

Teaching Portfolio

Presentation Enhancing Technology

What is Instructional Media?

Instructional media encompasses all the materials and physical means an instructor might use to implement instruction and facilitate students' achievement of instructional objectives. This may include traditional materials such as chalkboards, handouts, charts, slides, overheads, real objects, and videotape or film, as well newer materials and methods such as computers, DVDs, CD-ROMs, the Internet, and interactive video conferencing.

Why Use Instructional Media?

A good aid is like a window, it should not call attention to itself, it should just let in the light.

In general, you should use media whenever, in your best judgment, it can facilitate learning or increase understanding of your material. Of course, communicating to facilitate learning can be a challenging process, often requiring creative efforts to achieve a variety of implicit instructional goals (University of Saskatchewan, n.d.). Among the implicit goals that media can help achieve are the following:

- attracting attention
- developing interest
- adjusting the learning climate
- promoting acceptance (of an idea)

Steps in the Implementation of Instructional Media

One you conclude that using instructional media will help you achieve

your explicit and/or implicit goals, it is useful to apply the basic steps in the instructional development process to choose and apply the appropriate media. These basic steps are outlined below (St. Cloud State University, 1997):

- Review instructional goals, objectives, audience and instructional strategy
- Determine the best medium for your lesson components
- Search for and review existing media/materials
- Adapt existing media/materials if necessary
- If new media/materials need to be developed:
 - Determine format, script, visuals, etc.
 - Draft materials and media
 - Check for clarity and flow of ideas
- Conduct formative evaluation
- Implement/apply
- Evaluate/revise

Factors in Media Selection

Step #2 in the instructional development outline above (“Determine the best medium for your lesson components”) is among the most confusing aspects of the process. Models for media selection range from simple procedures or algorithms to complex theoretical schemes. Some are based on the communication ‘channel’ being used (audio, video, etc) or the characteristics of the media itself. Other emphasize the learning outcomes being addressed, while still others focus on learner attributes or educational theory or the teaching-learning process.

Probably all of these factors are worthy of consideration. Strauss and Frost (1999) identify nine key factors that should influence media selection: institutional resource constraints, course content appropriateness, learner characteristics, professor attitudes and

skill levels, course learning objectives, the learning relationships, learning location, time (synchronous versus asynchronous), and media richness level. These factors are summarized in the following figure:

Reiser and Dick (1996) distill these nine factors down to three major criteria for selecting instructional media: practicality, student appropriateness, and instructional appropriateness

Practicality: Is the intended media practical in that the media is available, cost efficient, time efficient, and understood by the instructor?

Student Appropriateness: Is the intended media appropriate for the developmental and experiential levels of the students?

Instructional Appropriateness: Is the intended media appropriate for the planned instructional strategy? Will the media allow for the presentation of the proposed lesson in an efficient and effective manner? Will the media facilitate the students' acquisition of the specific learning objectives?

Practicality. Gagné, Briggs, and Wager (1992) suggest that instructors address the following series of practical question before implementing any instructional media:

- What size of group must be accommodated in one room on a single occasion?
- What is the range of viewing and hearing distance for the use of the media?
- How easily can the media be "interrupted" for pupil responding or other activity and for providing feedback to the learners?
- Is the presentation "adaptive" to the learners' responses?
- Does the desired instructional stimulus require motion, color, still pictures, spoken words, or written words?

Is sequence fixed or flexible in the medium? Is the instruction repeatable in every detail?

Which media provide best for incorporating most of the conditions of learning appropriate for the objective/

Which media provide more of the desired instructional events?

Do the media under consideration vary in 'affective impact' for the learners?

Are the necessary hardware and software items obtainable, accessible, and storable?

How much disruption is caused by using the media?

Is a backup easily available in case of equipment failure, power failure, film breakage, and so on?

Will instructors need additional training?

Is a budget provided for spare parts, repairs, and replacement of items that become damaged?

How do cost compare with probable effectiveness?

In a similar fashion, Douglas College (n.d.) recommends that you proceed by considering what you already know about the media available and then begin asking yourself a series of questions that eliminate what isn't feasible or possible. Typical questions that can help you decide on the appropriate media include the following.

What are the most important tasks or requirements? What are my learning outcomes?

Based on the learning outcomes, what are the most applicable media attributes?

Are there any learning materials already available that I might be able to use?

Should I consider using more than one technology or medium? Will they augment one another or detract from one another?

Can student location, work schedule or other factors of access be addressed by the use of available technology?

Where will I be teaching the material? What are the environmental factors?

Do I have the skills needed to produce effective media? Do I have the resources to learn?

Can the medium be produced by the time it is needed?

Can the production, maintenance and operation costs be afforded?

Does the medium fit the policies/programs at the college?

Is the medium a practical choice given its environment?

Is the technology I want to use readily available? Is it easy to use?

What is the main benefit to me of using the technology?

What are the benefits for students?

Appropriateness. The first of the above set of questions (What are the most important tasks or requirements? What are my learning outcomes? Based on the learning outcomes, what are the most applicable media attributes?) focuses on media selection by learning outcome. Gagné, Briggs, and Wager (1992) recommend that instructors apply the following exclusion and inclusion criteria in selecting media for the various common learning outcomes: