DESIGN PRINCIPLES FOR INSTRUCTIONAL VIDEOS

What are some design principles to keep in mind to make instructional videos meaningful for students? COGNITIVE THEORY OF MULTIMEDIA LEARNING and COGNITIVE LOAD THEORY provide important insights for design of instructional videos.

COGNITIVE THEORY OF MULTIMEDIA LEARNING relates to the processes by which information is retained within the minds of learners. Major assumptions underlying this theory and its implications for the design of instructional videos are summarized below:

THEORETICAL ASSUMPTION
Information is retained in memory in two forms: AUDITORY/VERBAL and VISUAL/PICTORIAL. Information presented in both forms is retained better than information presented in one form.

PEDAGOGICAL IMPLICATIONS
Organize pictorial and verbal information into a coherent whole, integrating them with each other, to allow learners to form images or make mental connections about the content presented.

COGNITIVE LOAD THEORY is another useful theory that presents means of helping students learn more effectively. This theory identifies three types of load that should be accounted for during the production of instructional videos:

1. INTRINSIC LOAD
   which refers to the complexity of content. Intrinsic load can be minimized by activating learners’ background knowledge about the learning content.

2. GERMANE LOAD
   which refers to the mental activities that allow learners to make sense of the learning content. In order to increase germane load, learning activities should be designed in such a way that they contribute directly to learning. One way to increase germane load is to involve students in thinking about their own learning (e.g., asking questions a teacher would ask, assessing own understanding, self-explanation, etc).

3. EXTRANEOUS LOAD
   which refers to instructional variables that interfere with learning. Extraneous load occurs as a result of poorly designed materials/instruction (e.g., confusing instructions, irrelevant or too much information, uncoordinated activities, etc.) and should be minimized.

QUESTIONS, COMMENTS, CONCERNS
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