Instructional Design

Part 1: Instructional Design Models

This section will discuss two instructional design models that can be used in planning instruction for distance education. It will include a discussion of similarities and differences, strengths and weaknesses, and my personal reactions and preferences.

The ASSURE instructional design (ID) model uses a six-step process to effectively integrate the use of technology and media into lessons to improve student learning. The model was incorporated using Gagne's nine events of instruction, and was developed by Heinich, Molenda, Russell, & Smaldino. Figure 1 documents the steps in the design process for the ASSURE model.
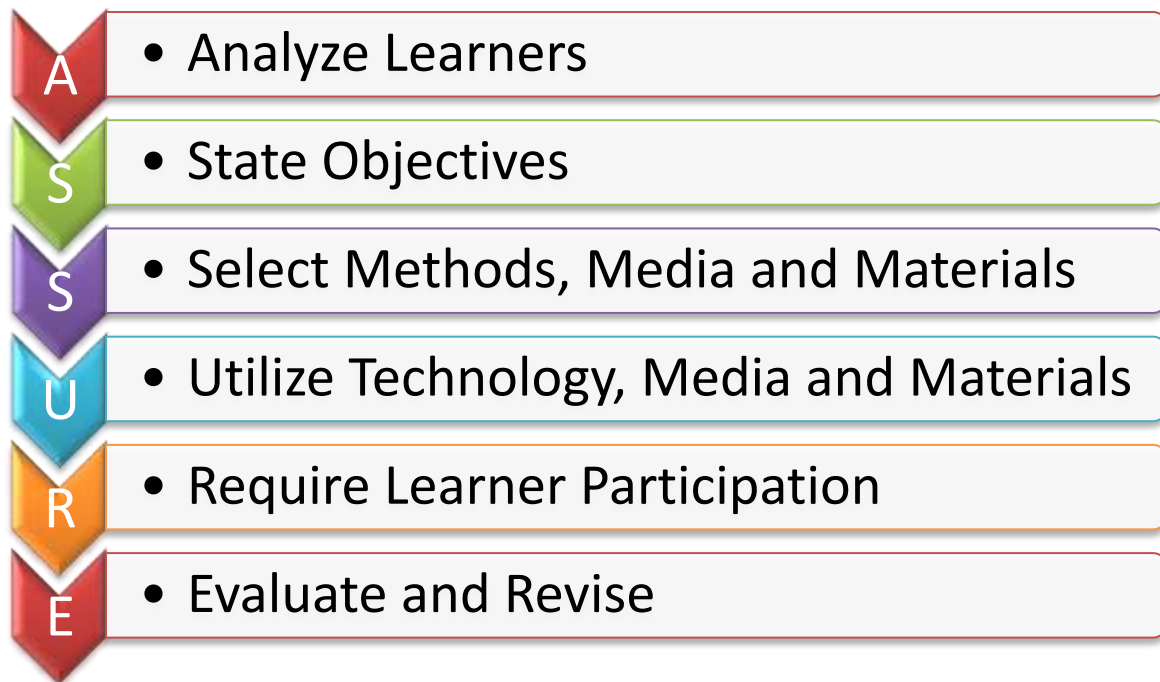
A • Analyze Learners

S • State Objectives

S • Select Methods, Media and Materials

U • Utilize Technology, Media and Materials

R • Require Learner Participation

E • Evaluate and Revise

Figure 1: Steps in the ASSURE Model

Another instructional design model is Robert Gagne's nine-step process known as the Nine Events of Instruction which addresses the conditions of learning. Figure 2 documents the steps in the design process for Gagne's Nine Events of Instruction model.
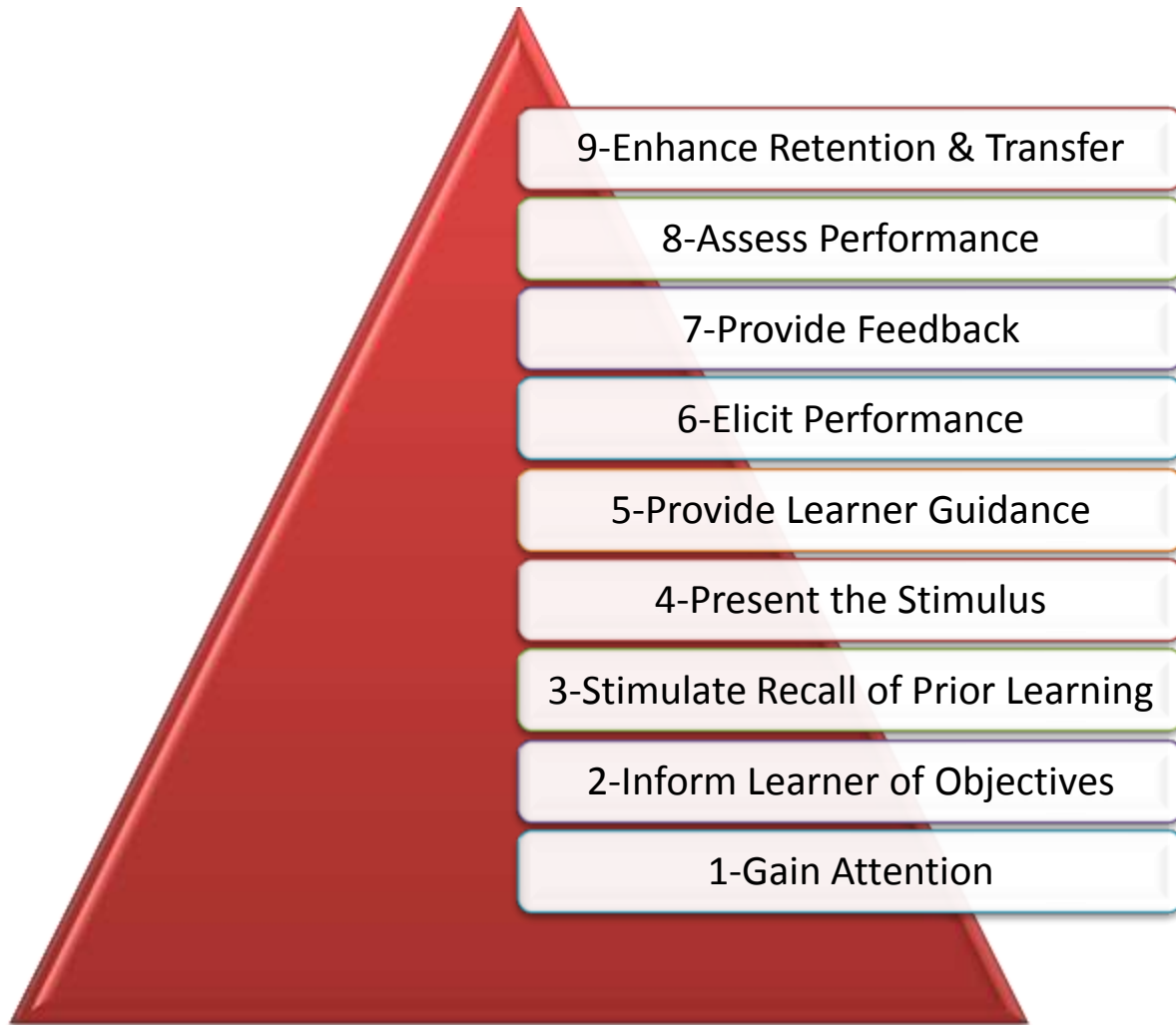
Figure 2: Steps in Gagne's Nine Events of Instruction

Table 1 provides a brief summary explanation of the steps for both models. Both models contain similar steps, however the ASSURE model has incorporated the best features of Gagne's nine events of instruction and streamlined the process so that instructors can "create lessons that effectively integrate the use of technology and media to improve student learning" (Smaldino, Lowther, & Russell, 2012, p. 38).

ASSURE	Gagne's Nine Events of Instruction
1. Analyze Learners Identify and analyze learner characteristics. In particular, consider general characteristics, specific entry competencies (knowledge, skills and attitudes about the topic), and learning style.	**1. Gain Attention** Present the learner with a stimulus or activity to engage them.
2. State Objectives State the learning objectives as specifically as possible, that will be attained at the end of the	**2. Inform Learner of Objectives** Present the learner with the learning objectives that will be attained at the end of the instruction.

ASSURE	Gagne's Nine Events of Instruction
instruction. This model uses the ABCD formula (i.e. must include audience, behavior, conditions and degree) to create well stated objectives.	
3. **Select Methods, Media and Materials** Connect the learners' present knowledge, skills and attitudes with the learning objectives of the instruction by choosing appropriate instructional strategies, media and materials.	3. **Stimulate Recall of Prior Learning** Present the learner with experience(s) or questions so that they may recall prior relevant knowledge such as previously learned concepts and rules.
4. **Utilize Technology, Media and Materials** Plan how the technology, media and materials will be used to implement instructional strategies. This can be done by previewing the technology, media & materials; preparing the technology, media & materials; preparing the environment and learners; and providing the learning experience.	4. **Present the Stimulus** Present the learner with the content material using the method and media you have selected.
5. **Require Learner Participation** Provide activities for learners to practice new skills so that they can receive feedback on their performance before formal assessment.	5. **Provider Learner Guidance** Provide the learner with relevant guidance to enhance understanding. This can come in the form of examples or further elaboration on concepts and information presented to reinforce learning.
6. **Evaluate and Revise** At the end of instruction, evaluate its effectiveness and impact on student learning outcomes based on the objectives. Revise the instruction to address any areas of concern.	6. **Elicit Performance** Present the learner with practice activities so that they can demonstrate learning.
	7. **Provide Feedback** Provide the learner with feedback on their performance of practice activities.
	8. **Assess Performance** Provide the learner with formal assessment (such as a test) of their performance to determine whether objectives have been met and/or what they have learned.
	9. **Enhance Retention & Transfer** Provide the learner with resources so that they would retain information for long periods of time and enhance transfer of knowledge.

Table 1: Summary Explanation of the Steps for ASSURE and Gagne's Nine Events of Instruction

Edmonds et al. (as cited in "Instructional Design Method", n.d., para. 3.1) provide a conceptual framework for comparing instructional design models. Using this framework, Table 2 provides a general comparison of both models.

Characteristics	ASSURE	Gagne's Nine Events of Instruction
Orientation	Prescriptive	Prescriptive
Knowledge Structure	Procedural	Procedural

Characteristics	ASSURE	Gagne's Nine Events of Instruction
Expertise Level	Suitable for all (i.e. novice, intermediate, expert)	Suitable for all (i.e. novice, intermediate, expert)
Theoretical Origins	Systems approach	Systems approach
Institutional Context	K-12 and Higher Education	K-12/Higher Education/Government training/Business training
Levels	Focus is on unit/lesson/module	Focus is on unit/lesson/module/course/curriculum/ institutional/mass

<p align="center">Table 2: General Comparison of ASSURE and Gagne's Nine Events of Instruction</p>

In terms of the strengths and weaknesses of both models, Table 3 outlines some of the key strengths and weaknesses.

Characteristics	ASSURE	Gagne's Nine Events of Instruction
Strengths	Promotes planning and delivery of instruction using technology and media.	Comprehensive in that it covers the entire learning process from design to assessment to application thus promoting the planning and delivery of instruction.
	The model is easy to follow	Linear model allows for easy adoption in different learning contexts.
	Learner centered	Learner centered
	Step by step procedures taking into account all the details of the instruction.	Roadmap of guidelines for instructional designers and teachers to follow in the form of "events".
	Well-stated objectives using the ABCD formula.	Objectives are written in terms of performance.
Weaknesses	Time consuming to create for several lessons.	More steps to follow in order to complete the lesson plan.
	Narrow scope where focus is on unit/lesson/module	Passive learning environment and the linear model does not allow instructors to be creative.

<p align="center">Table 3: Strengths and Weaknesses of ASSURE and Gagne's Nine Events of Instruction</p>

Personal Reactions and Preferences

My personal preference is the ASSURE ID model even though it was incorporated from Gagne's nine events of instruction, and both models are very similar. The main reason this model is my personal preference, is that it is intended for planning and delivery of instruction with technology and media, and therefore makes it appropriate for planning distance education. This model is very learner centric in that the first step in the process is to consider and identify the characteristics of the learner, and has an emphasis on learner participation. In a distance learning environment it is important that learners participate in order for instruction to be effective and

beneficial to student learning. According to Smaldino et al. (2012), "learning is an active mental process built from relevant authentic experiences" (p. 52). Implicitly, the ASSURE model requires learner participation as one of the steps. There is also more room for an instructor to be creative using the ASSURE model than with Gagne's nine events model. In addition, it is a practical and easy to use model.

References

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        http://arcmit01.uncw.edu/erg1602/Glossary.html

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Reiser, R. A., & Dempsey, J. V. (2011). Trends and Issues in Instructional Design and
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Smaldino, S. E., Lowther, D. L., & Russell, J. D. (2012) Instructional Technology and Media for
        Learning (10th ed.). Upper Saddle River, NJ: Prentice Hall.

Part 2: Course Outline

Title: Structured Query Language (SQL) Writing for Beginners

a. **Getting Started – Database Basics**
b. **Retrieving Data**
    i. The SELECT statement
        1. Basic Query Block Syntax
        2. The SELECT…FROM clause
    ii. Retrieving Data from Columns
        1. Retrieving Individual Columns
        2. Retrieving Multiple Columns
        3. Retrieving All Columns
    iii. Limiting Data Results
        1. Retrieving Distinct Rows
        2. The WHERE clause
        3. Using the TOP keyword
c. **Sorting Retrieved Data**
d. **Using Operators to Filter Data**
e. **Grouping and Summarizing Data**
f. **Querying More Than One Table**

Part 3: Course Activities

a. Students will complete multiple choice and true/false questions relating to database basics (i.e. concepts relating to a database).
b. After each lesson, students will be provided practice exercises that will give them hands-on experience writing SQL.
c. Provide students with a step by step quick start instructional video on using Microsoft Access to run SQL queries.
d. Using Fuze Meeting, students will have the opportunity to schedule synchronous online sessions with the instructor to review areas or practice exercises they are having trouble with. In these sessions, students will be able to experience synchronous desktop sharing, and collaborate with the instructor via whiteboard.
e. Provide a link and video for students to watch about unique ways in which data can be used (e.g. to create art or for data visualization).
f. Group Treasure Hunt game. Students will be put into groups of 2-3 and each group will be given access to a database with several tables. Each group will be given 15 questions which they will use in the treasure hunt as clues to find specific data by writing and running SQL.
g. Students will work in groups of 2-3, collaboratively, to create a comprehensive final report based on data retrieved from real-world sample data, which will be provided by the instructor.

h. Each group will create a Prezi or PowerPoint presentation of their comprehensive report and post/email a link to it so that their peers can review, provide feedback, and ask questions.