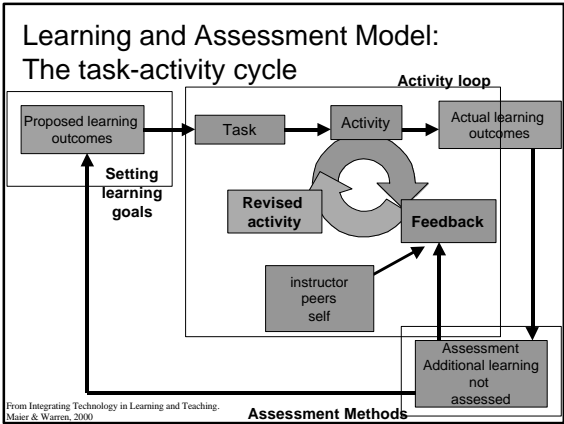


Research Methodologies for Instructional Technology

A GILD presentation
M. E. Sanseverino
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Goals

- General Instructional/Educational Technology Learning and Assessment Model
- Methods for Setting Learning Goals/Outcomes
- Assessment Methodologies



Setting Learning Outcomes and Objectives

At the end of this module you will be able to use repetition structures.

Learning Outcome

At the end of this module you will be able to:

- 1). **Understand** why repetition structure are important
- 2). **State** the components of repetition structures
- 3). **Demo/explain/use** different repetition structures.
- 4). **Judge** and **evaluate** the appropriate structure for the problem/task.
- 5). Use structures as part of **debugging** strategy

Learning Objectives

Setting Learning Goals

LEVEL	DEFINITION	EXAMPLE VERBS	Learning Objective	Learning Activity
KNOWLEDGE	Student recalls or recognizes information. He/she could be asked to list or identify items to which they were exposed.	Write, List, Name, Recall, Define	List repetition components	Matching exercise
COMPREHENSION	Student understands, comprehends, or interprets information based on prior knowledge.	Explain, Summarize, Paraphrase, Draw a Diagram	Understand why repetition is needed.	write a program without repetition structure.
APPLICATION	Student applies, uses, acts, and uses data and techniques to complete operations or tasks with a minimum of direction.	Use, Compare, Solve, Demonstrate, Apply, Construct	Use different repetition structures	
ANALYSIS	Student breaks ideas, methods, and systems into components, hypotheses, problems, or statements of a problem or question.	Analyze, Compare, Contrast, Infer, Interpret		
SYNTHESIS	Student synthesizes, integrates, and combines ideas from a problem or situation to form a new idea or set.	Create, Design, Hypothesize, Invent, Develop		
EVALUATION	Student appraises, compares, or critiques on a basis of specific standards and criteria.	Judge, Recommend, Critique, Assess	Evaluate the structure to be used.	Give a problem. Select/justify choice.

Assessment Methodologies

Summative

- End-Point
- Numerical
- High Stakes
- Must be Reliable

Formative

- Words
- Emphasis on Feedback
- Useful for Generic Skills
- Student Learning

• Criterion-referenced Assessment:

- To prove you are competent to lead the bike tour, take your bike apart and put it correctly back together.

• Norm-referenced Assessment:

- To prove you are the most competent one to lead the bike tour, take apart and put back together as many bikes as possible.

References

- The Centre for Learning and Teaching, University College Dublin
<<http://www.ucd.ie/~teaching/>>
Look especially to
 - Teaching and Learning Research Methods
 - Good Practices in Teaching and Learning: Curriculum Design
 - Good Practices in Student Assessments
- **Integrating Technology in Learning and Teaching.** Pat Maier, Adam Warren. London, UK 2000