Instructional Design
What Is It and Why Should I Care?

### A CEIT
Workshop

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Instructional Design: What Is It and Why Should I Care?

You've heard of "Graphic Design," "Information Design," Fashion Design, and even "Industrial Design" — but maybe not "Instructional Design."

Presentation Goals:

- To cover the historical context and help to define the discipline of Instructional Design.
- To explore how a systems approach to   d instruction will serve your teaching   needs.
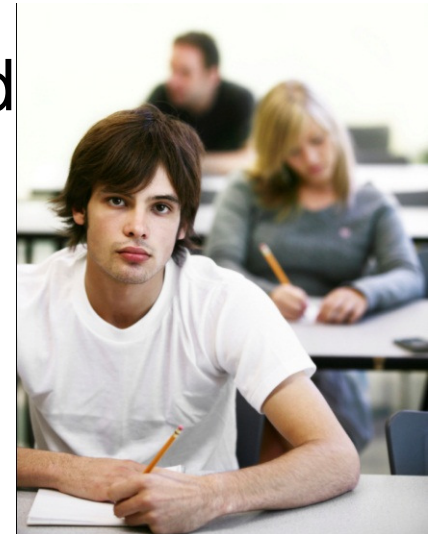
ID Workshop Opening Exercise

- Participants will be working individually or in small groups.

- Assume the role of product designer

- Identify the steps that will need to be taken to build and deliver that product to market.

- Pick a product:

   Toaster, Can Opener, Microwave,
   Clock Radio, Camera, Pencil Sharpener

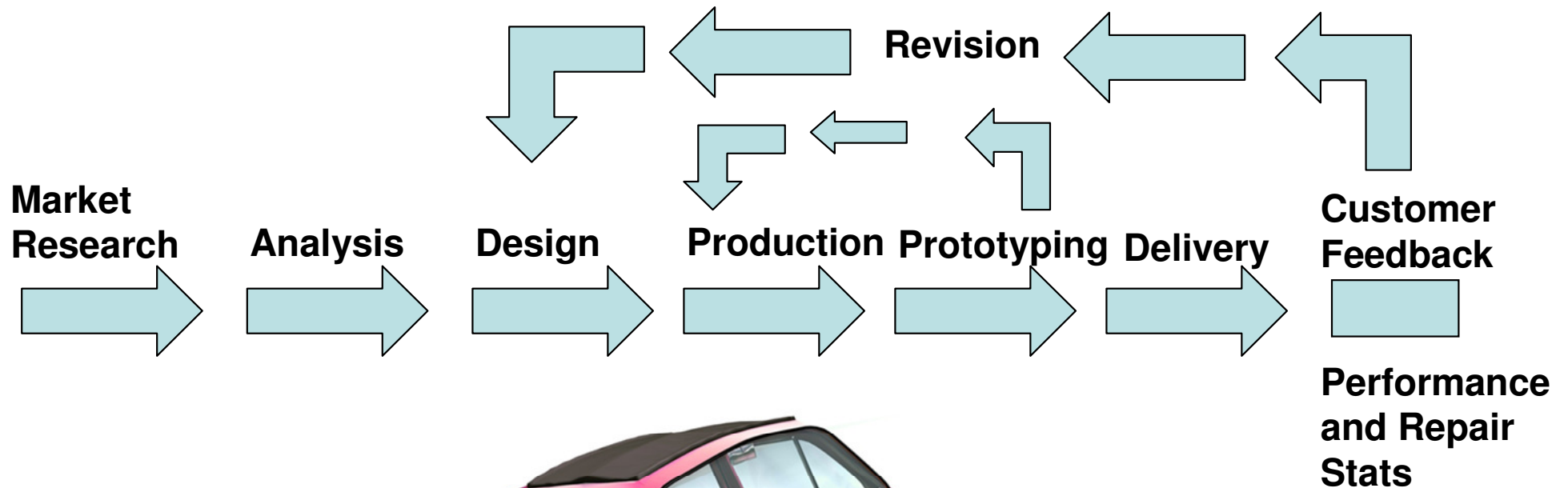- Together we will record the steps each group has identified.
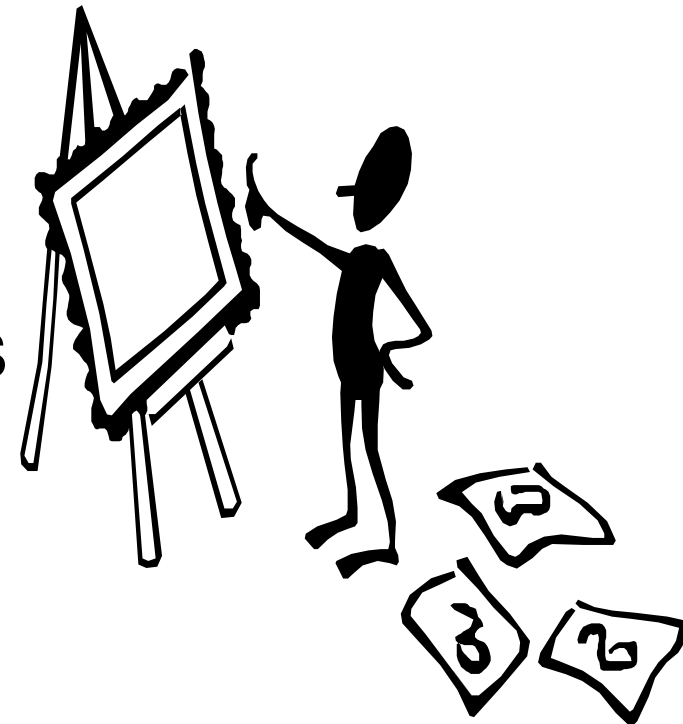
Instructional Design
"A Systematic Approach to Instruction"

Is the "systematic and reflective process of translating principles of learning and instruction into plans for instructional materials, activities, information resources, and evaluation".
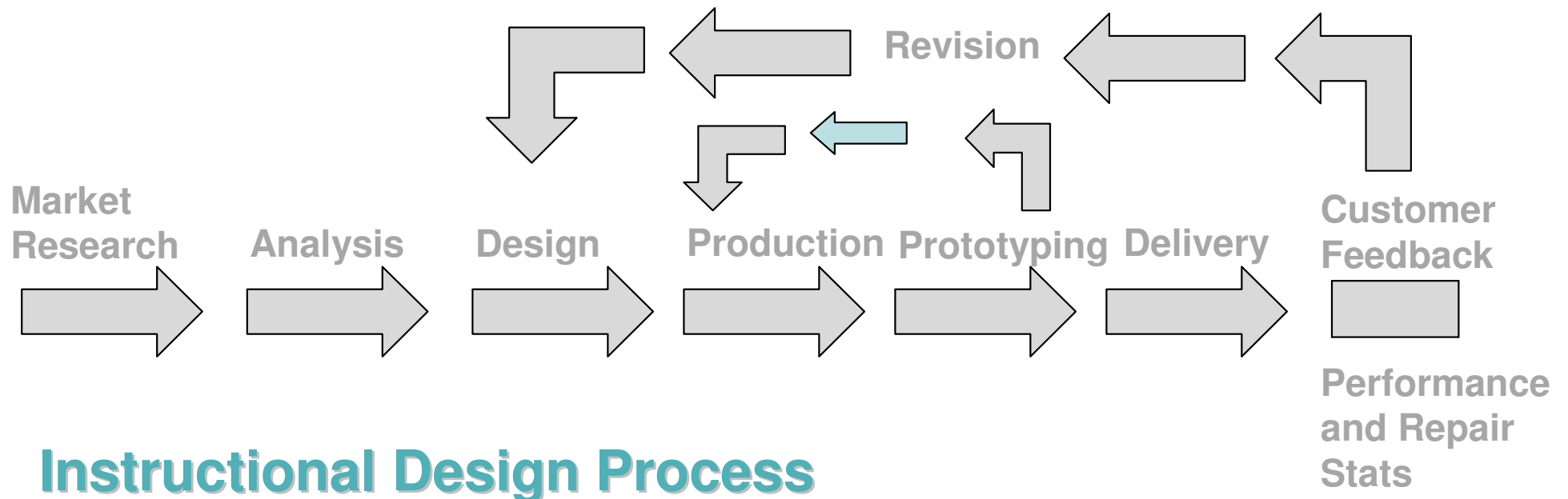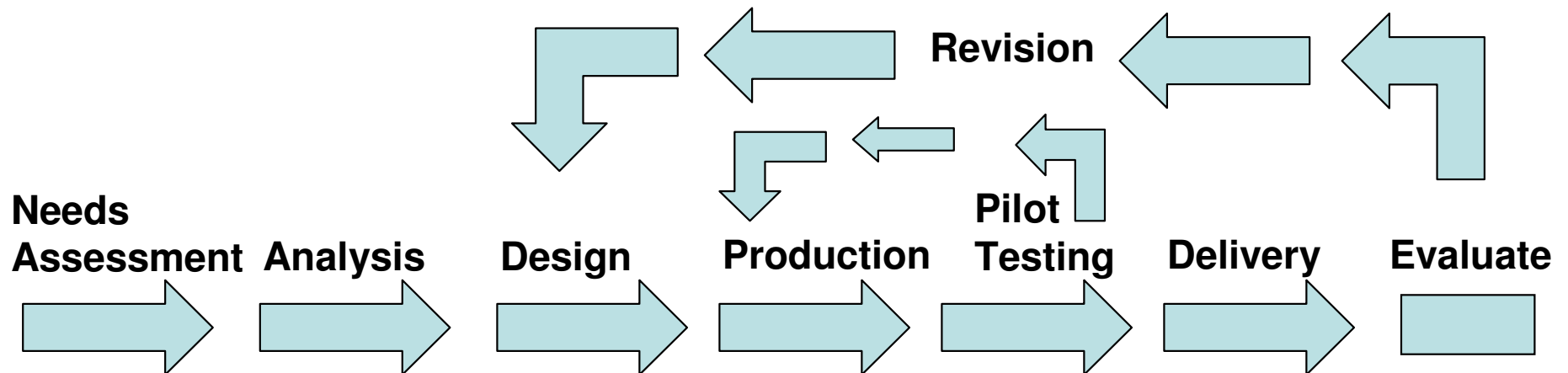
(Smith 1999)

How would you build a car?

Revision

Market Research → Analysis → Design → Production → Prototyping → Delivery → Customer Feedback

Performance and Repair Stats

How would you build a course?

Market Research → **Analysis** → **Design** → **Production** → **Prototyping** → **Delivery** → **Customer Feedback**

Revision (return loop)

Performance and Repair Stats

Instructional Design Process

Needs Assessment → **Analysis** → **Design** → **Production** → **Pilot Testing** → **Delivery** → **Evaluate**

Revision (return loop)

Dick and Carey Model 1978

Instructional Design Milestones

- **1920's**
  - Started to match the needs of society to education and connecting outcomes and instruction.
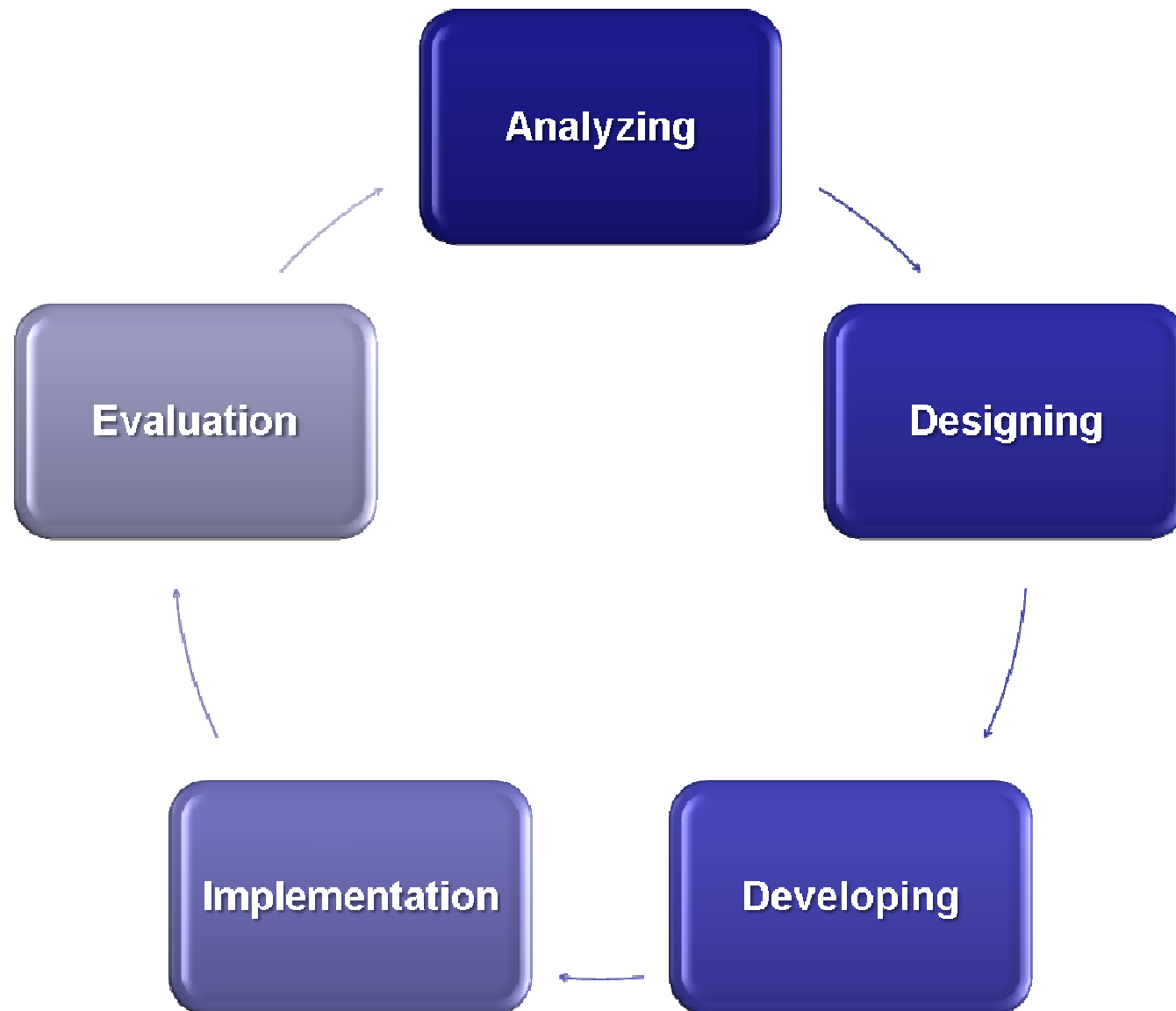
Instructional Design Milestones

- **1930's**
  - The **8 year study plan** by Ralph Tyler was a major milestone in specifying general objectives for education.
  - The study was designed in response to postwar pressures to revise the prevailing college prep high school curriculum in order to meet the needs of increasing numbers of students.
  - The study confirmed that objectives could be clarified if written in terms of student behaviors.
  - **Formative evaluation** was used for the first time during the study.

What Lead to the Development of Instructional Design?

- **1940's**
  - World War II created an enormous instructional problem - thousands of new recruits had to be trained rapidly, and the sophistication of new weapons demanded an unprecedented level of mastery.
  - Mediated strategies such as the use of films for instruction and AV technology were dominant.

ADDIE Instructional Design Cycle

Instructional Design Model

Instructional Systems Design is an organized procedure that includes steps of analyzing designing, developing, implementing and evaluating instruction.

ADDIE: (wikipedia.org/wiki/ADDIE_Model#Analysis_Phase)

Analyzing – Assessing the learning and defining what is to be learned

Designing – the process of specifying how it is to be learned

Developing – the process of authoring and producing the instructional materials

Implementation – is actually using the materials and strategies in context

Evaluating – is the process of determining the adequacy of the instruction
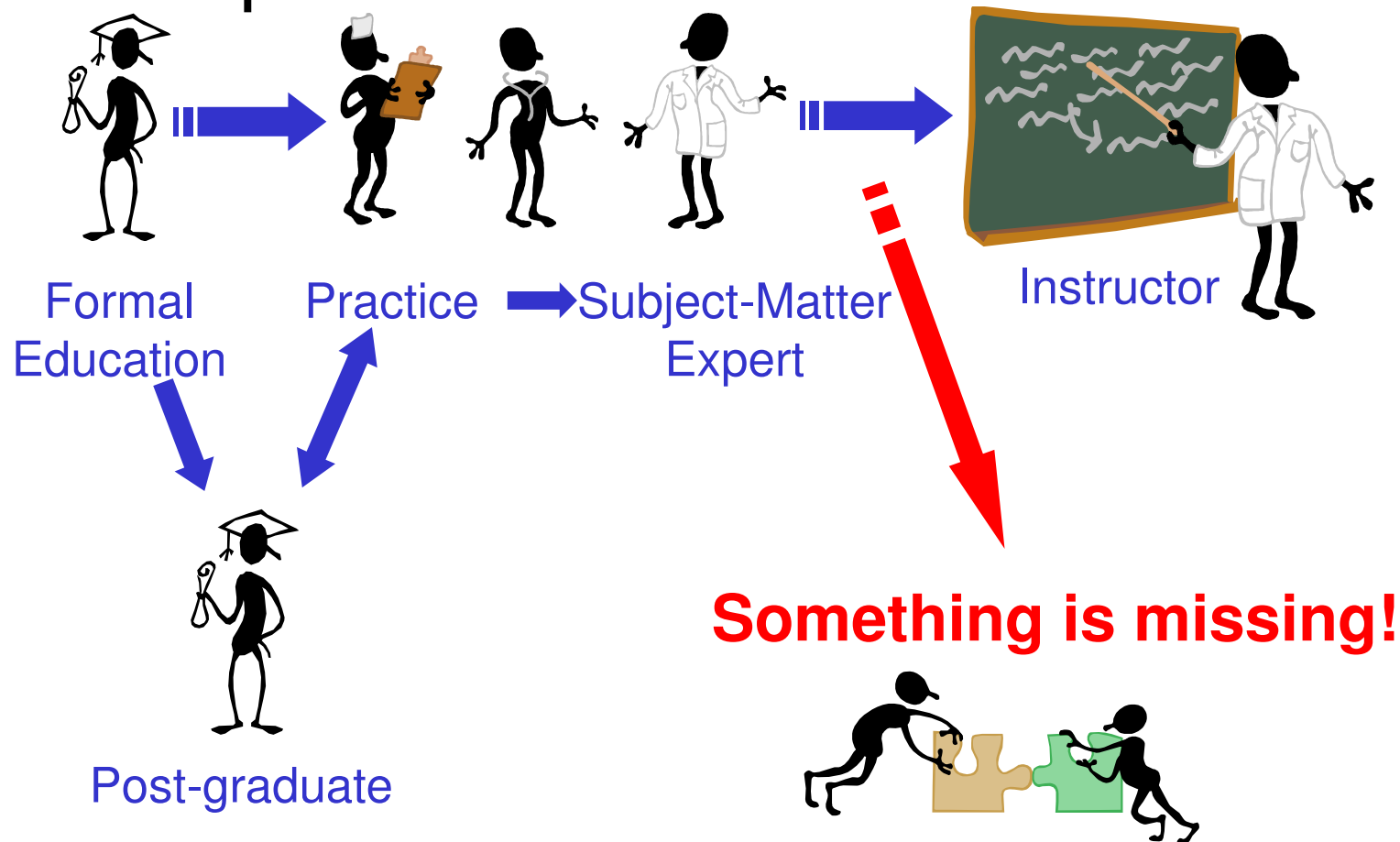
Instructional Design Model

- Characteristic of the Instructional Design process is that all the steps must be completed in order to serve as a check and balance on each other.
- 90-100 ID Models in existance
- The **Process** is as important as the **Product**
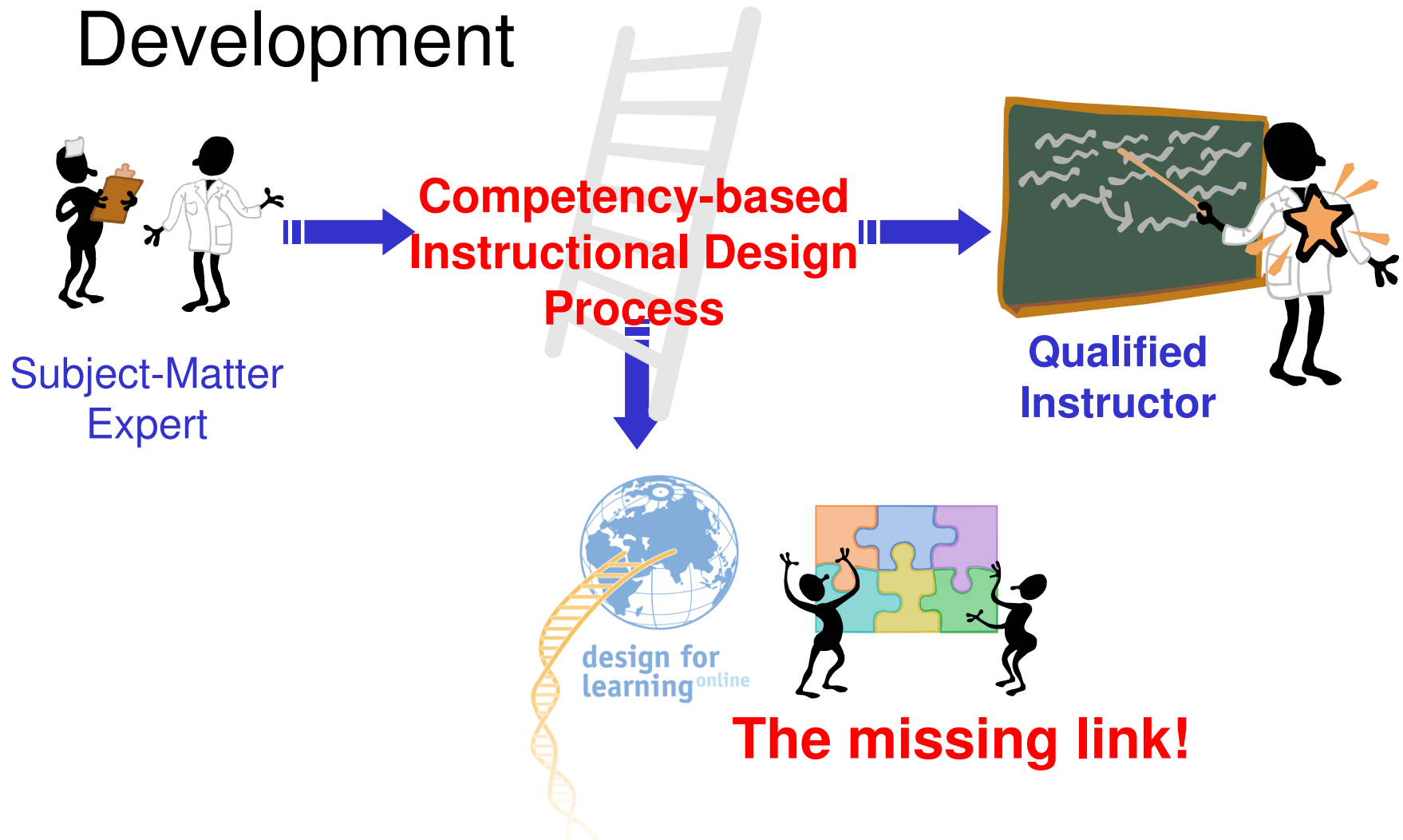- Confidence in the **Product** is based on the **Process**

The Process is the Product

Design for Learning
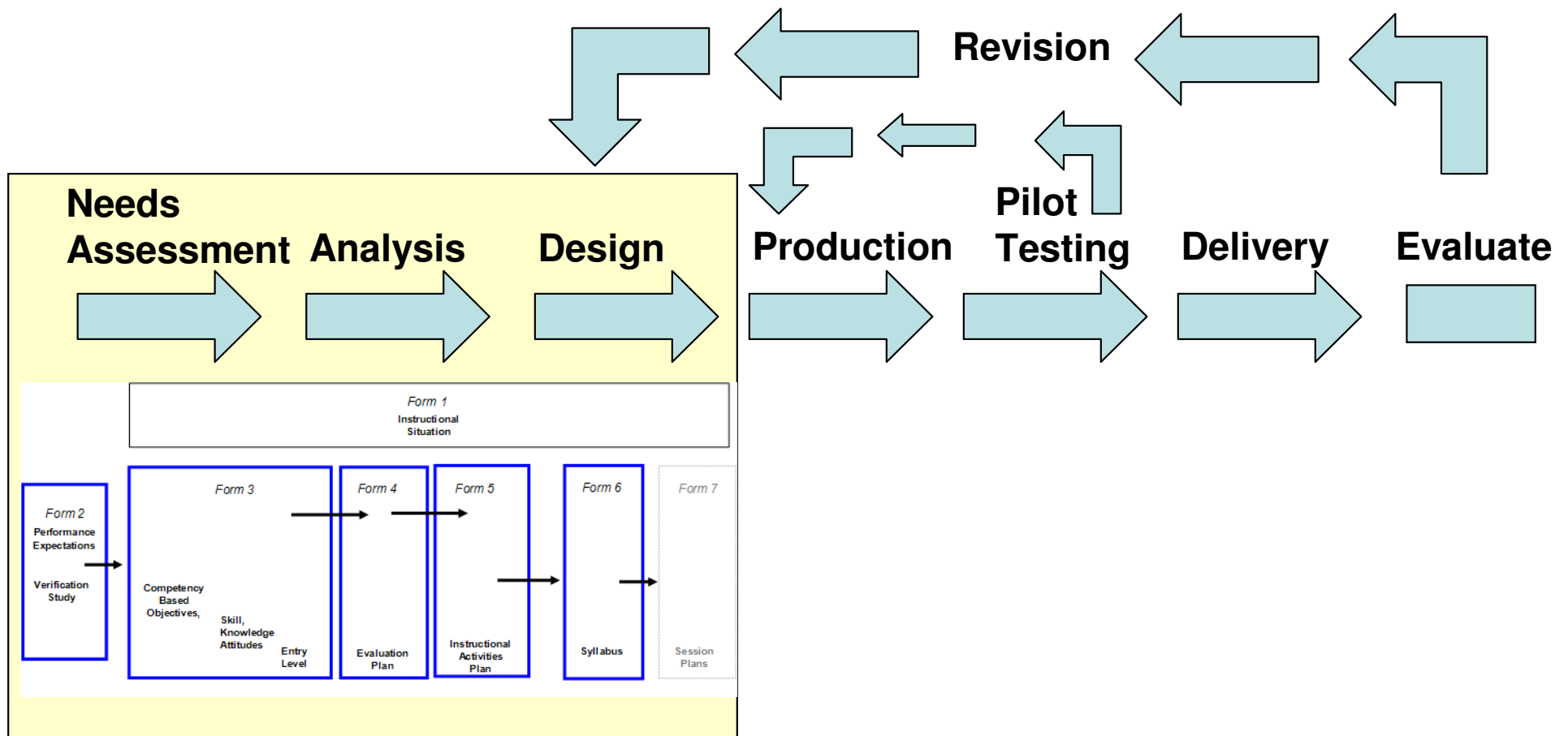
- Systematic Approach for Course Development

Formal Education

Practice → Subject-Matter Expert

Instructor

Post-graduate

Something is missing!

Design for Learning

- Systematic Approach for Course Development

Competency-based Instructional Design Process

Subject-Matter Expert

Qualified Instructor

design for learning online

The missing link!

Systematic Approach to Design

Instructional Design Process

Revision

Needs Assessment → Analysis → Design → Production → Pilot Testing → Delivery → Evaluate

Form 1
Instructional Situation

Form 2
Performance Expectations

Verification Study

Form 3
Competency Based Objectives,

Skill, Knowledge Attitudes

Entry Level

Form 4
Evaluation Plan

Form 5
Instructional Activities Plan

Form 6
Syllabus

Form 7
Session Plans

Boston University
Center for Educational Development in Health

Model for Systematic Course Design

Form 1

Instructional Situation

Form 2

Performance Expectations

Verification Study

Form 3

Competency Based Objectives,

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Session Plans
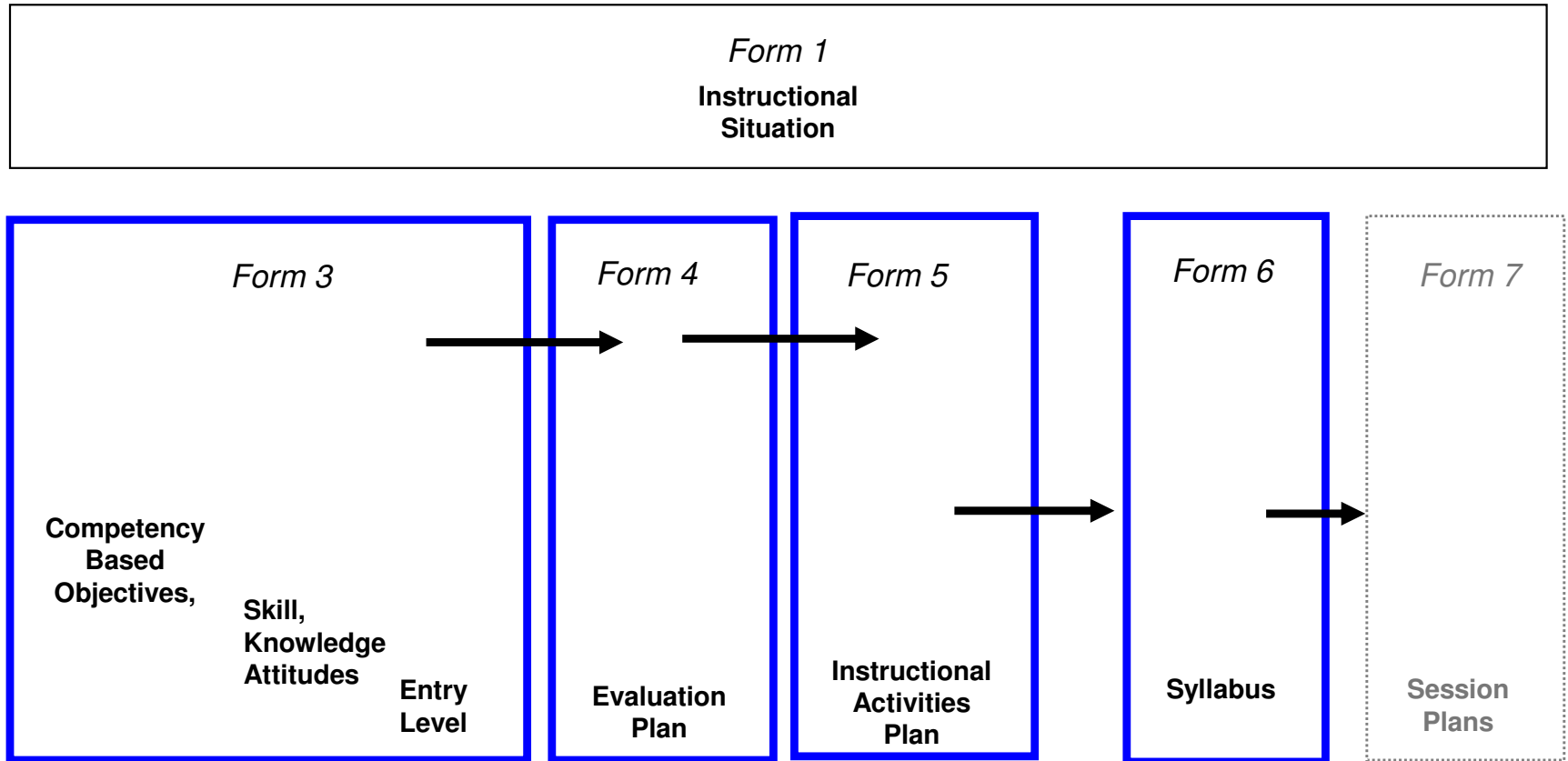
Instructional Situations

Course Title:	
Course Goal:	
Expected Students: Number of Students Educational Background	
Setting:	
Constraints: Such as.... 1.No time to prepare 2.Large number of students	
Resources: Such as... 1.Funds 2.Personnel 3.Laboratory facilities 4.Etc.	

Performance Expectations

Job Title	
Tasks	
Procedure	**Form 2a: Verify Performance Expectations: Literature Search and Interview**
Findings	

Competence Based Objectives

Objective:
When given……   The student will be able to…..
Objective: When given……   The student will be able to…..
Objective: When given……   The student will be able to…..

Relationship of Objectives and Evaluation

Objectives

Relationship of Objectives and Evaluation

Objectives   **Evaluation**

Learning Objectives

Robert F. Mager 1969

Mager, R.F. (1984). Preparing instructional objectives. (2nd ed.).
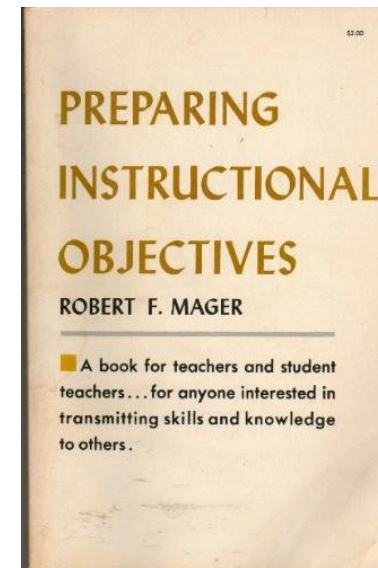
- An ***objective*** is a description of a performance you want learners to be able to exhibit before you consider them competent.

- An objective describes an intended ***result*** of instruction.

Learning Objective Parts

- **Behavior**
- **Condition**
- **Standard**

Learning Objective Parts

- **Behavior**
  - The **behavior** element of a learning objective (LO) describes what the student is expected to do after training.

- **Condition**
  - The **condition** refers to the circumstances under which the behavior will be performed

- **Standard**
  - The **standard** element of a learning objective indicates how well the student is expected to perform the behavior - **quantity** and/or **quality** of the performance.

Objectives
Skills, Knowledge and Attitudes

Objective:_____

Skills	Knowledge	Attitude

Objective:_____

Skills	Knowledge	Attitude

Objective:_____

Skills	Knowledge	Attitude

Objective Action Verbs

Information	Comprehension	Application	Analysis	Synthesis	Evaluation
cite	assess	apply	analyze	arrange	appraise
count	associate	calculate	appraise	assemble	assess
define	classify	choose	contract	collect	choose
describe	compare	complete	criticize	combine	compare
draw	compute	demonstrate	debate	compose	critique
identify	contrast	develop	deduce	construct	decide
indicate	demonstrate	employ	detect	create	determine
list	describe	examine	diagram	design	estimate
name	differentiate	illustrate	infer	detect	evaluate
point	discuss	match	inspect	document	grade
quote	distinguish	operate	inventory	formulate	judge

Objective Action Verbs
Continued

Information	Comprehension	Application	Analysis	Synthesis	Evaluation
read	experiment	order	measure	generalize	measure
recite	explain	practice	question	integrate	rank
recognize	express	prescribe	separate	manage	rate
record	extrapolate	restate	summarize	organize	recommend
relate	interpolate	schedule		plan	revise
report	interpret	sketch		prepare	score
select	locate	solve		prescribe	select
state	predict	treat		produce	test
summarize	report	use		propose	
tabulate	restate	utilize		specify	
tell	review			validate	
trace	translate				
update					

Verbs That Impart "Skills"

- demonstrate
- empathize
- listen
- operate
- visualize
- diagnose
- hold

- manage
- project
- write
- diagram
- internalize
- measure
- record

Verbs that Convey "Attitudes"

- acquire
- exemplify
- plan
- reflect
- transfer

- consider
- modify
- realize
- revise

Instructional Activities
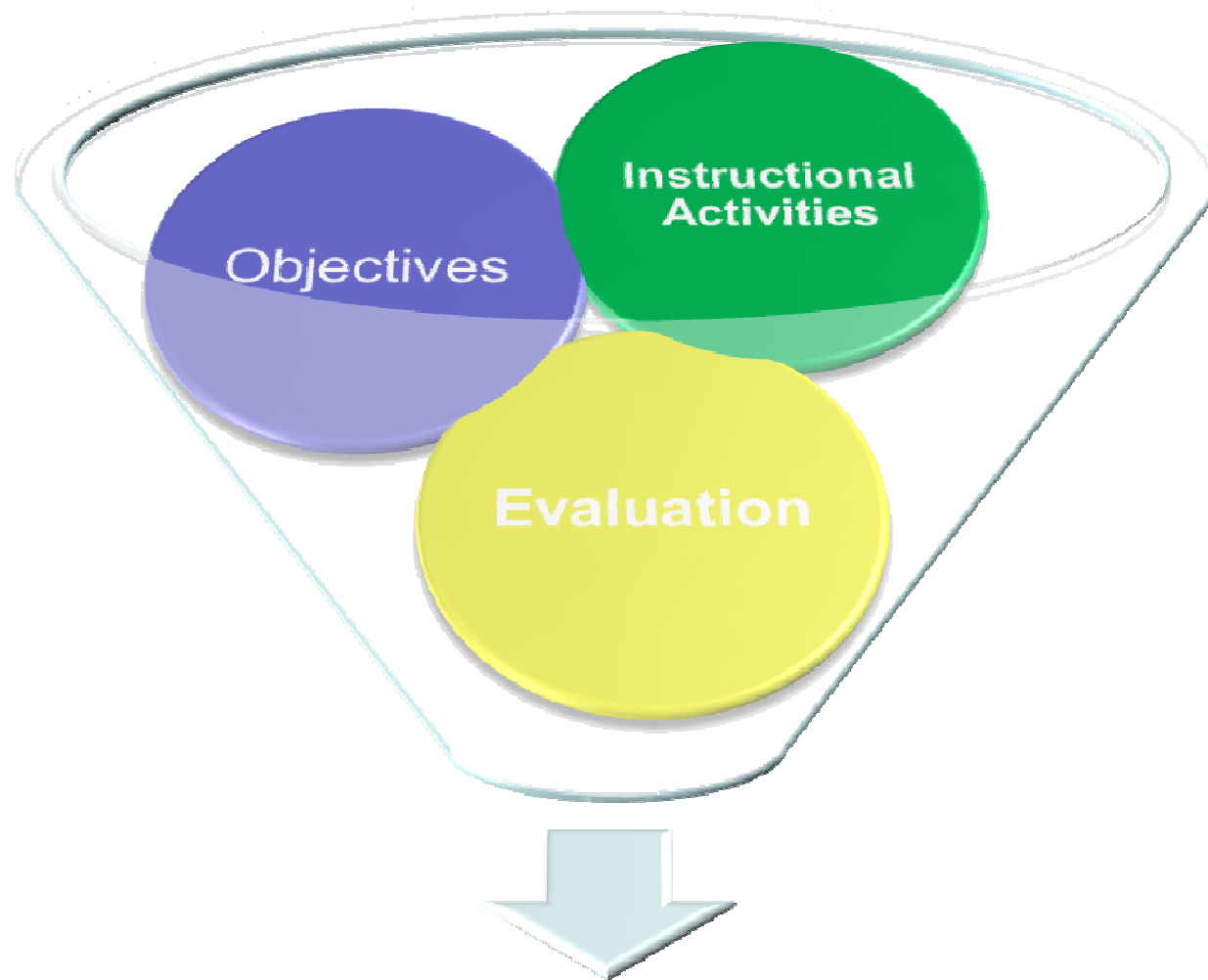
Learning Outcomes

Evaluation in Instructional Design

- Evaluation is the systematic determination of learning outcomes.
  - Formative
  - Summative
- It is a process by using measures against a set of objectives.

- Program Evaluation
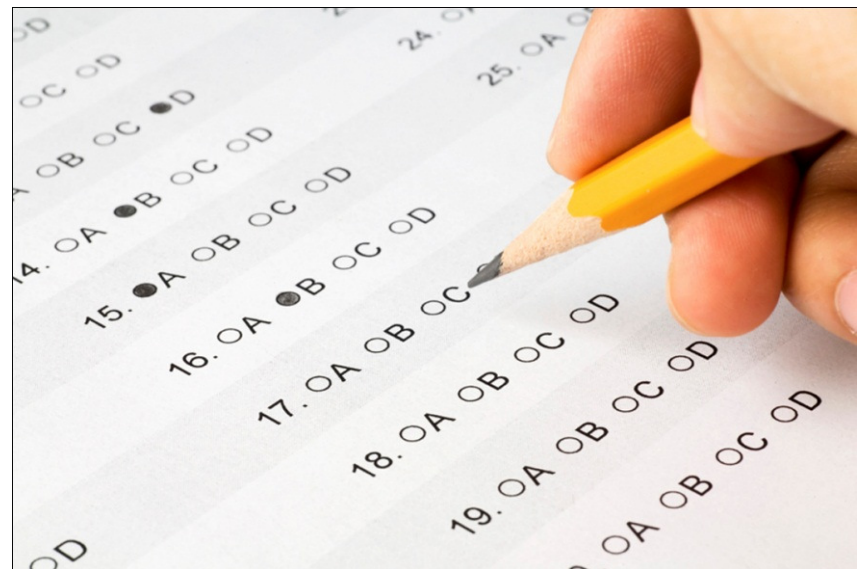
Formative Evaluation

- Permit the instructional designers, instructors and learners to monitor how well the instructional goals and objectives are being met.
- Its main purpose is to catch deficiencies so that the proper learning interventions can take place that allows the learners to master the required skills and knowledge

Summative Evaluation

- Is a method of judging the success of a instructional intervention that focuses is on learning outcome.

- Various instruments are used to collect the data.

  - Questionnaires, surveys, interviews, observations, and testing.

  - Should be designed to meet learning objectives
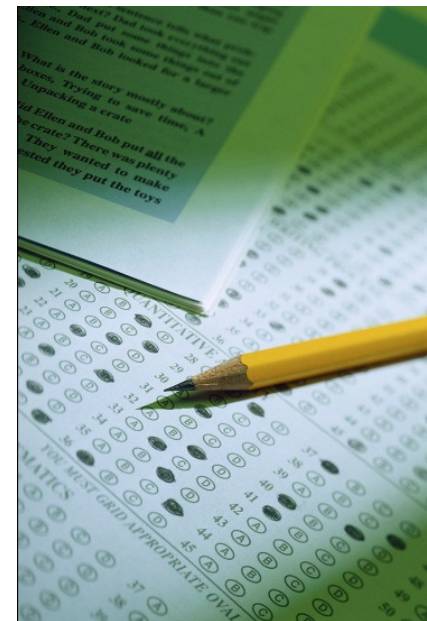
Evaluation Plan

Testing Conditions	Performance
When given...	The student will be able to…
ENTRY TEST	
PROGRESS TEST	
PROGRESS TEST	
PROGRESS TEST	
PROGRESS TEST	
POST TEST	
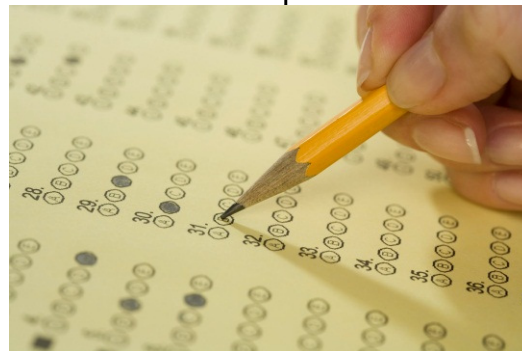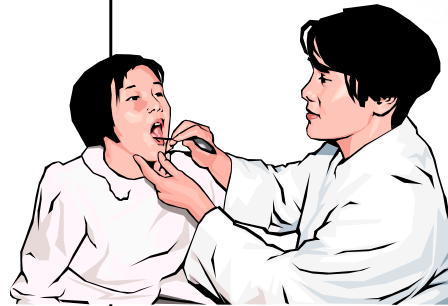
Evaluation Influencing Activities

Evaluation (From Evaluation Plan)	Activities

The Syllabus – Organized Activities

Session #	In-Class Activities	Outside Activities
Week 1	• **Intro** • **Lecture** • **Role Play** • **Discussion**	• **Reading** • **Field Trip Exercise**
Week 2	• **Lecture** • **Video** • **Lab** • **Test Review**	• **Journal** • **Lab Reports**
Week 3	• **Interview** • **Panel Discussion** • **Team Based Exercise**	• **Blog Post** **Flipping the Classroom**

Design Stage

- Design
  - Don't Reinvent the Wheel
  - Evidence-Based Methods
  - Innovation
  - Instructional Methods
  - Cognitive Load
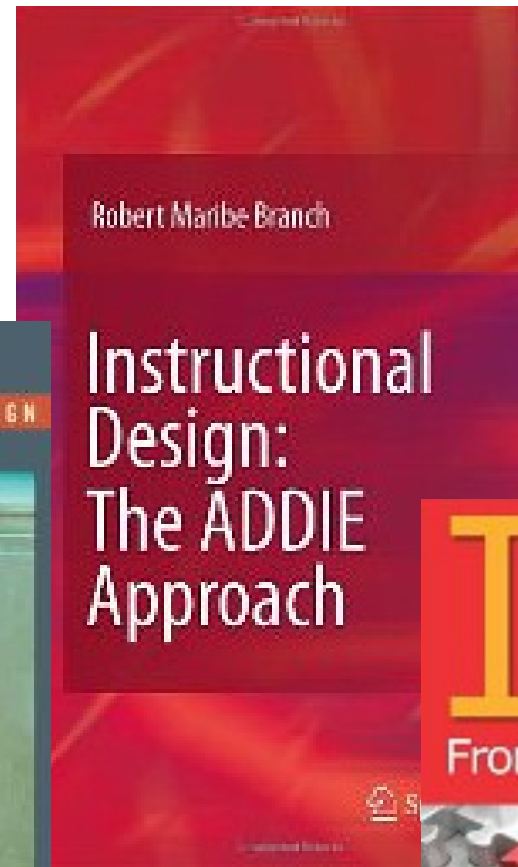 - Solution-Based Approach
  - Creativity
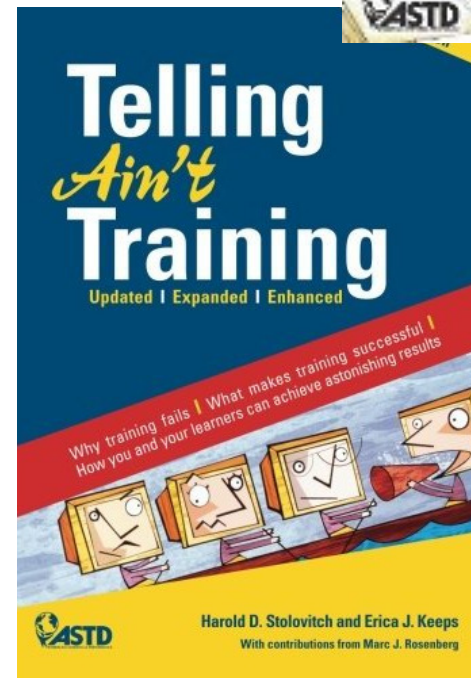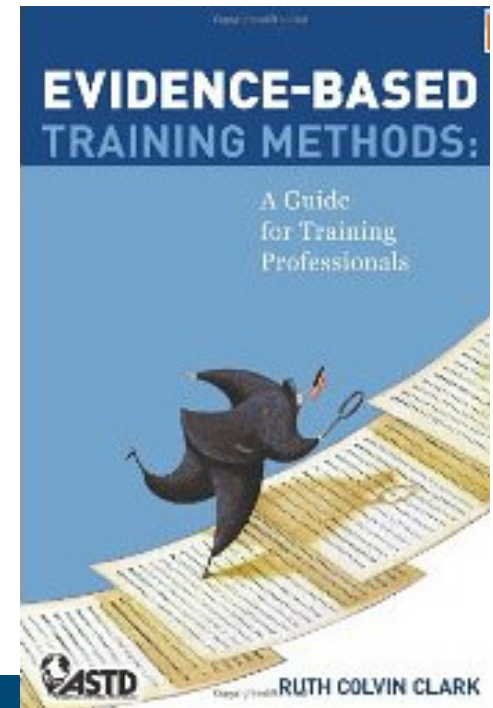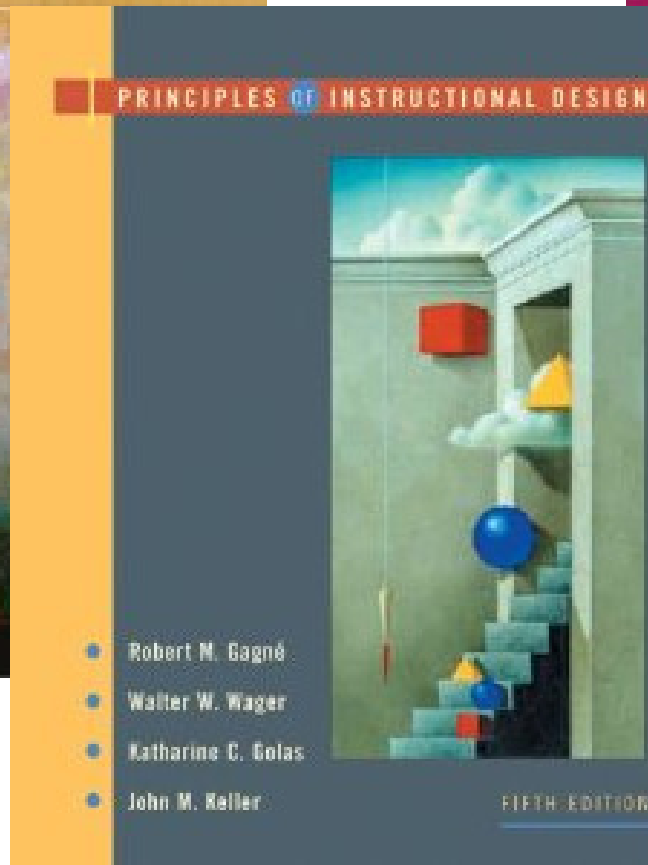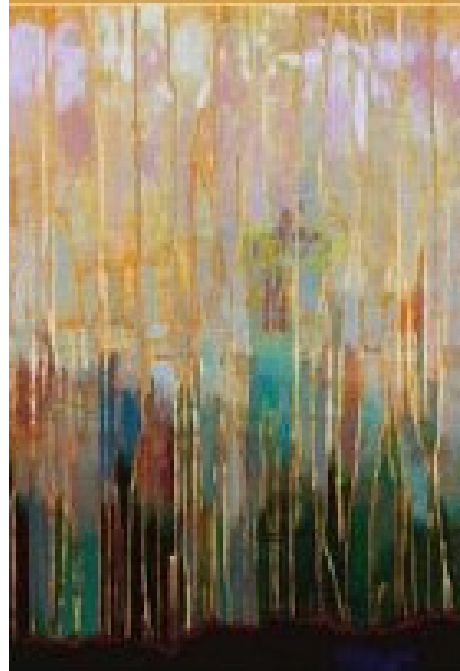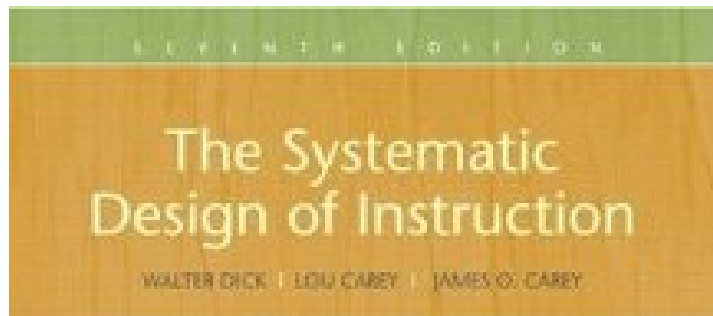
Production Stage

- Production
  - Limitations
  - Media
  - Visual
  - Time, Quality and Cost

Teaching as Research

- Instructional Design
- Systematic Instructional Design
- Establishing a framework for the research

Instructional Design Resources
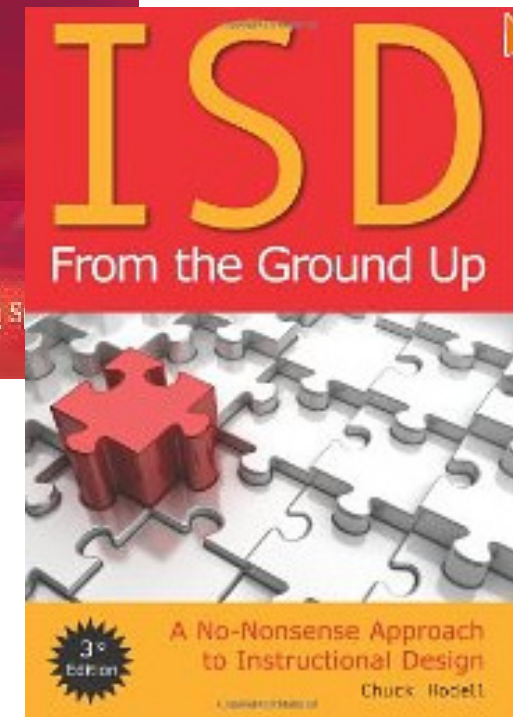
American Society for Training and Development

http://www.astd.org/About

ASTD

The world's largest professional association dedicated to the training and development field

| Members | Publications | Conferences | Education | CPLP Certification | Communities of Practice | Enterprise Solutions | Professional Resources | Store |

ASTD > About ASTD

ABOUT ASTD

ASTD (American Society for Training & Development) is the world's largest association dedicated to workplace learning and development professionals. ASTD's members come from more than 100 countries and connect locally in more than 120 U.S. chapters and with more than 20 international partners. Members work in thousands of organizations of all sizes, in government, as independent consultants, and suppliers.

Started in 1943, in recent years ASTD has widened the profession's focus to link learning and performance to individual and organizational results, and is a sought-after voice on critical public policy issues.

ASTD ...

- Provides resources for learning and development professionals, educators, and students—research, analysis, benchmarking, online information, books, and other publications.
- Brings professionals together in conferences, workshops, and online.
- Offers professional development opportunities for learning practitioners, from a Job Bank and Career Center, to certificate programs, and the only credential offered in the field: the Certified Professional in Learning and Performance (CPLP).
- Serves as the voice of the profession to the media and to public policy makers in the U.S., and collaborates with other associations, organizations, and educational institutions to advance the profession.
- Recognizes excellence and sets the standard for best practices in learning and performance.

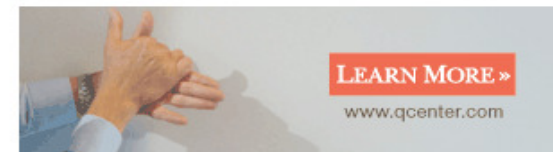**ASTD Home**

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Mission and Vision

ASTD Social Networking

⊞ Leadership

⊞ ASTD Awards

⊞ Our Public Policy Work

ASTD Employee Learning Week

The End