SAND2014-4141P

Workshop on Introduction to Biorisk Management and Biorisk Management Curriculum Development

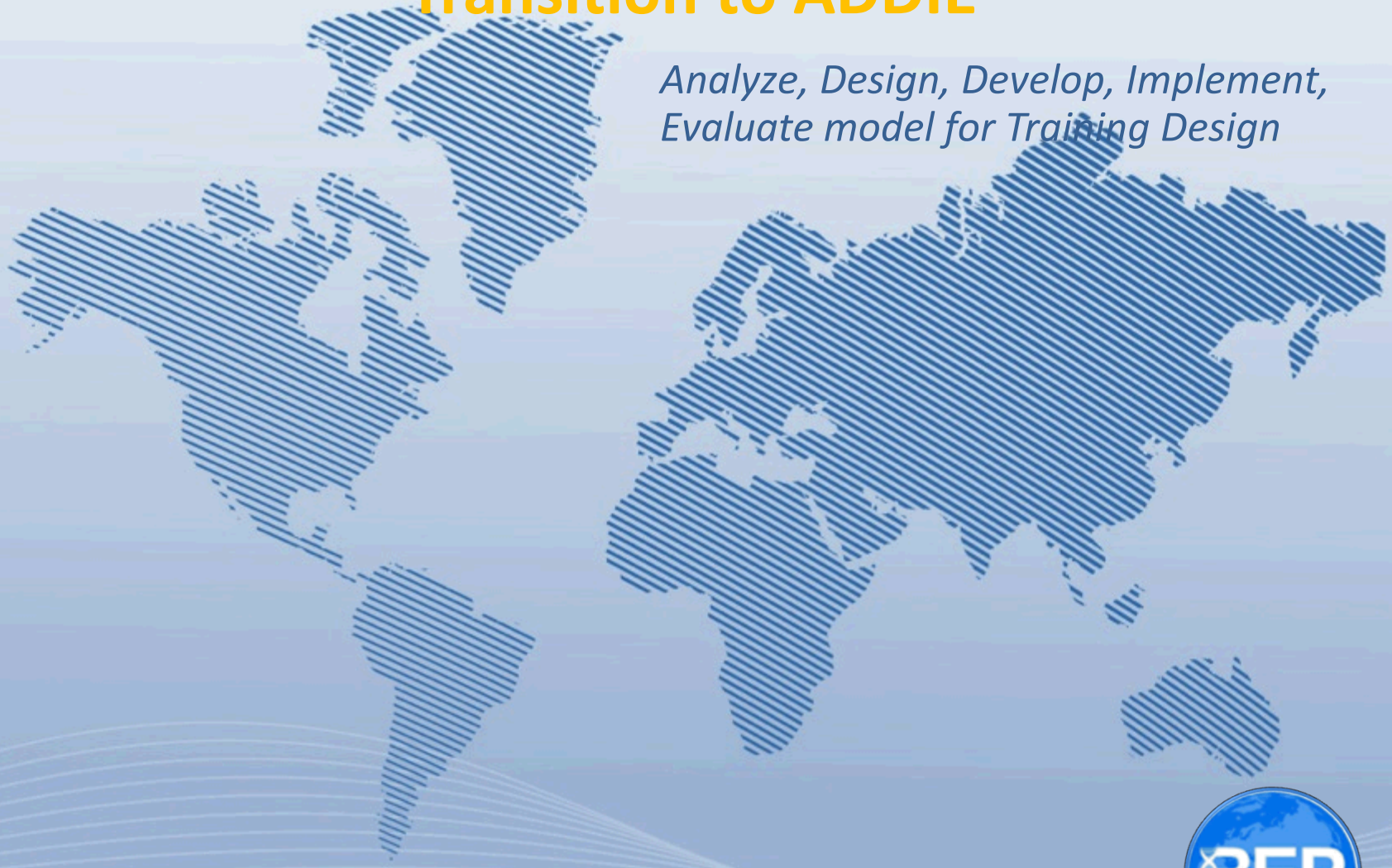
Faculty of Medicine

Mbarara University of Science and Technology

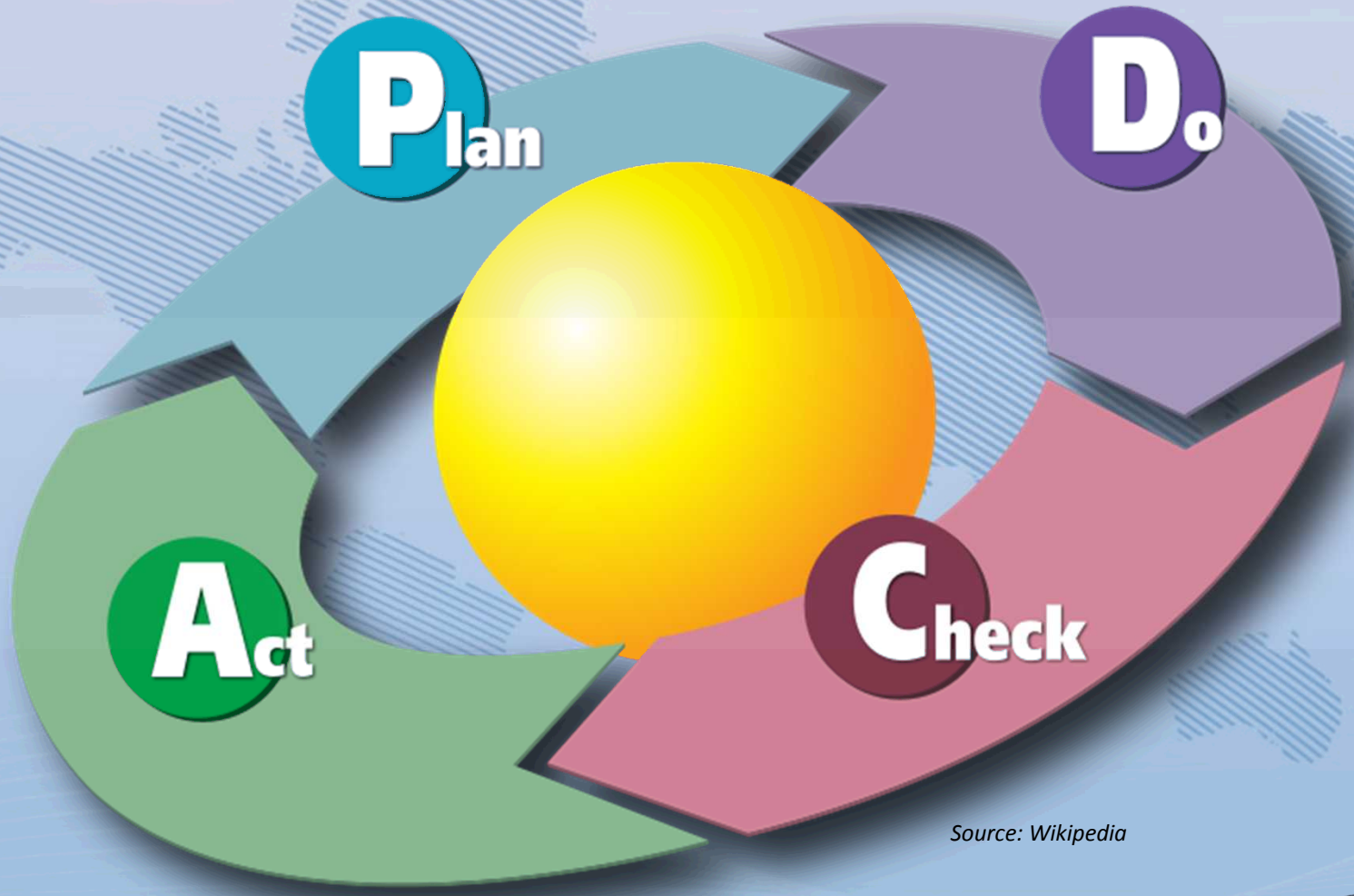
June 2014

Transition to ADDIE

Analyze, Design, Develop, Implement, Evaluate model for Training Design

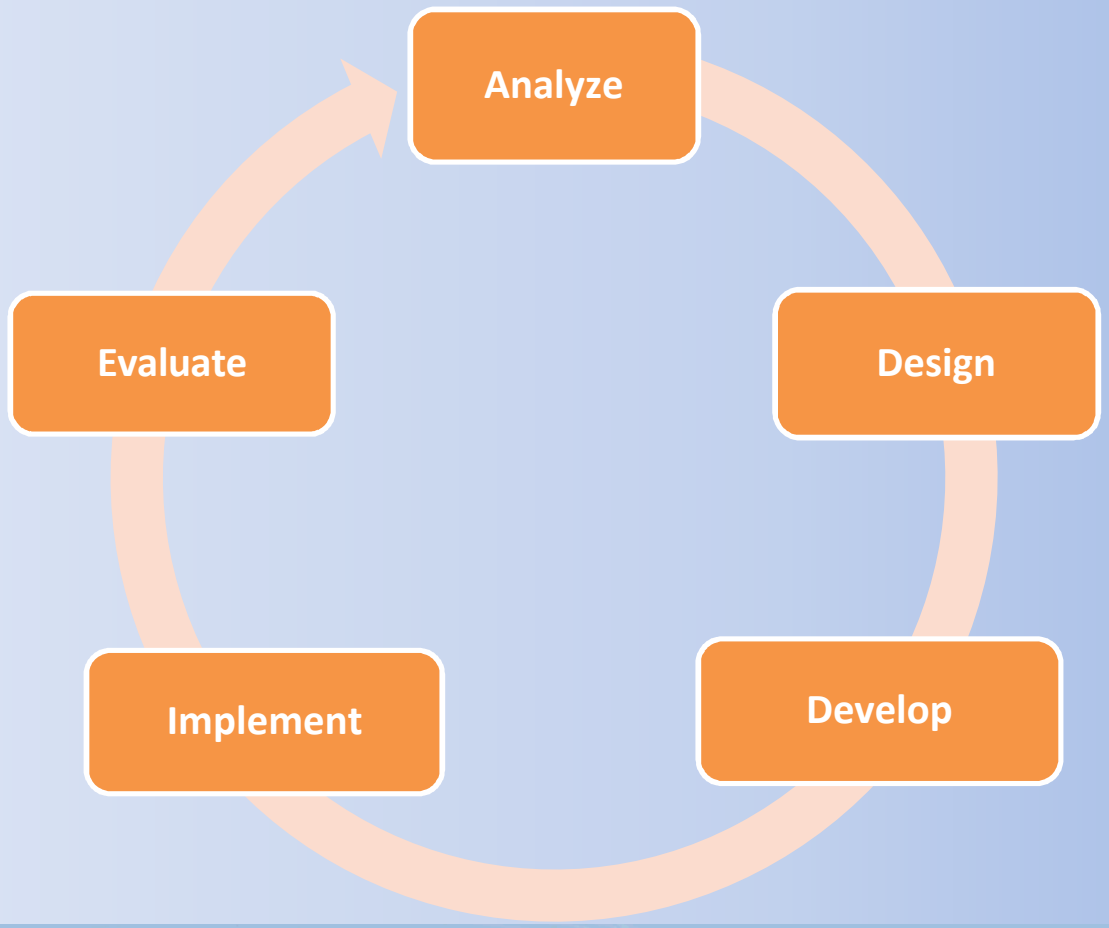


Biorisk Management – Continuous Improvement

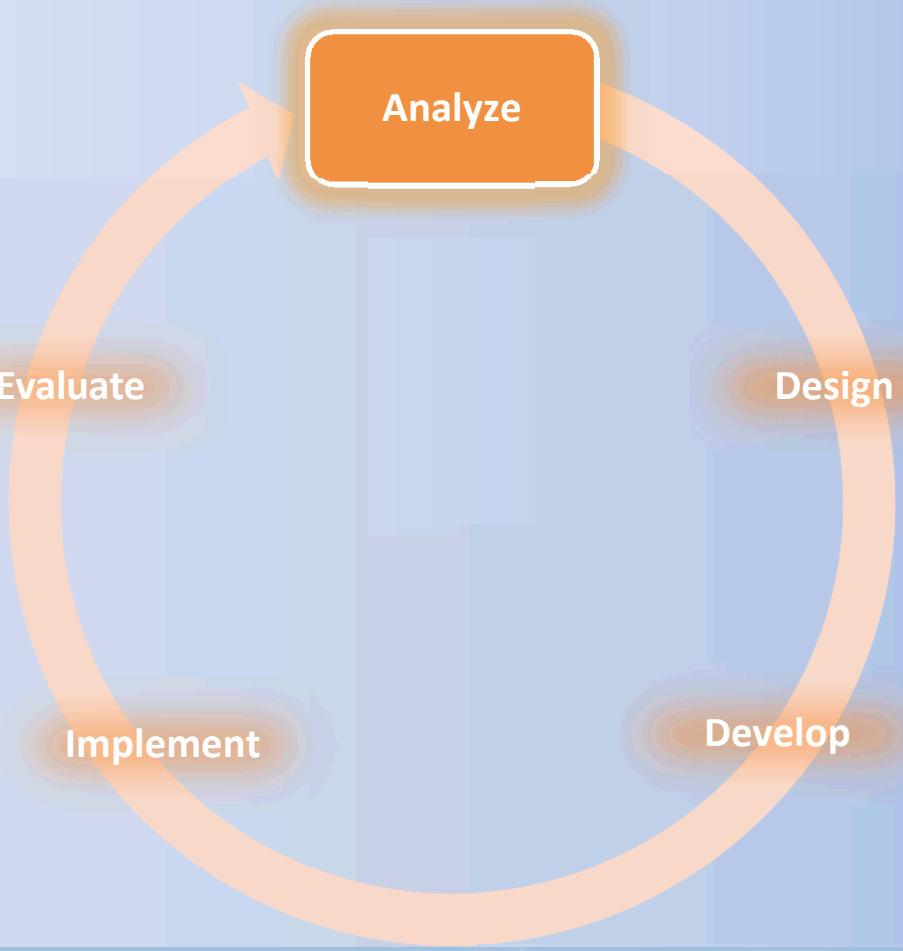


Source: Wikipedia

Training Design Cycle



Training Design Cycle



Why do we train?

Why do we train?

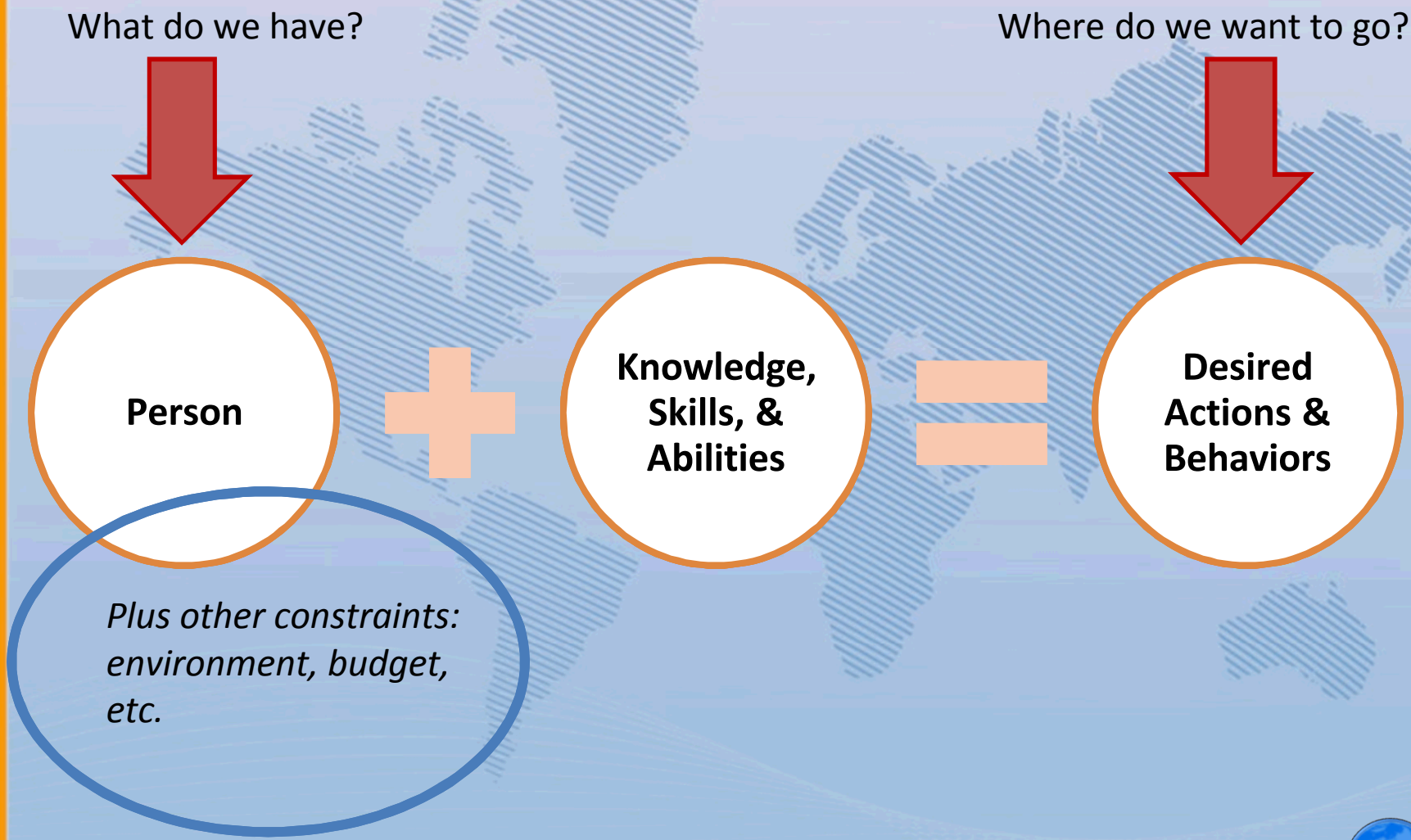
Activity: Audience/Target Students

Question: Who should be knowledgeable of biosecurity, biorisk management?

Think to: level (undergraduate, graduate); degree/specializations, job perspectives…

As a group, take **10 minutes** to brainstorm … write on separate sticky note.

Analyze. . .


What do we have?
Where do we want to go?
Person
Knowledge, Skills, & Abilities
Desired Actions & Behaviors
Plus other constraints: environment, budget, etc.

Activity: situation, local resources and constraints

Question: What factors would impact, influence or limit introduction of teaching biosecurity/biorisk management in higher education?

Think to current features of higher education: available teaching time in curricula; knowledge of the subject; students' cohort sizes; teaching formats (active/experiential, lectures, activities, etc)…

As a group, take **10 minutes** to brainstorm … write on separate sticky note.

Analyze. . .

What do we have?

Where do we want to go?

Plus other constraints: environment, budget, etc.

Where do we want to go?

- Organizational
- Instructional
- Personal
  - Know
  - Feel
  - Do

Levels of Learning

Level	Goal
Evaluate	Make judgments about the value of ideas or materials.
Analyze	Use concepts and models from training to create a new use.
Apply	Applies what was learned in the classroom into novel situations in the work place.
Learn (Comprehend)	Understand the meaning, translation, interpolation, and interpretation of the training. State a problem in one's own words.
Know	Remember material in the same form as it was taught.

Analyze – Goals & Objectives

Bloom's Taxonomy of Cognitive Domains

Levels of Learning

Level	Example Verbs for Objectives
Evaluate	assess, judge, defend, predict, support
Analyze	examine, compare, critique, categorize, experiment
Apply	demonstrate, use, perform, measure, solve, build
Learn (Comprehend)	explain, describe, restate, classify, recognize
Know	list, memorize, define, recall, label

Know – Feel - Do

"People will forget what you say.

People will forget what you do.

But people will never forget the way you made them feel."

– *Maya Angelou*

For Example: KFD Objectives

- ***Know/Knowledge:***
  - …
- ***Feel/Skills:***
  - …
- ***Be Able to Do/Abilities***:
  - …

Activity – Learning Objectives

Activity: Determine what you would like a student to KNOW, FEEL, and BE ABLE TO DO once they receive biosecurity/biorisk management education.

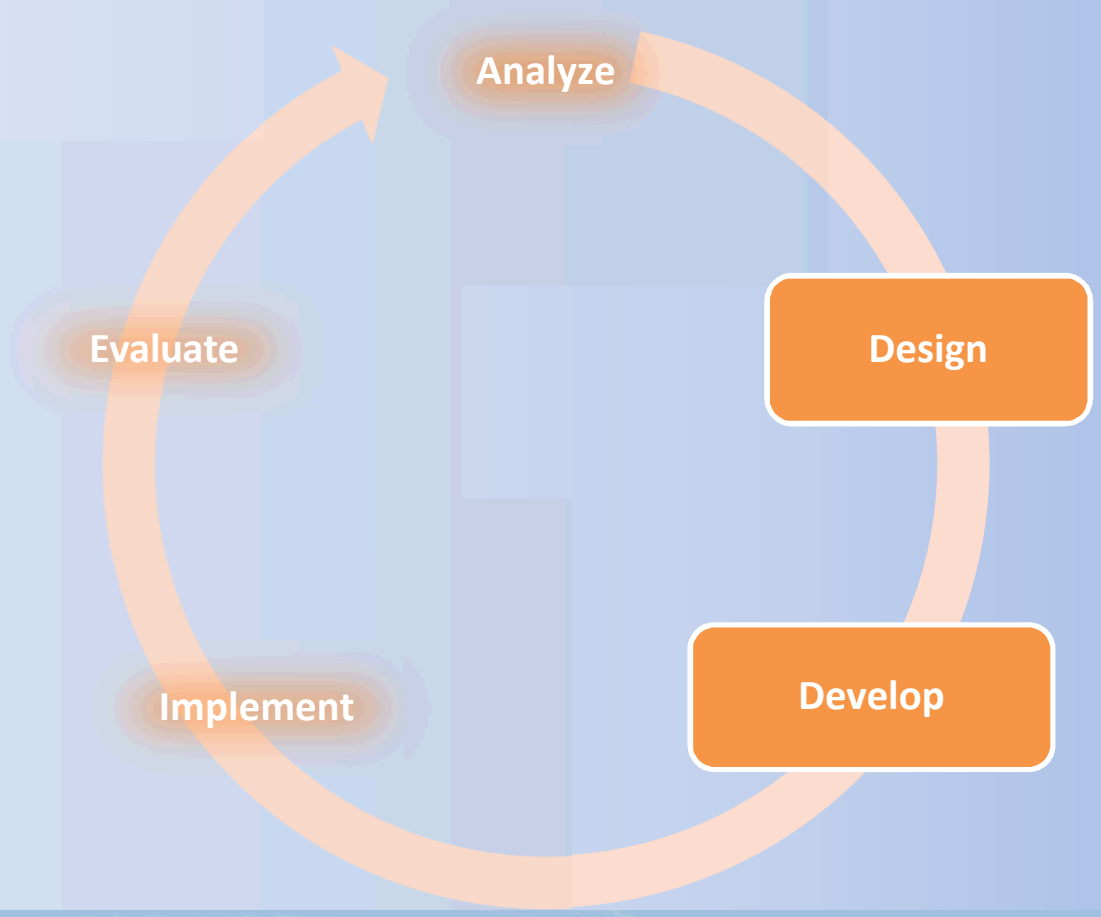
As a group, take **10 minutes** to brainstorm … write on separate sticky notes.

Know – Feel - Do

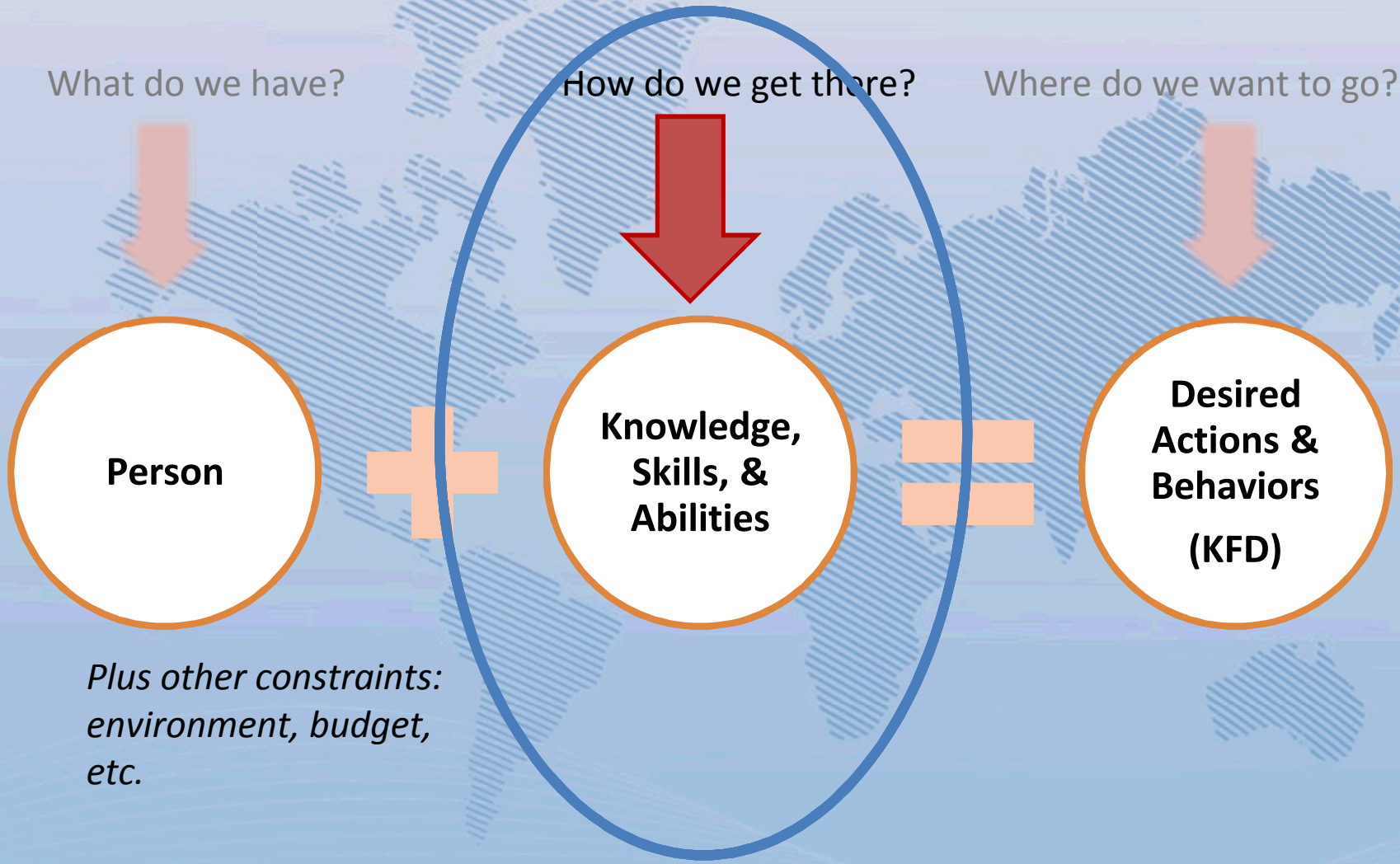
After biosafety and biosecurity education, the student will:

Know	
Feel	
Be Able to Do	

Training Design Cycle



Design & Develop



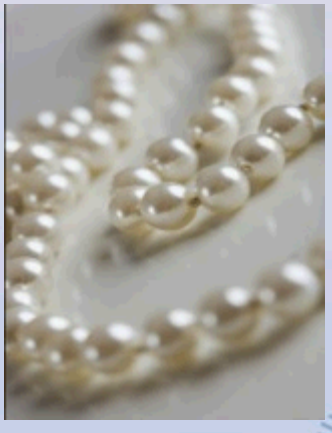
Design & Develop

Configuration

matching objectives between training needs and resources

Customization

adding course materials to address additional objectives not met by existing resources



Configuration Example

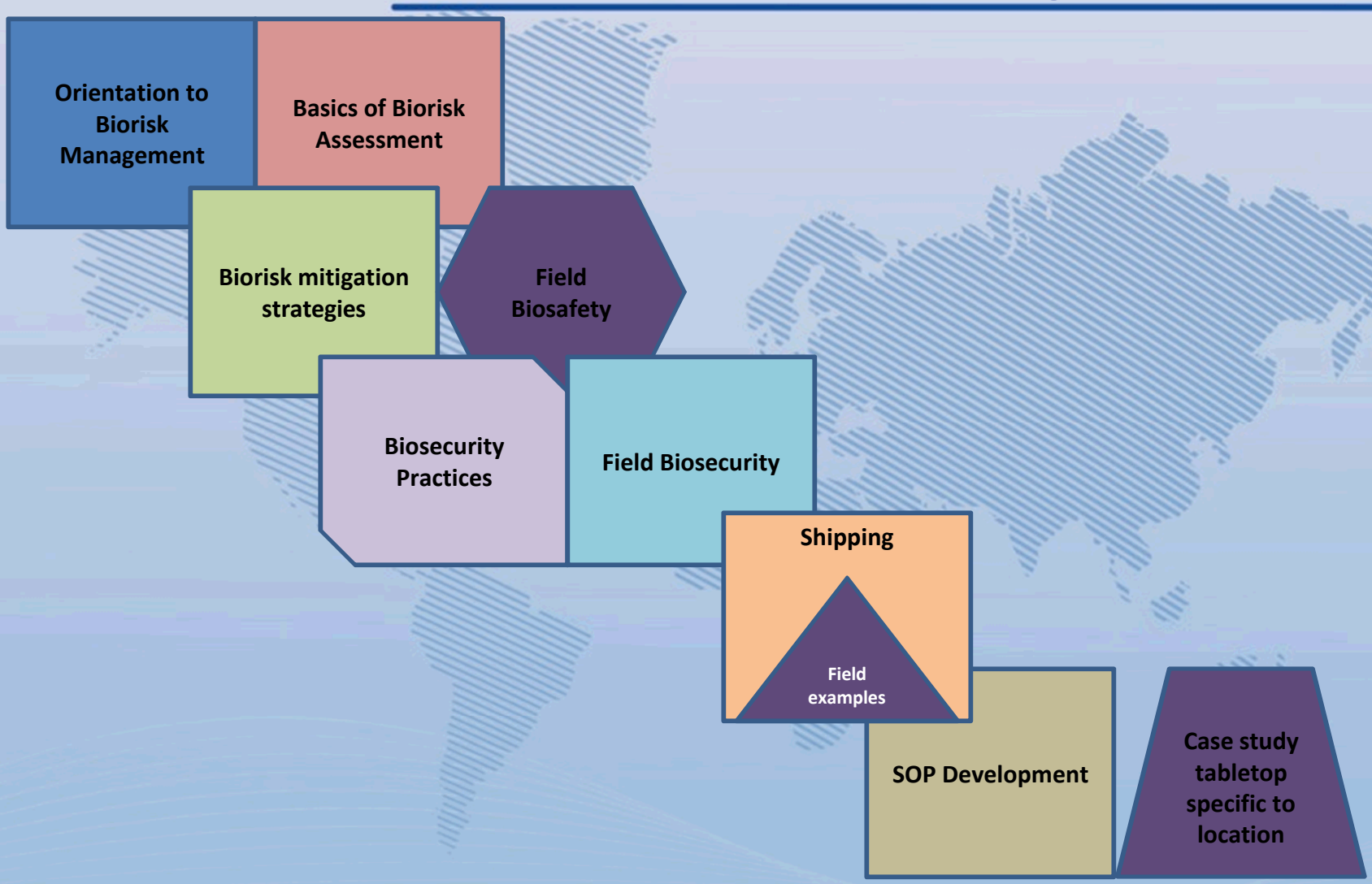
- Training Need:
  - 2 day course introducing biorisk management, risk assessment, biorisk mitigation strategies, and biorisk management performance indicators
  - Example using GBRMC courses:

Orientation to Biorisk Management	Basics of Biorisk Assessment	Biorisk mitigation strategies	Establishing BRM performance indicators

Customization Example: FETP

- Training Need:
  - 1 week biosafety and biosecurity module for Field Epidemiology Training Program

Customization Example



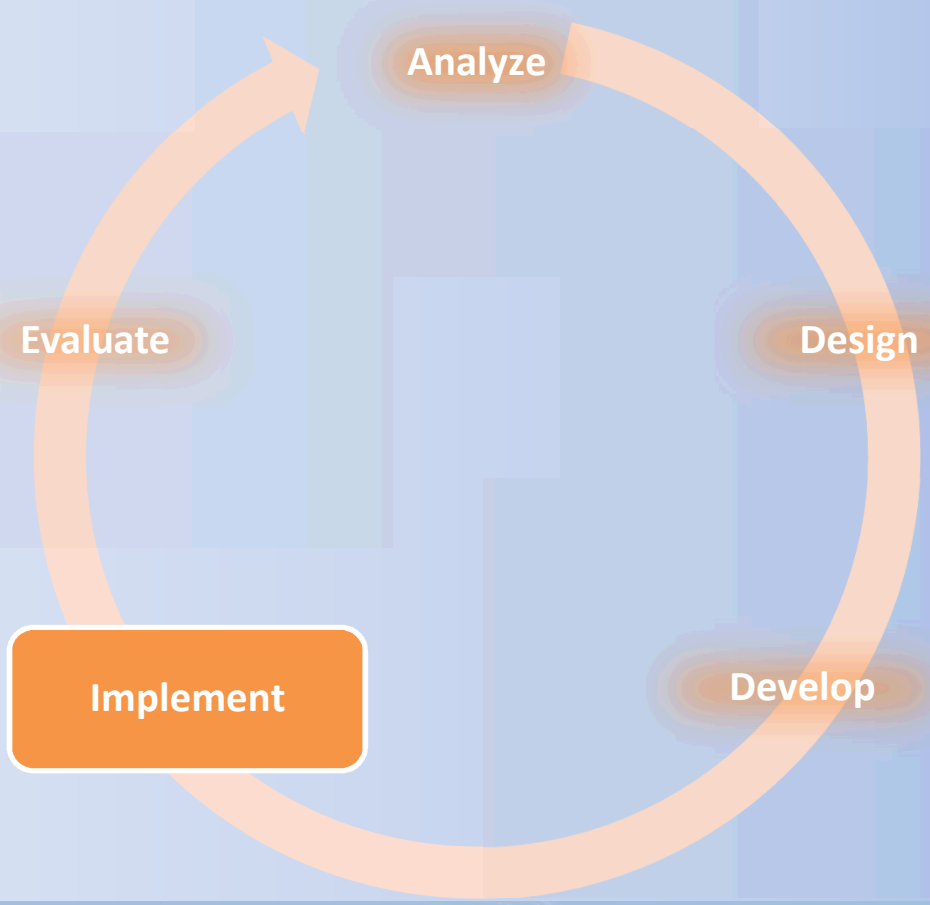
Activity – Design & Develop

Activity:

In your groups complete the Course Design worksheet:

- Student audiences, time, formats, learning objectives
- Match them with educational resources or identify missing resources
- Use existing local resources and the GBRMC catalog and design documents of courses
- Develop the draft course outline

Training Design Cycle



Implement

What do we have?

How do we get there?

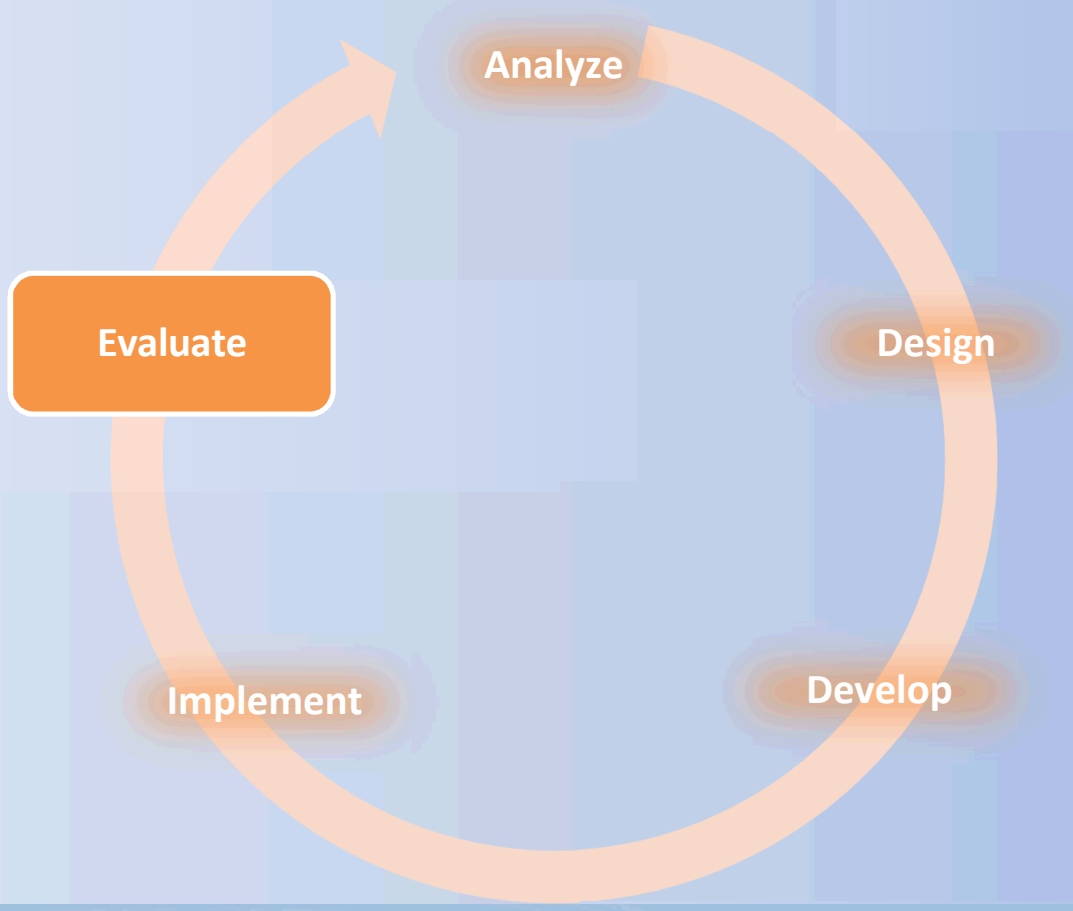
Where do we want to go?

Plus other constraints: environment, budget, etc.

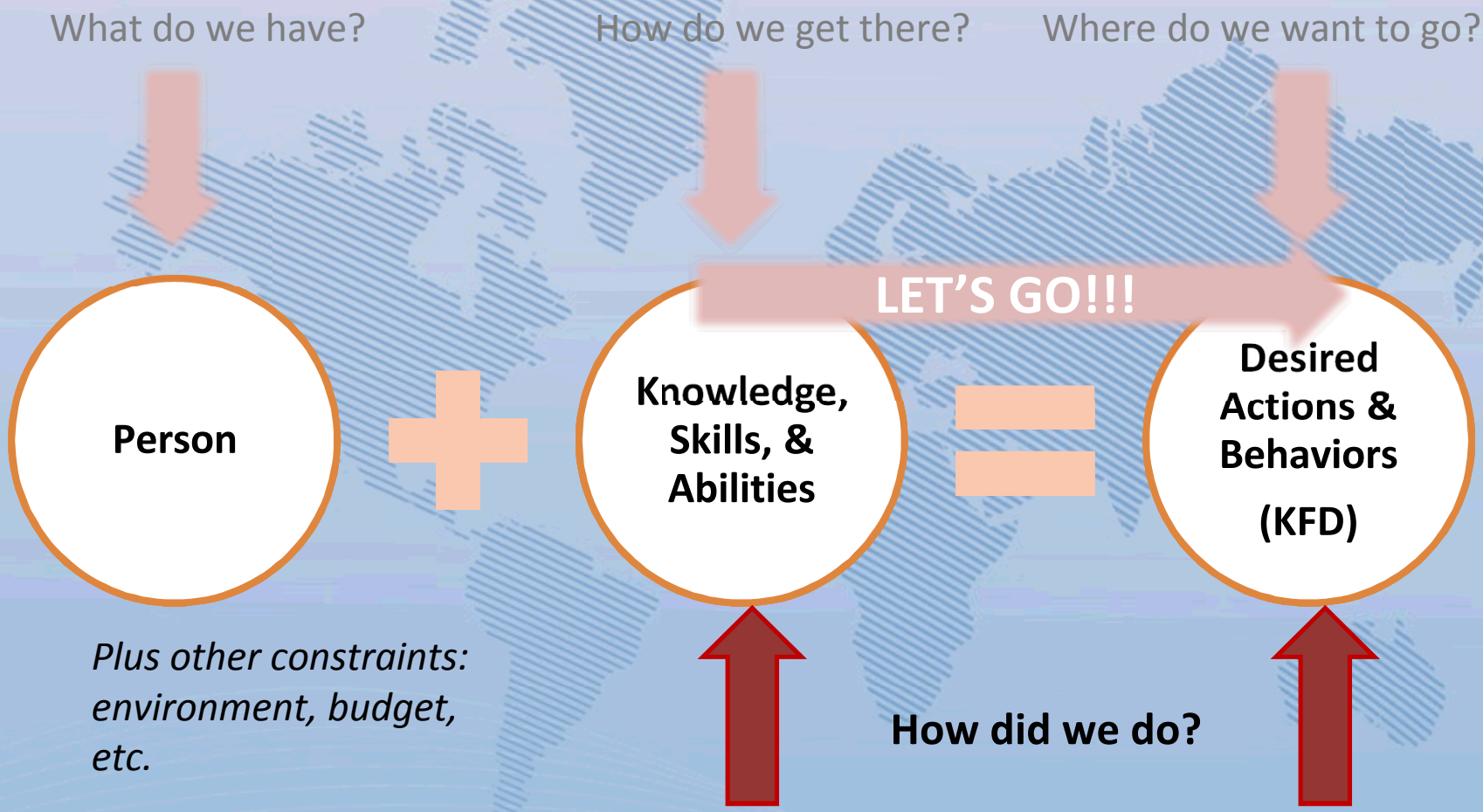
Implement - Prioritization

- Plenary Discussion
  - Which learning objectives matched with existing resources and sources are **more easily implementable**?
    - Think about current strengths, capacity, levels of students, etc.

Training Design Cycle



Evaluate


What do we have?
How do we get there?
Where do we want to go?
LET'S GO!!!
Person
Knowledge, Skills, & Abilities
Desired Actions & Behaviors (KFD)
Plus other constraints: environment, budget, etc.
How did we do?

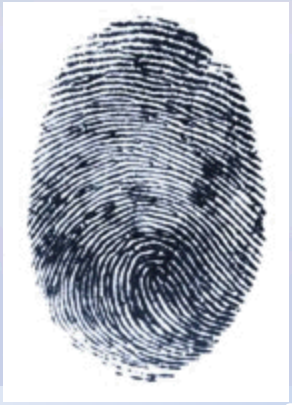
Evaluate Students' Objectives – Four Levels*

- Level 1
  - Was the student **happy** with the course?
- Level 2
  - Did the student **learn**?
- Level 3
  - Over time, did the student's **behavior** change to meet the desired objective?
- Level 4
  - Over time, did the **organization see improvement** in biorisk management?

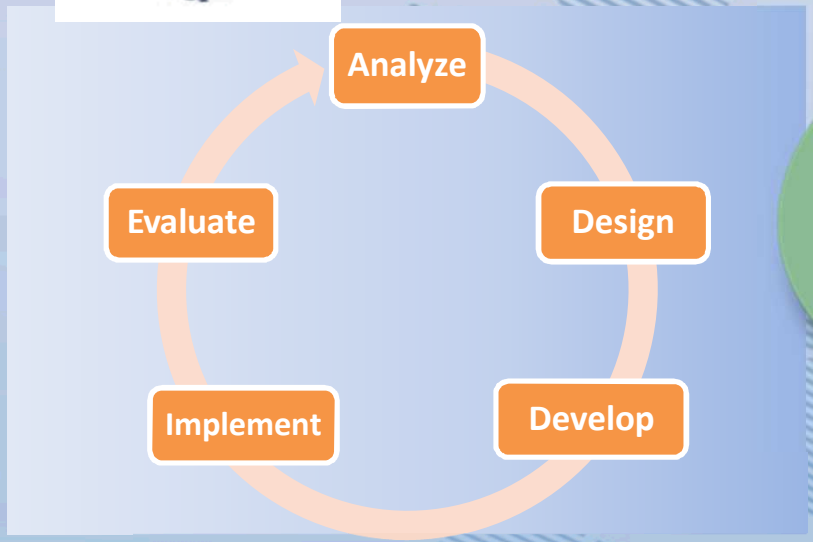
*(Donald) Kirkpatrick Learning Evaluation Model

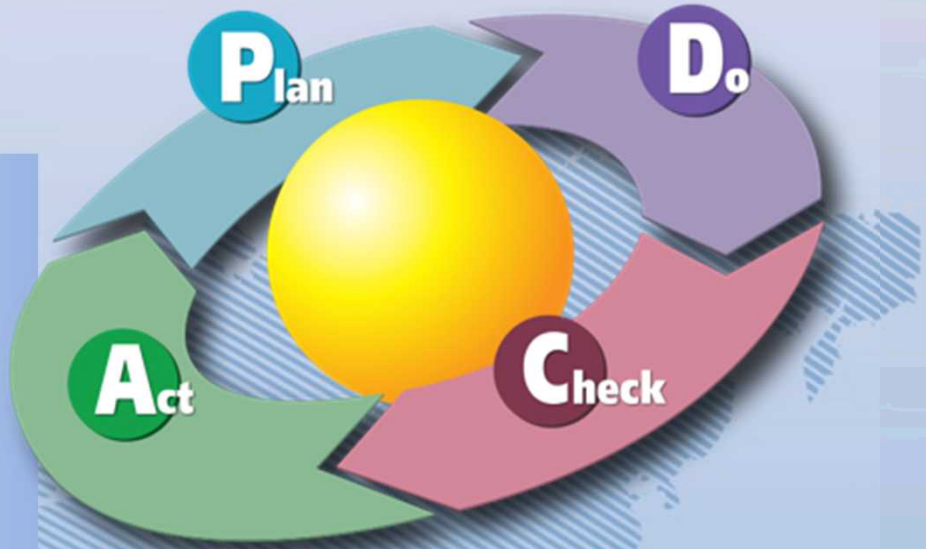
Evaluation

- Plenary Discussion
  - What tools do we need to evaluate effectiveness and appropriateness of education?
- Add ideas for Four Levels evaluation in the Course Design Worksheet



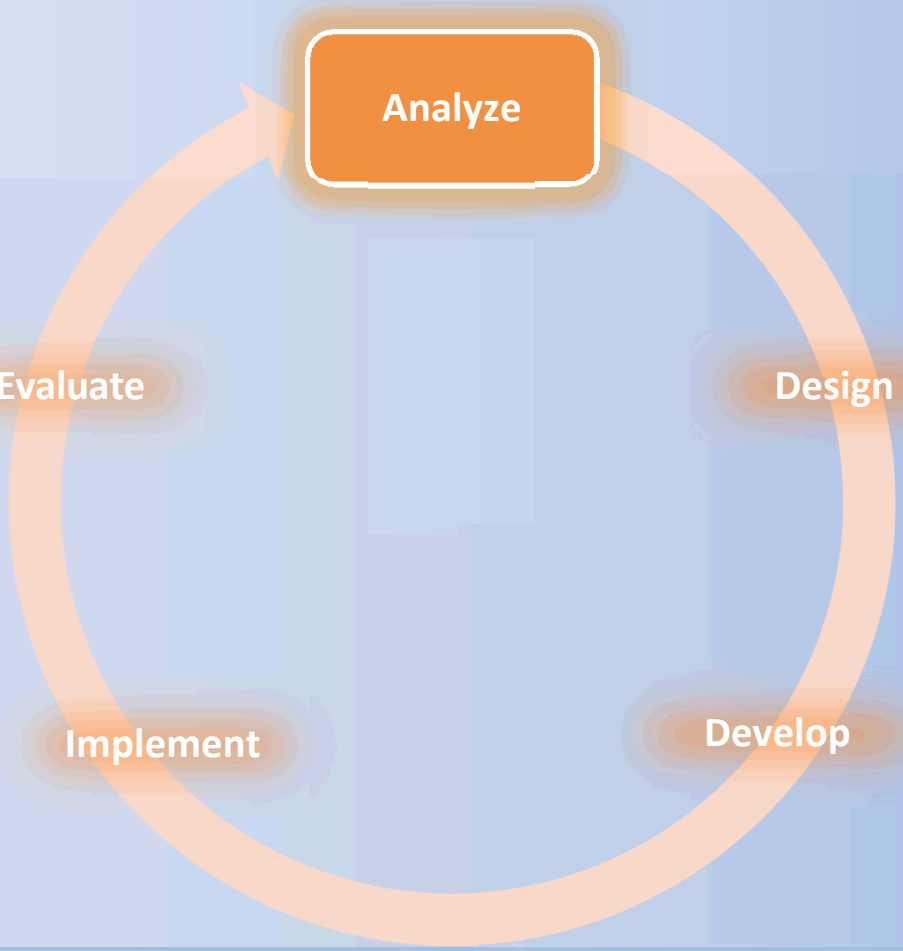
Feedback is essential!





Biorisk Management =
Assessment, Mitigation, Performance

Training Design Cycle



Wrap-Up


Person
Knowledge, Skills, & Abilities (KSA)
Desired Actions & Behaviors (KFD)

Thank You!