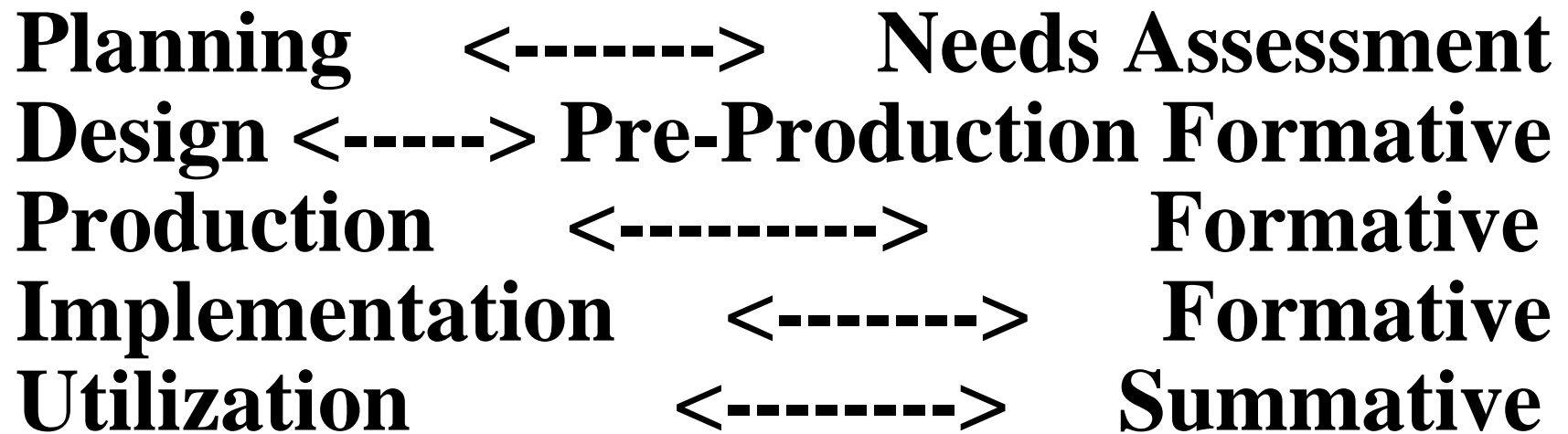## EVALUATION

Evaluation is a subset of Research. It is the systematic collection of information for the purpose of informing the decision-making to improve a product.

FORMATIVE - during development

SUMMATIVE - after the fact

The Role of Evaluation in Program Development

Planning   <--------->   Needs Assessment
Design <------> Pre-Production Formative
Production   <----------->   Formative
Implementation   <-------->   Formative
Utilization   <--------->   Summative

Needs Assessment

Identify Needs
Set Priorities
Determine Feasibility

* Content
* Audience Characteristics
* Medium / Setting

Pre-Production Formative

Gather strategic information to increase confidence in decisions about content, learner (user) outcomes, and presentation strategies.

Go to target audience!!

Production Formative

Determine which decisions related to production are vital enough to warrant data gathering.

Use pilots, prototypes to get user feedback:
  ineffective instructional strategies
  lack of appeal
  confusing icons and control options
  strengths

Implementation Formative

Test effectiveness under normal use.

Field test to collect data to:
* fine tune material
* pinpoint problems
* aid development of supplemental materials
* prepare for future enhancements

Formative: Plan/Conduct

One-to-one **- initial lesson design and development**
informal, identify major problem areas

Small Group **- conducted when lesson is nearly finished**
formal, performance summaries, observations, interviews

Field Test **- conducted on final draft of product**
actual setting, should indentify only minnimal changes

(Dick & Carey, 1985)

Summative Evaluation

Measures impact on final users, usually by comparing users who have been exposed to the program with a control group that has not been exposed.

Looks at accountability and reliability of program

WHAT are we evaluating?

Evaluation of Software

Evaluation of CAI

Evaluation of Interactive Multimedia

Planning for Evaluation

What purpose/whom will evaluation serve?

What are the questions to ask?

What are appropriate methods of inquiry?

What measures will be used with whom under what conditions?

Categories of Evaluations

Connoisseur Based Studies:
* subject matter experts
* media experts
* design experts
* utilization experts

Categories of Evaluations

Decision - oriented (flow)
 * looks at engagement with material

Objectives - based
 * looks at outcomes from use of material

Public relations - inspired
* collect data to obtain financial support
or positive public opinion

To do or not to do...

"Evaluation as an applied research is committed to the principle of utility. If it is not going to be have any effect on decisions, it is an exercise in futility."

* lack of support for the formative evaluation approach
* no clear goals for project
* no possibility for change

Quan. vs Qual. Criteria

* Quantitative: The Naive City Planner

* Qualitative: The Eval. Consultant

  - who are the stakeholders?
  - how much can you quantify?
  - if use a mix of Quan and Qual, what happens when the paradigms collide?
  - who is the evaluator - credentials?
  - how do you deal with the politics?

Design of an Evaluation Protocol

PROTOCOL:

root - to glue together

definition - preliminary memorandum of a diplomatic negotiation; code of precedence

evaluation protocol - predefined process for gathering data - WHAT and HOW

Evaluation Questions

Identify program development phases

Identify program goals

Identity program features

Identify target population

Identify unintended outcomes

Evaluation Question Criteria

Usability - for decision-making

Practicality - time, money

Importance - relevance

Uncertainty - ask the unknown

Data Collection Methods

self-report - survey, interview

observation - obtrusiveness?

tests - cognitive gains, skills

records - level of use

Evaluating CAI

Formative Evaluation: Used to identify lesson features that need modification

Summative Evaluation: "Signature" Purpose - Will product be adopted?

Special Aspects of Multimedia

EVALUATION:

Must account for use over time

Must account for interactivity

Must evaluate technical correctness, creativity,   and cognitive appropriateness

Special Aspects of Multimedia

Intended audience and purpose

Must evaluate technical, cognitive, aesthetic dimensions as well as use of different media

Must account for interactivity

Must account for use over time

HOW: Collect Data

self-report - survey, interview

observations or videotaping

tests - cognitive gains, skills

records - level of use

What kind of data?

1. usability / usefulness
   (navigation metaphor, feedback)
2. efficacy (stated purpose)
3. use of media
   (cognitive, technical, aesthetic)
4. content expert's assessment
5. overall technical correctness
6. overall user satisfaction

HOW: Design Instruments

Surveys

Observation Protocols

Interviews

Overall Evaluation Process

1. Develop evaluation criteria

2. Determine who the evaluation subjects will be (users, experts)

3. Develop the questions to be asked

4. Design the data gathering instruments

5. Pilot test the process & instruments!!

Overall Evaluation Process

6. Set up a schedule for data gathering

7. Develop a set script for administering the data gathering instruments

8. Gather the data

9. Analyze the data

10. Prepare oral, written reports

Schedule for Semester

Oct. 21:   **Evaluation Protocol**
plan, schedule, instruments

Nov. 4:   **Results of Pilot Study**

Nov. 10:   **Interim Progress Report**

Dec. 2:   **Oral Report of Findings**

Dec. 10:   **Final Written Report**