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CET 747: Web and ITV Based Applications of Distance Education

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Taxonomy

Advances in technology have impacted education further linking learners to a plethora of knowledge which is easily accessed through their fingertips. Although traditional theories such as behaviorism, cognitivisim, and constructivism are still widely used today, the technologically-related educational shift has caused traditional theories to transform to fit the online realm of learning. In addition, new theories have been created and introduced to fit distance education and emerging themes.

The following taxonomy compares distance education instructional strategies (distance education technologies) to a few instructional theories. After each instructional strategy listed, you will find a brief definition explaining how the strategy is being used. Next, I have identified the instructional strategy as synchronous (occurring simultaneously), asynchronous (occurring at a different time and/or different place) or a combination of the two. I found this to be beneficial because it would allow the instructor time to prepare if he/she needs to contact his/her class to arrange for a synchronous meeting of any kind.

In the forth column, I have included Moore and his four types of interaction which are evident in a distance education setting: learner-content (how the learner reacts to content presented within the distance education setting), learner-instructor (how the learner/instructor interact with each other within the distance education setting), learner-learner (how the learners interact with each other within the distance education setting), and learner-interface (how the learner/interface interact within the distance education setting). The last of the four, Learner to Interface, has more recently been identified due to the rise in distance education.

Bloom’s *Cognitive Domain:* *Stage of Knowledge and Acquisition* was identified before the rise of distance education. It involves knowledge and the development of intellectual skills. This includes the recall or recognition of specific facts, procedural patterns, and concepts that serve in the development of intellectual abilities and skills. Even though education is advancing, Blooms theory still serves a purpose in allowing the instructor to prepare lessons that encompass the six stages.

1. Knowledge – Recall data or information
2. Comprehension – Understand the meaning of instructions or problems and state them in one’s own words
3. Application – Use a concept and apply it in a new and meaningful way.
4. Analysis – Separate material or concepts into parts so as to structure for internalizing them.
5. Synthesis – Put parts together to form a whole to create meaning and structure.
6. Evaluation – Make judgments about the value of ideas or materials.

Finally, I have incorporated Robert Gagne’s *Nine Events of Instruction.* These nine events activate processes needed for effective learning whether one is taught synchronously or asynchronously.

1. Gain Attention – Present a stimulus
2. Objectives - Relate Goals to Learner by explaining, presenting and asking
3. Recall and Prior Knowledge - State Instructional Outcomes of what they should know by the time they are done learning
4. Present Stimulus – Give overviews/organizers such as graphics, vocabulary, examples, cueing
5. Provide Learner Guidance - Adapt content to fit learner preferences and past experiences
6. Elicit Performance – Learner activities, strategies, elaborations, integrate new knowledge
7. Provide Feedback – Constructive criticism
8. Assess Performance – Pretest, posttest, etc.
9. Enhance Retention/Transfer – Paraphrasing, metaphors, examples, note-taking, concept maps, categorizing

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| Instructional Strategy | Instructional Strategy Defined | Synchronous (Existing or Occurring at the Same Time) or Asynchronous (Different Time – Different Place) | (Moore)  Type of Interaction for Student  L-L (Learner to Learner)  T-L (Teacher to Learner)  C-L (Content to Learner)  L-I (Learner to Interface) | (Bloom)  Cognitive Domain: Stage of Knowledge/Acquisition  *~ Explained In-Depth Above* | (Gagne)  9 Events of Instruction  *~ Explained In-Depth Above* |
| Syllabus (Learning Contract) | A syllabus can be defined as a learning contract (an outline and summary of topics to be covered in an educational course) between the teacher and learner. | Asynchronous | T-L | N/A | Gain Attention, Objectives |
| Audio/Video Lecture | An exposition of a given subject by an instructor to a learner for the purpose of instruction; can be seen and heard. | Synchronous or Asynchronous | T-L / C-L | Knowledge, Comprehension, and Evaluation | Gain Attention, Objectives, Recall, Stimulus Material, Learner Guidance |
| Audio/Video Presentations | An explanation of a given subject by an instructor or learner that can be seen and heard. | Synchronous or Asynchronous | L-L / C-L | Knowledge, Comprehension, and Evaluation | All Instructional Levels |
| Notes | An explanation of a given subject by an instructor to a learner for the purpose of instruction; cannot be in video form. | Asynchronous | T-L / C-L | Knowledge, Comprehension, and Analysis | Gain Attention, Objectives, Recall, Stimulus Material |
| Related Resource Links/Hypertext | Attachments or Hyperlinks that allow the learner to view more in-depth information on any given topic. | Asynchronous | T-L / C-L / L-I | Knowledge, Comprehension, and Analysis, Evaluation | Gain Attention, Recall, Stimulus Material |
| Discussions (Chat rooms, email, forums, blogs, etc.) | Areas where parties can discuss, evaluate, and critique information about a given topic. | Synchronous or Asynchronous | T-L / C-L / L-L | All Skill Levels | All Instructional Levels |
| Drill-and-Practice Activities | Learners practice applying specific knowledge or a well-defined skill repeatedly. | Asynchronous | T-L / C-L / L-I | Knowledge, Comprehension, Evaluation | Gain Attention, Recall, Stimulus Material, Peformance, Feedback |
| Scavenger Hunts | Learners find reliable resources online. | Asynchronous | C-L | Knowledge, Comprehension | Gain Attention, Objectives, Recall, Stimulus Material, Performance, Assess Performance |
| Research | Learners gather, analyze, and report on information. | Asynchronous | T-L / C-L | All Skill Levels | All Instructional Levels |
| Mentorships | Learners work with seasoned learners or more experienced individuals in a particular area of study. | Synchronous or Asynchronous | T-L / L-L | All Skill Levels | All Instructional Levels |
| Role-Playing | Learners adopt assigned roles in simulations involving complex interpersonal interactions. | Synchronous or Asynchronous | L-L / C-L | Knowledge, Comprehension, Evaluation | All Instructional Levels |
| Case Studies/Projects | An undertaking requiring concerted effort by one or more individuals; Learners study a meaningful, detailed example of a real world event, process, or system to abstract useful concepts and principles. | Synchronous or Asynchronous | T-L / L-L / C-L | All Skill Levels | All Instructional Levels |
| Webcasts | Many learners participate fully in a conventional training event transmitted by a network. | Synchronous or Asynchronous | T-L / L-L / C-L | Knowledge, Comprehension, Evaluation | All Instructional Levels |
| Hands-On Activities | Learners perform a real task outside the lesson. | Asynchronous | L-L / C-L | All Skill Levels | All Instructional Levels |
| Learning Games | People learn by interacting with a game-like simulation. | Asynchronous | T-L / L-L / L-I | Knowledge, Comprehension, Application | Gain Attention, Recall, Stimulus Material, Assess Performance |

Although there are probably thousands of other strategies available, I have taken a few that I have used over the years and applied them in this taxonomy. Furthermore, no matter what theories are provided in taxonomy such as this, it is important to remember that the tool is only as good as the person using it. Before a learner can use any of the above instructional strategies, he/she must first be introduced to them and understand how to utilize the tool to its fullest capability.