INSTRUCTIONAL DESIGN PRINCIPLES

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How Would You Design Instruction?

Imagine you've been asked to design and deliver financial statement training to a group of recently promoted automotive dealership managers.

How would you prepare?

How Would You Design Instruction?

A. Create a content outline in a logical sequence with all the fundamentals; verify that your information is accurate. Put together slides and exercises that clarify how to read a financial statement and how it works. Rehearse so you appear credible and can answer content questions.

How Would You Design Instruction?

B. Identify what the learners will do with financial statements and expectations of them. Find out their backgrounds concerning financial statements. List problems new managers encounter when using financial statements. Create realistic scenarios and tools to help them acquire expected skills, along with a list of benefits to them and their dealerships when they can use financial statements.

How Would You Design Instruction?

Option B!

Focus on the learner!

Focus on the Learner

"Okay, mom, first you need to right click the file… uh-huh. That means use the other button on the mouse, that's right… no, you don't need to double-click. A single click is fine.

OK, OK… now you select the option that says "attach." Did that work? What do you mean, "how can you tell?" (sigh). The menu just disappeared?!? OK, let's start over..."

Instructional Principle 1

- ✓Focus on the learner

Measurable Objectives

Design learning objectives that include:

1. **Performance** (by the learner)

- Robert Mager, 1997

Measurable Objectives

Which of these adheres to the definition of **performance**?

Be able to:

A. Explain the formula on each line of a financial statement

B. Appreciate the purpose of sound financial management

Measurable Objectives

Which of these adheres to the definition of **performance**?

Be able to:

A. **Explain the formula on each line of a financial statement**

B. Appreciate the purpose of financially managing a department

Measurable Objectives

Design learning objectives that include:

1. **Performance** (by the learner)
2. **Conditions** (under which the learner must perform)

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Measurable Objectives

Which one of these adheres to the definition of a **condition**?

A. Understand where Parts Department expenses come from

B. On page 6 of the financial statement, find Parts Department expenses

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Measurable Objectives

Design learning objectives that include:

1. **Performance** (by the learner)
2. **Conditions** (under which the learner must perform)
3. **Criteria** (by which it's evaluated)

- Robert Mager, 1997

Measurable Objectives

Which one of these adheres to the definition of a **criteria**?

A. Perform a vehicle walk-around in five minutes or less

B. Describe the elements of a vehicle walk-around

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Instructional Principle 2

- ✓Focus on the learner
- ✓Write measurable objectives

What's the Learning Outcome?

There's a new technology health care employees are required to use on the job. Do you want your learners to:

A. Know about the new technology
B. Do their jobs correctly using the technology

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The student learns what the student does!

Active, Meaningful Practice

- **Active** = overt responding
- **Meaningful** = related to the measurable skill or knowledge stated in the learning objective

- Markle (1990)

Active, Meaningful Practice

Which is active and meaningful?

A. Copying words from a PowerPoint presentation onto a page in a Participant Workbook

B. Writing a summary of the presentation, and explaining the summary to the rest of the class

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Active, Meaningful Practice

Examples:

- Fluency learning flashcards
- Role-play activities
- Interactive software simulations
- Presentations
- Games and competitions

Instructional Principle 3

- ✓Focus on the learner
- ✓Write measurable objectives
- ✓Provide active, meaningful practice (the student learns what the student does)

Context-based Learning

- Context-based learning is a **physical environment, behavioral requirements,** and **emotional cues** that mimic or closely approximate the learner's job.

- Bucklin, Brown, and Conard, 2018

Context-based Learning

Physical environment

Context-based Learning

Behavioral requirements

Context-based Learning

Emotional context

Why Context-based Works

- Learners are more likely to discriminate and generalize to their own work settings
- The same behavioral consequences
- Practice during training produces the same emotional responses – no surprises on the job

Context-based Tips

- Bring learning to the learners' own environment
- Observe learners performing on-the-job and provide guided feedback.
- Ensure behavioral requirements match those on the real job
- Use problem-solving and scenarios to replicate the real world

Context-based Tips

- Use storytelling or simulations for better environmental context
- Create emotional context through pressure

Instructional Principle 4

- ✓Focus on the learner
- ✓Write measurable objectives
- ✓Provide meaningful practice (the student learns what the student does)
- ✓Teach, practice, and test in context

Instructional ‘Step Sizes’

Break concepts into smaller units or chunks, but not too small to be meaningless

- Introduce a concept or unified piece of concept, then request a response

Instructional ‘Step Sizes’

Which is the best ‘step size’ to present and require practice?

A. One line on a warranty form

B. One of 10 pages on a warranty form

C. All 10 pages of the form

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Which is the best ‘step size’ to present and require practice?

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B. One of 10 sections on a warranty form

C. All 10 sections of the form

Instructional Principle 5

- ✓Focus on the learner
- ✓Write measurable objectives
- ✓Provide meaningful practice (the student learns what the student does)
- ✓Teach, practice, and test in context
- ✓Chunk content in appropriate step sizes

Feedback

- Feedback improves learning – this is tried and true!
- Characteristics of good feedback:
  - Immediate
  - Frequent
  - Descriptive
  - Objective

Feedback

- Based on characteristics of good feedback, which is a better design?
  A. Feedback delivered upon a learner's response that describes why the response is correct
  B. Feedback delivered at the end of a 10 question quiz that indicates which questions were answered correctly or incorrectly

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Feedback

- Which is better feedback to deliver at the end of a medical simulation?

  A. Sorry, please click to try again.

  B. Sorry, your patient just died because you used stiches when there wasn't enough time; you should've used the clamp. Please click to try again.

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Instructional Principle 6

- ✓Focus on the learner
- ✓Write measurable objectives
- ✓Provide meaningful practice (the student learns what the student does)
- ✓Teach, practice, and test in context
- ✓Chunk content in appropriate step sizes
- ✓Provide immediate, descriptive feedback

Test the Objectives

- Determines if the learner has mastered all the objectives
- Measures the ‘terminal’ behavior
- Uses different examples from the teaching examples
- Uses an equivalent pool of pre- and post-test questions

Test the Objectives

- Which objectives could be measured using a multiple-choice test?
  A. Identify the name of the correct form to use for a warranty return
  B. Accurately complete the online form
  C. Explain the purpose of the online form
  D. Select the next person to whom the form should be routed

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- Which objectives could be measured using a multiple-choice test?
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  - B. Accurately complete the online form
  - C. Explain the purpose of the online form
  - **D. Select the next person to whom the form should be routed**

Instructional Principles

- ✓Focus on the learner
- ✓Write measurable objectives
- ✓Provide meaningful practice (the student learns what the student does)
- ✓Teach, practice, and test in context
- ✓Chunk content in appropriate step sizes
- ✓Provide immediate, descriptive feedback
- ✓Design effective tests

Instructional Principles

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- ✓Write measurable objectives
- ✓Provide meaningful practice (the student learns what the student does)
- ✓Teach, practice, and test in context
- ✓Chunk content in appropriate step sizes
- ✓Provide immediate, descriptive feedback
- ✓Design effective tests