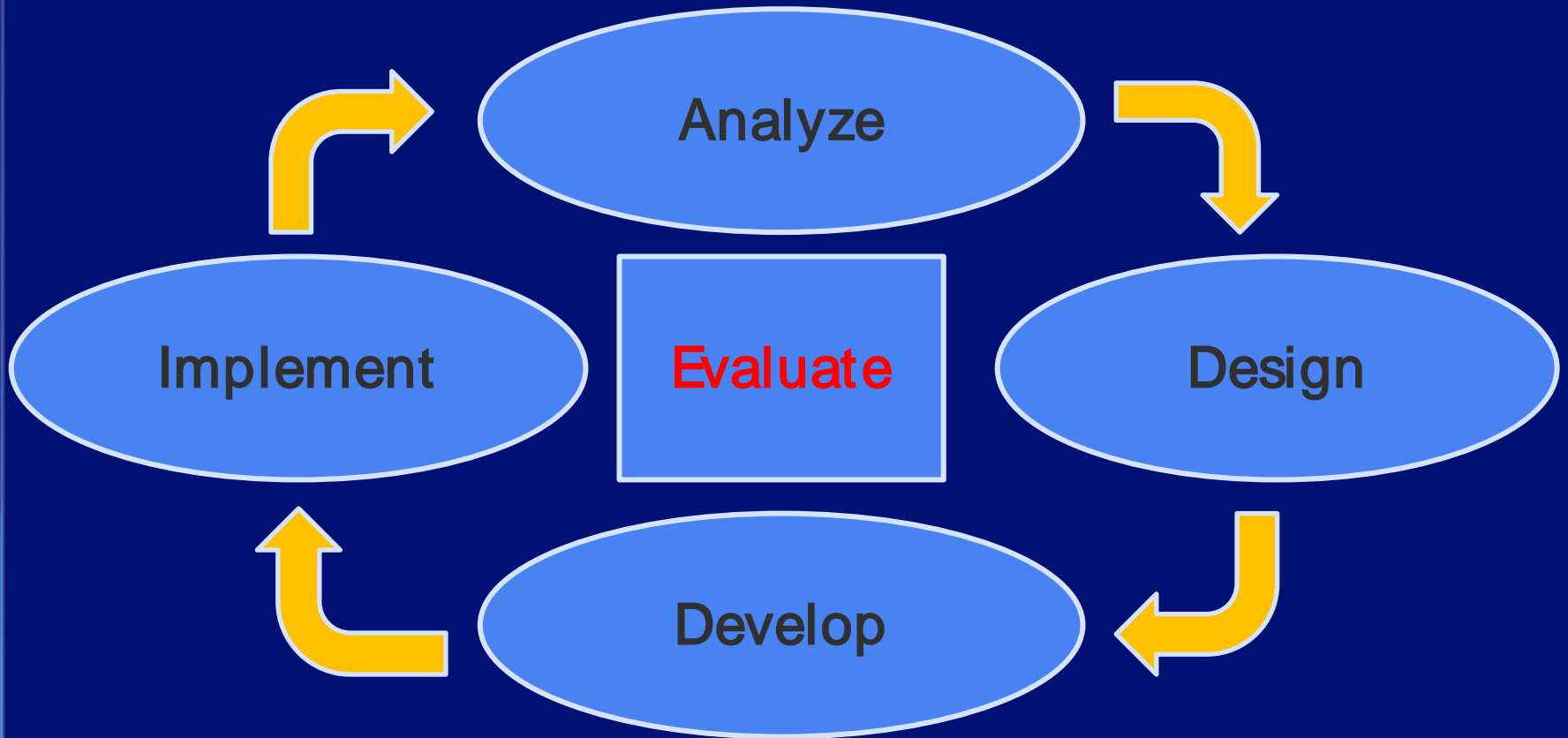


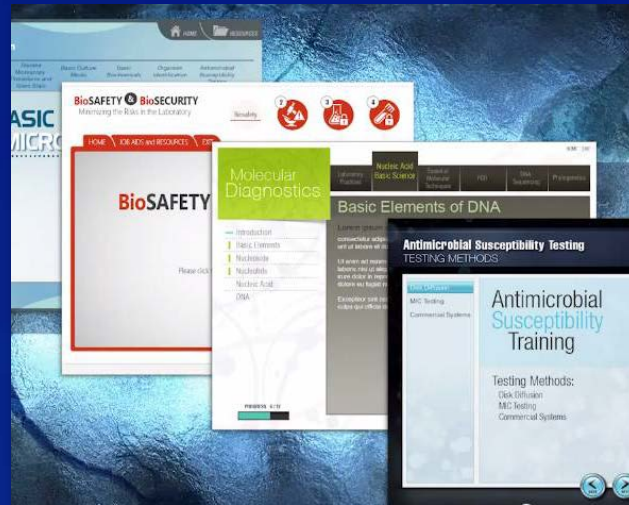
Diagram of the ADDIE Instructional Design Model



Seminars and Webinars



Hands-On Workshop

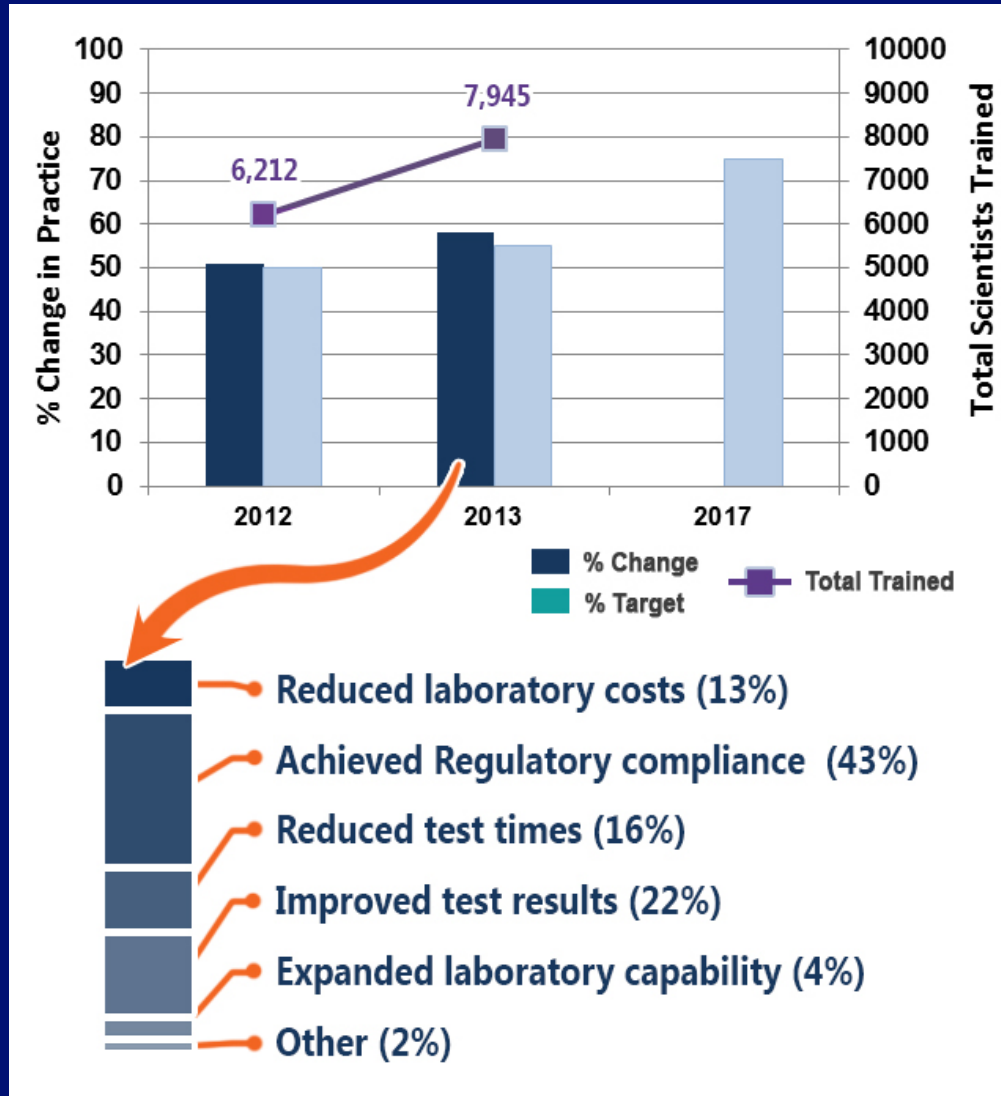


eLearning

Evaluation

- **All training is evaluated based on the Kirkpatrick Levels**
 - Reaction
 - Knowledge Gain
 - Behavior Change
 - Result
- **Evaluation data provides measure of training effectiveness**
 - Validates the money spent
 - Justifies additional training efforts
 - Identifies improvements for better results the next time
- **Evaluation is the most critical part of the training process**

CDC Laboratory Training Program



Changing Training Environment

- **Laboratory training has traditionally been designed to be instructor-led**
- **Decreased budgets and reduced staffing make it difficult for the audience to travel to the instructor**
- **Decreased budgets and reduced staffing make it difficult for the instructor to travel to the audience**
- **Laboratory training must embrace the advances in communications technology**

Training Distribution in the 21st Century

- Seminars become Webinars
- Hands-on workshops become blended learning
- Hands-on instruction replaced with video and “mentored” training
- Distance learning tools (webinars, eLearning, podcasts) emphasized

Training Barriers

- **External Training Barriers**
 - Budget
 - Course calendars do not align with Laboratory calendars
 - Cannot cover staff absence from lab for extended period
- **Internal Training Barriers**
 - Cannot afford senior staff time to create materials
 - Cannot afford senior staff time to maintain materials
 - Cannot afford absence from lab bench for training period

New Concept – Training Curricula

- **Advanced Level**
 - **Advanced Organism Specific Interpretation**
 - **Web-Based Case Study Discussions**
 - **Conference Short Courses**
- **Intermediate Level**
 - **Organism Specific Tests**
 - **AST**
 - **Influenza**
 - **Mycobacteriology**
 - **Many others**
- **Basic Level**
 - **Core Lab Skills**
 - **Biosafety/Biosecurity**
 - **Basic Microbiology**
 - **Quality Management**
 - **Basic Molecular Biology**
 - **CLIA**

Training Curricula

- **Blended Learning Approach**
 - Multimedia-enhanced eLearning for didactic content
 - Purpose supplemented with graphic illustration or animation
 - Theory supplemented with illustration, video, or animation
 - Process supplemented with video
 - Troubleshooting supplemented with video
 - “Mentored Training” for experiential content
 - Downloaded lab exercises
 - Editable to match lab SOP
 - Mentor facilitation instructions
 - Bench aids

Basic Microbiology Curriculum - Microscopy Course



Video Demonstrating How to Focus the Ocular Micrometer of a Microscope

For a captioned version, please visit: <http://www.youtube.com/watch?v=pYgDSQI326M>

Curricula in Development

- Basic Microbiology (May 2014)
- Antimicrobial Susceptibility Testing (Summer 2014)
- Laboratory Biosafety (2015)
- Basic Molecular Biology (2015)
- Quality Management Systems (2016)
- All CDC Laboratory Training can be found at:
<http://www.cdc.gov/labtraining/>

Training Barriers

- **External Training Barriers**
 - Budget – Travel and Course Registration fees eliminated
 - Calendar Alignment - Lab schedules training when needed
 - Week of Staff Absence – Staff now trained onsite
- **Internal Training Barriers**
 - No time to create materials – Materials created for the Lab
 - No time to maintain materials – Materials maintained for Lab
 - Cannot afford absence from lab bench for training period
- **Note: Training cost not completely eliminated. Lab must pay for materials used in lab exercises.**

Summary

- **The CDC Laboratory Training Branch (LTB) focuses on training of public health importance.**

Questions

For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333

Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

Visit: www.cdc.gov | Contact CDC at: 1-800-CDC-INFO or www.cdc.gov/info

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.