

Does Your Instruction Rate 5 Stars? First Principles of Instruction

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Tell & Ask Instruction (T&A)

Many contemporary courses can be characterized as **Tell-&-Ask instruction**. Information is presented and a few multiple-choice, true-false, or short-answer, remember-information-that-was-presented questions are tacked onto the end of a module or the course.

This type of course is **Information-Only** and it does not meet the basic requirements for certification. There is no need to apply other criterion.

T&A instruction gets no stars.

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First Principles of Instruction

Many instructional design theories and models have fundamental underlying principles in common?

A principle is a relationship that is always true under appropriate conditions regardless of program or practice.

What is a First Principle

- ★ What are the properties of a first principle?
 - Learning from a given program will be facilitated in direct proportion to the implementation of first principles.
 - First principles can be implemented in any delivery system or using any instructional architecture?
 - First principles are design oriented rather than learning oriented. They relate to creating learning environments and products rather than describing how learners acquire knowledge and skill from these environments or products.

Where did we get Strategies for Effective Learning ?

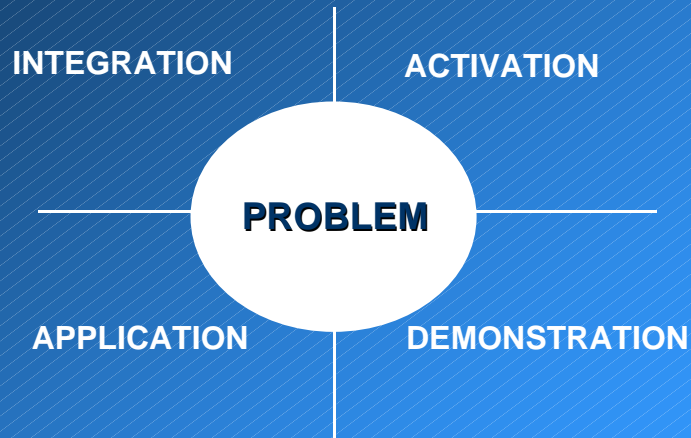
- ★ Analyze instructional theories and models to extract general first principles.
- ★ Identify the cognitive processes associated with each principle. (not included in this lecture).
- ★ Identify empirical support for the principles (not included in this lecture).
- ★ Describe the implementation of the principles in a variety of different instructional theories and models (not included in this lecture).
- ★ Identify prescriptions for effective instructional strategies associated with these principles.

Effective Instructional Strategies

Learning is facilitated when ...

- ★ the learner is engaged in solving a **real-world problem**.
- ★ new knowledge builds on the learner's **existing knowledge**.
- ★ new knowledge is **demonstrated** to the learner.
- ★ new knowledge is **applied** by the learner.
- ★ new knowledge is **integrated** into the learner's world.

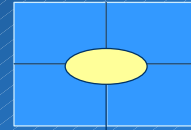
Instructional Phases



5 Star Rating Scale

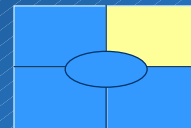
- ★ This rating scale is based on First Principles of Instruction. See www.id2.usu.edu/Papers/5FirstPrinciples.PDF
- ★ The rating system consists of 5 stars, one each for Problem, Activation, Demonstration, Application, and Integration. Each star has three levels, **bronze**, silver, and **gold** depending on whether detailed criterion are met for each category.
- ★ World class instruction rates **5 Gold Stars**.

★ Problem



- ★ Is the courseware presented in the context of real world problems?
- ★ Does the courseware show learners the task they will be able to do or the problem they will be able to solve as a result of completing a module or course?
- ★ Is the student engaged at the problem or task level not just the operation or action level?
- ★ Does the courseware involve a progression of problems rather than a single problem?

★ Activation



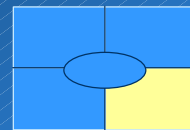
- ★ Does the courseware attempt to activate relevant prior knowledge or experience?
 - ★ Does the courseware direct the student to recall, relate, describe, or apply knowledge from relevant past experience that can be used a foundation for the new knowledge?
 - ★ Does the courseware provide relevant experience that can be used as a foundation for the new knowledge?
 - ★ Are students given an opportunity to demonstrate what they already know?

Consistent demonstration

- ★ Are the demonstrations (examples) consistent with the content being taught?
 - ★ Facts and associations for information-about?
 - ★ Part location with respect to whole for parts-of?
 - ★ Examples and non-examples for kind-of (concepts)?
 - ★ Demonstrations for how-to (procedures)?
 - ★ Visualizations for what-happens (processes)?
 - ★ Modeling for behavior?

The consistency criterion should be applied first. If demonstrations are inconsistent then it doesn't matter if there is learner guidance or if the media is relevant.

★ Demonstration



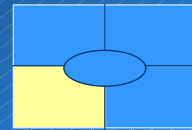
- ★ Does the courseware demonstrate (show examples) of what is to be learned rather than merely tell information about what is to be learned?
 - ★ Are the demonstrations (examples) consistent with the content being taught?
 - ★ Are learner guidance techniques employed?
 - ★ Is media relevant to the content and is it used to enhance learning?

Consistent Practice

- ★ Are the application (practice) and the posttest **consistent** with the stated or implied objectives?
 - ★ Information-about practice -- recall or recognize information.
 - ★ Parts-of practice -- locate, name, and/or describe each part.
 - ★ Kinds-of practice -- identify new examples of each kind.
 - ★ How-to practice -- do the procedure.
 - ★ What-happens practice -- predict a consequence of a process given conditions, or find faulted conditions given an unexpected consequence.

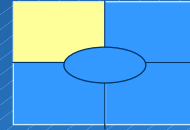
The consistency criterion should be applied first.

★ Application



- ★ Does the learner have an opportunity to practice and apply their newly acquired knowledge or skill?
 - ★ Are the application (practice) and the posttest **consistent** with the stated or implied objectives?
 - ★ Does the courseware require the learner to use new knowledge or skill to solve a **varied sequence** of problems and do learners receive corrective feedback on their performance?
 - ★ In most application or practice activities, are learners able to access context sensitive **help or guidance** when having difficulty with the instructional materials? Is this coaching **gradually withdrawn**?

★ Integration



- ★ Does the courseware provide techniques that encourage the learner to integrate (transfer) the new knowledge or skill into their everyday life?
 - ★ Does the courseware provide an opportunity for the learner to **publicly demonstrate** their new knowledge or skill?
 - ★ Does the courseware provide an opportunity for the learner to **reflect-on, discuss, and defend** his or her new knowledge or skill?
 - ★ Does the courseware provide an opportunity for the learner to **create, invent, or explore** new and personal ways to use his or her new knowledge or skill?

Does Your Instruction Rate 5 Stars?

- ★ **A Problem to solve**
 - ★ **show the problem**
 - ★ **task or problem level**
 - ★ **progression of problems**
- ★ **Apply Knowledge**
 - ★ **consistent ***
 - ★ **progression with feedback**
 - ★ **coaching gradually withdrawn**
- ★ **Activate Knowledge**
 - ★ **recall experience**
 - ★ **provide experience**
 - ★ **demonstrate existing knowledge**
- ★ **Integrate Knowledge**
 - ★ **demonstrate**
 - ★ **reflect**
 - ★ **create**
- ★ **Demonstrate Knowledge**
 - ★ **consistent ***
 - ★ **learner guidance**
 - ★ **relevant Media**

World Class Instruction

Very few courses that are currently being offered meet these 5 star criteria. However, the 5 Star criteria are based on the best that is known from research and theory about what constitutes an excellent, world-class course. Against these standards most courses could be significantly improved.

Does your instruction rate **5 Gold Stars**?



Don't waste your training dollars
for T & A no stars instruction!

13th Annual Utah State University Instructional Technology Institute

- ★ Theme:
Instructional Design, Training, & Technology:
Finding Common Ground
- ★ When: August 28 - 31, 2001
- ★ Where: USU Conference Center

- ★ Details: www.id2.usu.edu