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Instructional Design Briefing

A brief overview in relation to the China COE

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Instructional Design

{ A brief overview in relation to the China COE

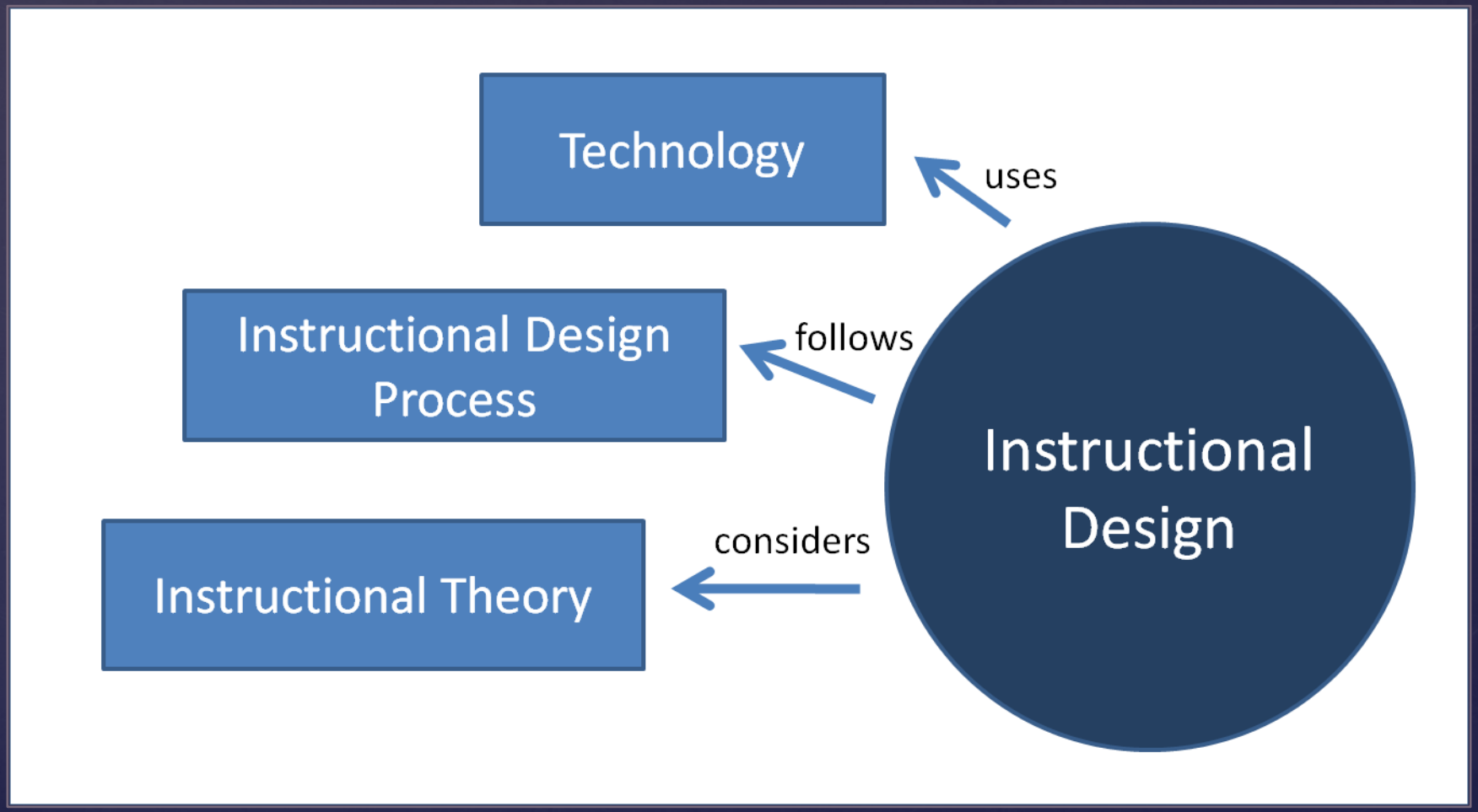
Overview

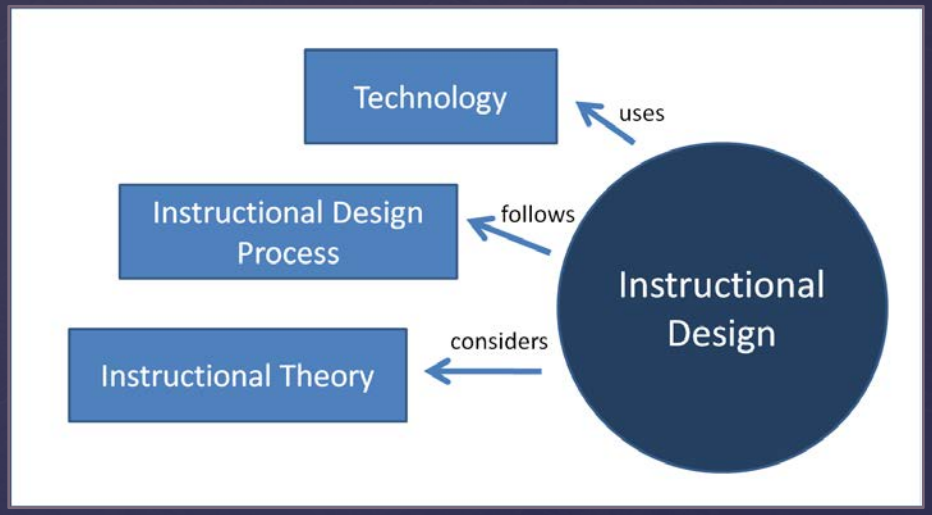
This introduction provides a roadmap and guidance for the work that will be done by SMEs to prepare NDA course material to be transitioned from LANL to the China COE

We will cover the following:

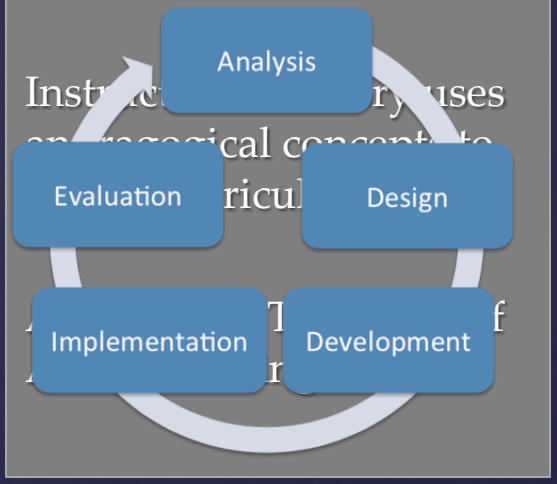
- Definition of Instructional Design
- Why Instructional Design is important
- Role of Instructional Designer vs. an Instructor and how they work together
- How this relates to our work in the China COE project

What is Instructional Design?





Instructional Design Process follows the ADDIE Model



What is the Instructional Design process?

LANL Safeguards Training School

- The LANL Safeguards Training Curriculum has existed in it's current format since the inception of the program
- The courses have been kept up-to-date through regular SME review and revisions, but without following a formal process
- Currently, the China COE 'course' consists of 1400+ pages but has no instructor delivery guidance

China COE NDA Training Courses

- Per the instruction of Headquarters, the transition of the China COE Training Material will be through a standardized format that is emulated by all Laboratories

- To provide consistency, the format will be standardized and SMEs will compose instructor and participant notes to accompany the training material and facilitate course delivery

Why Change?

- Creates a logical and organized format in which to present course content {*Learning thrives in a structured environment!*}
- Does your genius justice
- It makes courses easier to follo… more reproducible {*Imperative to the COE mission*}
- Every other National Laboratory involved in teaching abroad has an Instructional Design team

What is an Instructional Design**er**?

Instructional Design (n.): *The process by which instruction is improved through the analysis of learning needs and systematic development of learning experiences* *(Culatta, 2016)*

An **Instructional Designer** analyzes the course material and instruction to organize and improve implementation of the curriculum

Who does what?

Instructional Designer

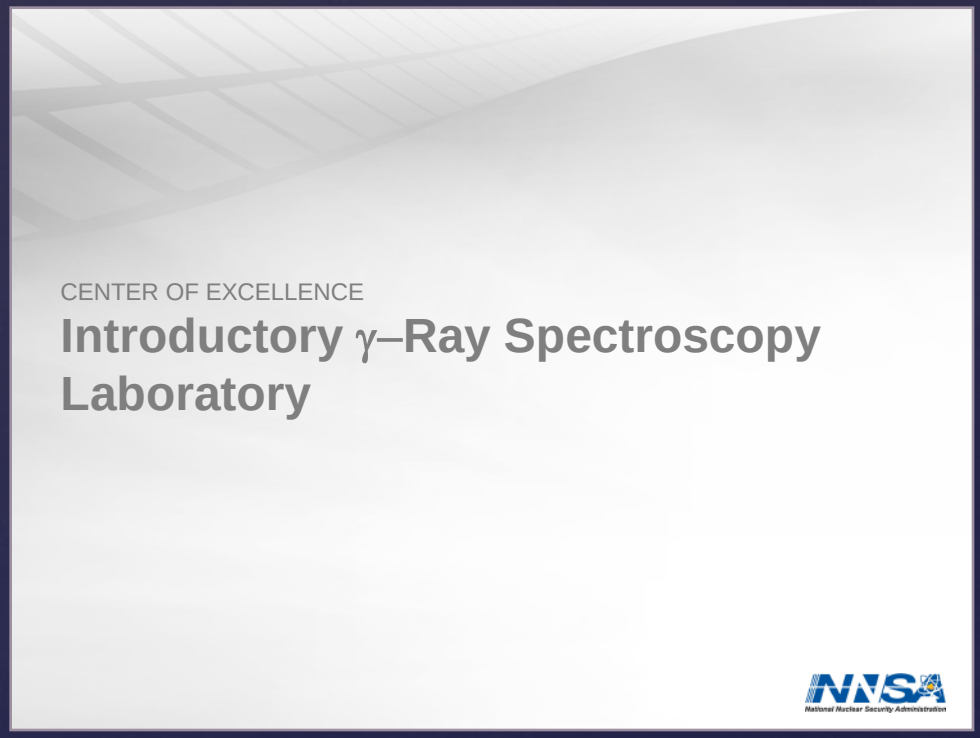
- Not typically from a technical background
- Designs and implements course formatting
- Observes pilot course and analyzes for effectiveness in instruction
- Reviews notes on course implementation with SME after pilot course
- Change any formatting errors/update manual with any slide or material changes from Instructor

Course Instructor

- Subject Matter Expert
- Designs and creates technical course content
- Provides Instructor and Participant Notes for Manual
- Instructs / teaches technical courses
- Reviews course notes with Instructional Designer after pilot course and makes the appropriate changes to the course slides/material

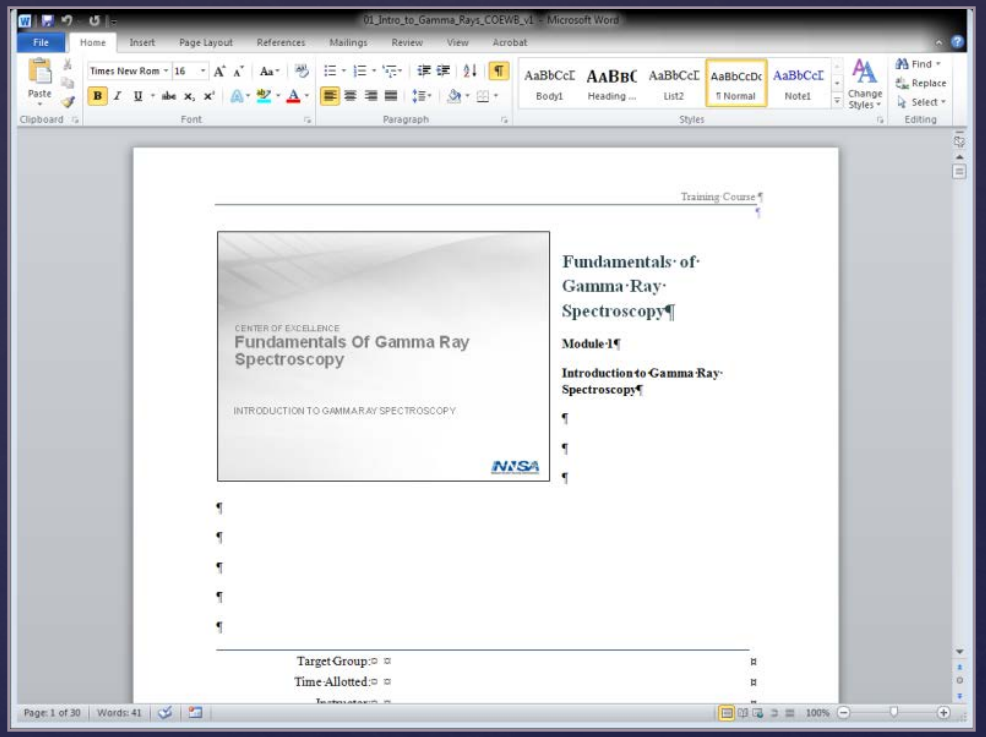
How does this relates to the China COE project?

- Using the new Instructional Design format for the course curriculum
- Uniform format template that will be used by every lab teaching a course at the COE



Additional Formatting Changes

- Two Workbooks: **Instructor** and **Student** but only *one* document file
- All PowerPoint slides will be in a specific template and lectures and labs will be grouped as Modules
- Every lecture *and* lab must include an objective(s)
- Hidden text on every page with instructor notes (Examples to follow)

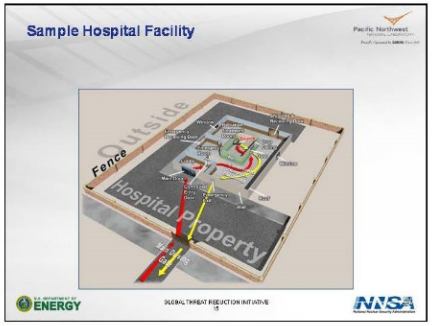


Formatting Examples

This model facility shows theoretical entry and exit points and paths to a source and will be used to illustrate the timeline.

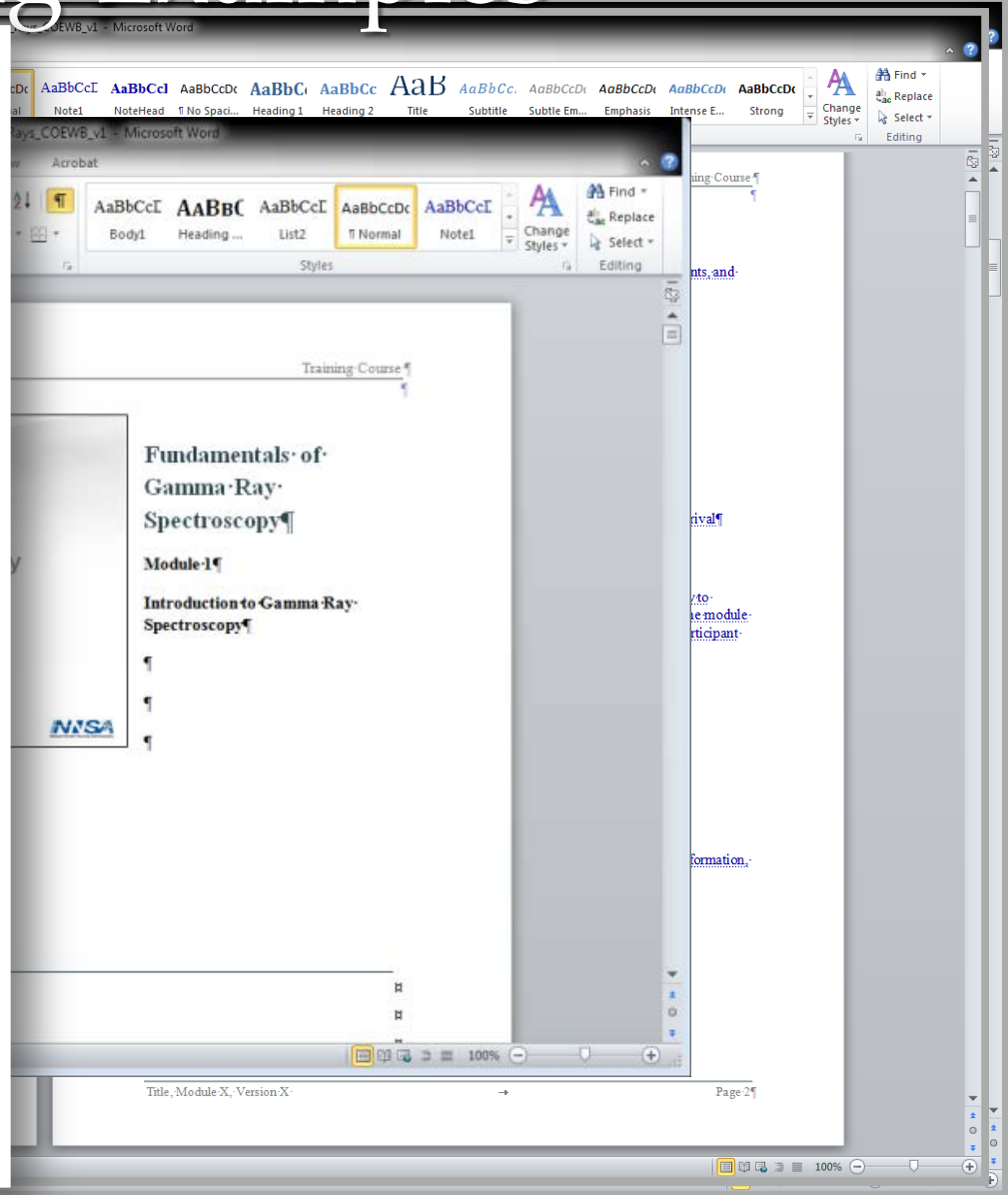
Participant Notes

Instructor Information



Instructor Notes:

- Toggle back and forth between this slide and the timeline while describing the PPS elements (entry point, detection, response, etc.)
- Direct the participants attention to supplement 2a to view a full-page picture of this graphic

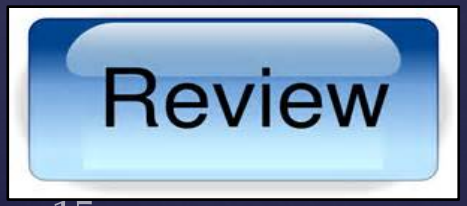


Where do we begin?

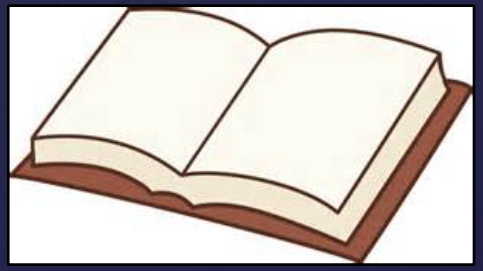
Instructional Design Implementation Process

Instructional designer will format current course material in new templates and send to SMEs for module objectives and notes

SMEs will add module objectives, instructor and participant notes to the Workbook



Instructional Designer will format notes and send back to SME for review



After review, Instructional designer will print course Manual

Writing Good Lesson Objectives

- Describe the competency, skills, knowledge, or attitudes to be learned and guide content to be developed and delivered
- Should be 3-5 per lesson and they are 'SMART'

Writing Good Lesson Objectives (2)

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Verbs for Writing Objectives using Bloom's Taxonomy

KNOWLEDGE	COMPREHENSION	APPLICATION	ANALYSIS	SYNTHESIS	EVALUATION
					Appraise
				SYNTHESIS	Argue
				Arrange	Assess
			ANALYSIS	Assemble	Choose
			Analyze	Collect	Compare
		APPLICATION	Appraise	Combine	Conclude
		Apply	Categorize	Comply	Estimate
	COMPREHENSION	Complete	Compare	Compose	Evaluate
	Compare	Construct	Contrast	Construct	Interpret
KNOWLEDGE	Describe	Demonstrate	Debate	Create	Judge
List	Discuss	Dramatize	Diagram	Design	Justify
Name	Explain	Employ	Differentiate	Devise	Measure
Recall	Express	Illustrate	Distinguish	Formulate	Rate
Record	Identify	Interpret	Examine	Manage	Revise
Relate	Recognize	Operate	Experiment	Organize	Score
Repeat	Restate	Practice	Inspect	Plan	Select
State	Tell	Schedule	Inventory	Prepare	Support
Tell	Translate	Sketch	Question	Propose	Value
Underline		Use	Test	Setup	

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Instructor & Student Notes

Here are some specific examples of Instructor Notes

1. Facilitate the exercise by demonstrating the calibration of…
2. Allow each student 10 minutes to perform…
3. Tell participants they have 3 minutes to list all of the…
4. Advise participants to select a spokesman for their group who will take notes and report out…

Instructor notes shouldn't be too much text – they should be directions for what to do, what not to forget, what to emphasize, etc.

Participant notes on the other hand can have history and details that might add to the learning experience, and will serve as reference information in the future.

Additional Information

- All Gamma material is ready today for Instructor & Student Notes – we will need them returned by **January 9th, 2017**
- Neutron material will be available by ***December 12th, 2016*** and will need to be returned with notes by **February 6th, 2017**
- Bloom's Taxonomy of Verbs, a list of Active Verbs and an IAEA training document are available to assist with Objective Writing