

# Technology in Education

## TIE535 Instructional Design – ADDIE Model Overview Questions to Guide Design

### **Context Analysis**

- Needs Assessment
  - Complete & appropriate validation of need
  - Is there a problem this instruction will solve?
  - Is there a gap in what is and what should be?
  - Are there new requirements or standards that have prompted the need for this instruction?
  - Will your instruction serve an unserved population of learners?
  - Will your instruction be an improvement from existing ones? How?
  - Is there an existing need for your instruction?
  - How does your instruction compare to existing ones?

### • Learning Environment

- Complete & accurate description of the learning environment
- Complete and accurate description of how, when, and where the instruction would be used
- Appropriate description of the role that the lesson will play within the existing larger curriculum or instructional cycle
- Complete and accurate description of the classes, facilities, and instructional hardware available
- Complete and accurate description of the teacher/trainer for the course in which this instruction will be used
- Complete and accurate description of the school or organizational characteristics
- Appropriate description of the community philosophy

### Learner Analysis

- Complete and accurate description of the general and specific characteristics of the target population
- Evidence of clear conception of target audience
- Complete description of general cognitive characteristics of audience
- Complete description of specific prior knowledge of audience
- · Complete description of physiological characteristics of audience
- Complete description of cultural characteristics of audience
- Complete description of affective and social characteristics of audience

- Description of "as is" rather than "should be"
- Where characteristics unknown, needed information identified and method to obtain information specified
- Discussion of the implications these characteristics have for the design of instructional materials

#### **Instructional Goal**

- Goal stated unambiguously and clearly guides further design activities
- Analyzing Learner Motivation for Instructional Goal
- Analysis and identification of student motivation levels within the ARCS framework
- Discussion of implications different motivation levels will have for the design of instruction (strategy use)
- Type of Learning Outcome
- Correct identification of type(s) of learning and summary of instructional strategies most appropriate for facilitating the attainment of this type of learning

### **Task Analysis**

• Complete and accurate information processing and prerequisite analysis

### **Information Processing Analysis**

- Complete and accurate decomposition of the instructional goal into the mental and/or physical steps that they must go through to complete the learning task
- Use of appropriate flow-charting principles to portray analysis (I suggest you use Inspiration or another flowcharting program to facilitate this)

### Prerequisite Analysis

- Complete and accurate decomposition of the tasks/steps identified in the information processing analysis into its components, including required rules, concepts, and information, that identifies what the learner must know or be able to do to achieve each step.
- Complete and accurate diagram of the relationship among rules, concepts, and information is clear
- Content-related entry level skills indicated as such in prerequisite analysis
- Use of appropriate flow-charting principles to portray analysis (I suggest you use Inspiration or another flowcharting program to facilitate this)

Complete and accurate description of goals and instruction that would precede and follow this lesson

### **Learning Objectives**

- Complete and accurate conversion of each prerequisite statement and goal statement into more precise, concrete, and specific terms (three-component learning objectives)
- Complete and appropriate statement of the terminal objective
- Complete and appropriate identification of all learning objectives that will be a part of the instructional module in outline form with appropriate numbering.
- Complete and appropriate identification of all entry level objectives in outline form with appropriate numbering and a description of where and how you are assuming these were acquired
- Prerequisites to lesson that are not assumed as entry skills are a) within lesson, b) included in accompanying materials, c) clearly and completely described as included in instructional events that precede the instructional module.

### **Summary of Instructional Events**

- Synopsis in paragraphs followed by enumerated event description
  - Synopsis of Approach
    The "gist" of the instructional strategy in a paragraph or so
  - Events of instruction an event-by-event discussion of how events will be supplied or generated by learners (emphasis should be on generation, due to generative approach requirement in the project). Gagne's 9 Events of Instruction preferable.
  - Content, sequence, and organization of lesson adequately summarized via events of instruction
  - Persuasive and appropriate rationale for non-inclusion of events
  - Evidence of careful consideration of capabilities of targeted audience
- Description of Interactions
- Paragraphs or list highlighting forms of interaction designed
  - Categories of input requirements for learners clearly delineated (e.g., help, navigation, practice, testing, building learner info profile)
  - Clear indication that plan is for high level of non-trivial interactivity
  - Clear indication that plan is for appropriate level of learner control
  - Evidence of consideration of need for supplantive interactions in addition to primary generative ones.

#### Overall

- Reading level appropriate for audience
- Culturally & sexually biased language and references avoided
- Spelling, grammar, and punctuation correct
- Content

- Content well-organized and logically sequenced
- Content follows prescription identified in instructional analysis and events outline
- Content is appropriate to target audience
- Content is appropriate to objective(s)-no deadwood or missing content
- Content designed to promote motivation and interest

### Creativity

- Inventive use of attributes of web environment
- Inventive adaptation to limitations of web environment

### Instructional Strategy

- Engaging/stimulating generative strategy employed
- Instructional strategy appropriate to objective
- Attention to lesson gained appropriately
- Objective/purpose for lesson appropriately stated for learner (or rationale for non-inclusion presented in documentation)
- Review of relevant prior knowledge included and appropriate
- Instructional activities appropriate for target audience
- Difficulty level of examples and non-examples appropriate for task and audience
- Amount of learner control appropriate for audience, context, and task
- Learner has control over pace of instruction / guided practice
- Activities sequenced from easy to difficult
- Information presented in chunks of appropriate size
- Interactions frequent and meaningful
- Level of learner guidance appropriate to task and audience
- Practice appropriate to learning task and learners
- Feedback after practice and testing appropriate to task, audience and computer capabilities
- Answer analysis techniques consistent, complete, and accurate
- Adequate provision for retention and transfer