Instructional Media Encompasses . . .

• all the materials and physical means an instructor might use to implement instruction and facilitate students' achievement of instructional objectives.

... as well newer materials and methods such as computers, DVDs, CD-ROMs, the Internet, and interactive video conferencing.
Objectives

- Select appropriate media for instruction.
- Use media effectively in instruction.

Why learn this?

- Helps you communicate with your learners.
- Helps learners “see” the content.
- Enhances learners’ chance to retain knowledge and improve their application.

Selecting the Appropriate Media

- Variables that affect choices:
  - Subject matter (content)
  - Learners
  - Time
  - Availability
  - Relationship to other lessons
  - Your comfort level with the method
The Purposes of Media

1. To reinforce and illustrate key points of the lesson
2. To gain and maintain the learners' interest and attention
3. To overcome the physical limitations of the room (acoustics, visibility, and so on)

Every form of media that you add to the lesson should address these three points. If they do not, then ask yourself, “Do I do not need to use the media?”

When selecting the media, ask yourself the following questions:

- What level of understanding do I expect the learners to reach? (Remember Bloom?)
- What media option will highlight the important details?
- What media option will show the most realism?
- What media have I already used?
- What media resources are available?

Assume you are trying to teach the students how a computer processes data . . .

- You have a variety of choices:
  - Give the students handouts to study as you explain the process.
  - Draw pictures on the board or overhead projector describing the flow of data from the input device to the processor and then to the output device.
  - Create a computer animation describing the process and project it through a data projector.
  - Create a movie depicting the process and play it on a television.

Now, which would be the most useful, and you can do?
• NOTE: The most important thing to keep in mind when selecting your media is to remember its dual purpose:
  • illustrating the concept as clearly as possible
  • engaging the students.

Using Instructional Media
  The Tips . . .

• Check on the availability of the equipment before the class.
• Test all of the equipment prior to class.
• Do not block the students’ view of the media.
• Make sure that the information you display is clear, concise, and large enough for everyone to see.
• Use good graphical design techniques.

More tips . . .

• Keep your attention on the learners, not on the media.
  (For example, when you use a board, do not write with your back to the students.)
• Use equipment that enables maximum lighting in the room. When the room is dark, people tend to sleep.
• Check the volume level for any audio device.
• Make sure that all projection devices are in focus.
• Provide handouts for the students to refer to for review.
• Vary the media throughout the lesson to stimulate the learners and maintain their attention.
Some Typical Types of Media

• Handouts

Handout Strengths

• You can use handouts with any size audience.
• Create handouts for your presentations so that the learners can concentrate on what you are saying, not on taking notes.
• If a learner is late or misses a section, the handouts will help them to catch up.
• You can add handouts to any of the other media that we will discuss.

Handout Considerations

• Determine when to give the learners the handouts.
  – If you give the handouts out before the presentation, it might distract them from the discussion.
  – However, if the documentation will clarify the point that you are discussing, it might be useful to have them available during your presentation.
• The quality of your handouts will affect your credibility. Make them look professional, and keep them up-to-date.
Strengths of Boards, Flip Charts, and Overhead Projectors

- Boards and flip charts are best for small groups, because they are difficult to read from a distance.
  - An overhead projector can project a large image as it can be moved farther away from the screen.
- Neither the flip chart nor the black/white board fails during class like technology sometimes does.
  - As long as you have markers, chalk, or pens that work . . .

- Best option for creating information on-the-spot, such as during brainstorming sessions or group work.
- Markers, pens, and chalk are available in a variety of colors. Use these devices to write notes and draw diagrams.
- Hang completed flip charts around the room to remind learners of prior actions.
- Refer to overhead transparencies repeatedly in order to stress a point.
Three Types of Boards

• Chalkboard
  – This has a green or black matte finish. It is the familiar "blackboard" from school days. Its average size is 8 ft by 3 ft.

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Whiteboard

• It has a glossy white surface on which you write with special whiteboard pens.
• Advantage -- the lack of chalk dust -- particularly suitable for use in rooms containing electronic equipment or in areas where someone is allergic to chalk dust.

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Paperboard Flip Chart

• A number of sheets of blank paper (3 ft by 4 ft) clipped to a board or stand so that the trainer can write on it with felt-tip pens.
• Advantage -- you can transport it from room to room or even take it outside.
• Disadvantage -- once you use a sheet, you must flip it over the back of the stand, out of sight of the trainees.

You can overcome this to a certain extent by sticking the used sheets on the walls of the room.

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Magnetic Displays

• It is a big advantage if the chalkboard or whiteboard is "magnetic." (Actually the board is not magnetic, it simply has a metal base.)
  – Buy plastic strips impregnated with magnetic powder
  – Glue pieces on the back of pieces of cardboard on which you may have written key words, diagrams, or pictures.
  – Stick them on the boards as you talk. You don't have to write them.

The Prepared Chart

• Usually a large piece of paper or posterboard on which you visually present some information or important points.
• Several charts, hung from a stand, can be flipped over as each point is introduced. Use it like a paperboard, but you don't write out the text during the session.
• Advantages
  – Charts can be used repeatedly.
  – Charts can be prepared in advance and saved for another session.

Overhead Projectors

• The overhead projector facilitates an easy low-cost interactive environment for educators.
Overhead Projectors

- There are three kinds of transparencies:
  - Write-on -- You can use water-soluble colored pins or permanent colored pens.
  - Photocopy -- Use your copier’s enlargement capability to enlarge photos and diagrams.
  - Printed -- Inkjet printers can print on special transparency film.

Teachers are likely to find the overhead the most useful media tool they will have available in their classrooms.

Advantages of Overhead Projectors

- Face to face contact with audience
  - Projector located in front of room and near speaker for easy access
  - Can be used to focus audience’s attention
  - Effective in a fully-lighted room; audience can follow handouts or take notes
  - Ability to modify transparencies during presentations

- Sequence of material can be modified during presentation
  - Unframed transparencies easy to store and transport; easily fit in a file folder
  - Overlays can be used to simplify complex information into layers
  - Short lead time (minutes) for preparation of transparencies
  - Low cost of transparency material
Disadvantages of Overhead Projectors

- Continuous tone color transparencies are costly
- Overhead projector is bulky and heavy to transport
- Framed transparencies are bulky and difficult to store
- Pages from books cannot be used effectively without modification since text is usually too small for audience to read.
- Overhead projection is perceived as being “less professional” than slides in a formal setting.

Presentation Techniques for Overhead Projectors

- Use ON - OFF switch to focus attention
  - ON to focus attention on visual
  - OFF to focus attention on speaker
  - Turn the projector off when you’re not using it for extended periods of time to reduce distraction for audience.

- Use projector stage like a chalkboard
  - Write on acetate sheet or roll
  - Use water soluble transparency pen
Presentation Techniques (Cont.)

• Notes for presentation can be:
  – Projected with presentation
  – Added in conjunction with presentation
  – Revealed one point at a time

• Points in group discussions can be:
  – Listed to verify communication
  – Used to focus further discussion

• Pointing for emphasis
  – Concentrate attention on message being covered
  – Use opaque shapes like pens, coins, arrows, etc.

Presentation Techniques (Cont.)

• Highlighting
  – Use pen of different color from original.
  – Use water-soluble pen if you need to re-use the original transparency.
  – Use underline, circle, arrow, check, bullet, star, etc. as emphasis codes for your audience

• Progressive disclosure with opaque cover
  – Reveal topics one point at a time
  – Direct attention to point being covered
  – Prevent distraction

Presentation Techniques (The “Don’ts”)

• Don’t “talk to the screen”.
• Don’t walk between the projector and the screen.
• Don’t stand between the projected image and the learners.
• Don’t leave the overhead light on as you change slides . . . Particularly in a dark room.
The Board Plan

- The blueprint for what you will write on the board.

- When planning, consider:
  - The size and the kind of board.
  - How you can effectively divide the board.
  - The amount of information you want to put on the board.

- Your board plan ensures that the information will fit on the board and that it will be presented in a logical and understandable manner.

Tips for Boards, Charts, Overheads

- When writing on a board, chart, or overhead, many people find that the text (or lines) that they write angle up or down.
  - You may also underestimate how much space is needed and squeezing in information. Practice using these visual aids and check your writing from the students' perspective to guarantee that your work is legible.

- If you have material that you have already prepared, cover up the information and reveal it as needed.
  - This action will prevent the students from reading ahead and becoming distracted by the information.

- Label and number your transparencies and flip charts well so that you can find the right page when needed.

- After you write on pages of a flip chart, you can flip them over or tear them off and hang them around the room.
  - This feature is useful for the learners, because they can refer back to them at any time.

- Use a pen or pencil to point to items on an overhead transparency.
  - Leave the pen or pencil on the overhead while you interact with the audience.
  - Rest the pen on the overhead rather than holding it in your shaking hand.
When using an overhead, you should attach a piece of dark paper (or cardboard) to the projection lens housing that enables you to cover the lens.
- You can use this paper to shield the audience from the bright white light that shines each time you switch transparencies.
- Simply cover up the lens, change the transparency, and then uncover it when you are ready to proceed.
- You could also accomplish this task by turning off the overhead each time you change transparencies, but turning the overhead on and off repeatedly can significantly reduce the life of the bulbs.

The farther back you move the overhead from the screen, the bigger the image becomes.

Considerations

- It is difficult to see information on boards and flip charts from a distance.
  - They are best suited for small classes.

- Check to make sure you have the appropriate pens for the media.
  - You will ruin a whiteboard with permanent markers.

- When using an overhead projector, you might have to dim the lights so the material can be seen.
  - Make sure that you can darken the room if needed.

Video/Slides/Film

- Showing a video, film, or slides is a good way to supplement the material in a lesson.
- You can use these media to demonstrate procedures or to set up case studies or role playing.
Strengths of Video/Slides/Film

- You can use video, slides, or films with any size audience.
- One of the best ways to show real-life situations.
- Takes the spotlight off of the instructor, which adds variety to the session and gives the instructor a break.

Tips for Using Video/Slides/Film

- Preview the media ahead of time.
  - Identify the major points, issues, and follow-up questions.
  - Maybe give the students a list of things to look for in the video or questions they can answer as they watch it.
- Tell the students what they will see in order to focus their attention on particular details.
- Give the students a list of questions to answer while viewing the media.
- State the length a video is so learners know what to expect or provide handout for review.
- Make the experience as interactive as possible.
  - Stop the video and/or replay important sequences to highlight major points
  - Have follow-up discussions
  - Clarify any questions/issues that arise.
- Cue the tape or film to the appropriate start point beforehand to save class time.
- For slides, check for empty slots in the slide tray that will blind the learners with bright light between slides.
Considerations

- This media can be passive. Learners will drift -- and sleep -- during long sessions.
- Seeing an image on a standard-size television from a distance is difficult. TV is best suited to small groups unless a large-screen TV is available.
- Production of these tools can take considerable time, effort, and money.

Data Projector

- A device that enables you to project output from a computer onto a screen.

Data Projector

- The most common ones are Liquid Crystal Display (LCD) projectors. The earlier versions were panels that rested on top of an overhead projector.
- They are now self-contained units, and some are as small as a mini-computers and are easily transported.
- Current data projectors enable you to project from a computer and other video sources. Some are very powerful.
Strengths of Data Projectors

• Depending on the model, can accommodate any size audience.
• Offer the instructor a considerable amount of flexibility.
• Anything that you can do on a computer you can project for learners to see.
• Most projectors can also receive input from any video source, such as a CD player, which eliminates the need for multiple projection devices in the room.

Tips for Using Data Projectors

• Check colors ahead of time. They might look different when projected.
• Depending on the age of the data projector, it might not support resolution settings as high as your computer does — you might have to lower the resolution setting on the computer.
• If you are connecting a laptop to a data projector, this action might cause a problem. Check the connections ahead of time to prevent last-minute surprises and headaches.

Considerations

• If you turn off the lights, limit the length of the presentation so that the students are not in the dark for too long — or some will go to sleep.
• The distance between the computer and projector might impact the signal quality. If the distance is too great, the signal might not be strong enough without adding a device to amplify it.
• Data projector bulbs do blow occasionally. These bulbs are more difficult to replace and they cost!
  — Have backup plans (handouts, transparencies, and so on).
• You can control data projectors, depending on the make, through function buttons or a remote.
  – Check early . . . Learn how to focus the image and make necessary adjustments on the model that you are using them.
  – Check early . . . to make sure they work.

Computers

Strengths of Computers

• Use them with any size audience, depending on the quality of the data projector.
• You can use computers to incorporate color, motion, and sound into the presentation.
• Presentation software provides a consistent look and feel to the entire lecture.
• You can modify the presentation at any time.
• With the appropriate technology, facilitate distance learning.
Tips

• Always test the system ahead of time to verify that the system is working properly.
• Use the brightest LCD projector possible.
• Bring a backup copy of your files on a separate disk in case your computer crashes.
• If you are using someone else’s computer, verify that the right software is installed.

Considerations when Using Computers

• Presentation software makes it easy to add multiple fonts, colors, graphics, and transitions.
  – Do not let the technology overshadow the lesson, however.
  – Too many “bells and whistles” can become distractions.
• Some computer setups require a password. Know the password ahead of time.
• Turn off screensavers so that they do not distract.
• Check the power management settings on your laptop to make sure that the laptop does not shut down unexpectedly during the session.

PowerPoint

• If you are interested about using PowerPoint in your class, go to this site for a good overview of preparing PowerPoint presentations:
  • www.skagitwatershed.org/~donclark/hrd/templates/presentations.ppt
Preparing PowerPoint slides

- You need to consider:
  - Font size
  - Font type
  - Amount of text
  - Graphics
  - Color
  - Templates

Font size

- Font size in Titles -- Larger than body type
- Font size in Body -- 18-30 point
  - 18 point
  - 22 point
  - 24 point
  - 28 point
  - 30 point
  - 40 point

Try to limit text to about 6 lines

Font Type

San-Serif Fonts
- Helvetica
- Arial
- Tahoma

Serif Fonts
- Times Roman
- Century
- Garamond

San-serif fonts are considered to be easier to read.

Fancy/Decorative Fonts
- Algerian
- Broadway
- Palatino

Any italics font!
Color
Emotion Relationship
General Guidelines

Make sure viewers can distinguish the words from the background

Black Letters
Yellow Letters
Red Letters
Blue Letters

Use contrasting colors

Backgrounds

- When working a dark room
  - Use dark background and light fonts

- When using VT
  - Use dark background and light fonts
Using Templates

• Make the template work for you.
  – Change color combinations
  – Change the fonts

Presentation Visuals Checklist

• Is all the necessary information covered?
• Can the text be easily read by audience?
• Is there too much text?
• Does each graphic have a purpose?
• Are colors appropriate?
• Do you have backup for visual aids if technology fails?

The Internet

An important component of many jobs and is also becoming a part of many training sessions.
The Internet

• Some might not consider the Internet instructional media, but many instructors use a computer to access it as a resource.

• Therefore, the Internet deserves some consideration here.

Internet Strengths

• The Internet provides access to a wealth of real-time information.

• You can use Web pages as the presentation medium and make them accessible to the students for future reference.
  – Your web site can serve as your backup in case your media disk becomes corrupted.

Internet Tips

• Verify the sites that you plan to use in class, because they can change or disappear at any time.
  – (Also on web your instruction pages!)

• Web browsers enable the user to determine how much space is allocated to temporary storage (cache) of the pages that you visit.
  – If you increase the size for this setting and then access the sites before class, they will load faster during the lesson.
Internet Considerations

- Verify the speed of the connection at the training site and determine whether it is reasonable to rely on live Internet access.
- Do not rely on Internet access. At any given time, the Internet can be extremely slow or not available at all. Always have a backup plan.
- Remind the students that they should always verify the source of the information, it may not be true.
  - Teachers watch your student use of Wikipedia.

Sound Aids

- If teaching a large audience or the acoustics in the training room are poor, you might find that you need a microphone.
- If so, try to use a wireless microphone or a lavaliere (a small clip-on microphone).

Microphone Tips

- Turn off the microphone during breaks or private conversations (and bathroom trips).
- Carry spare batteries for the portable microphone.
- Check sound settings before presentation.

Consideration – The microphone amplifies every sound that you make (swallowing, coughing, chewing, and so on).
Laser Pointer

- Useful tool for directing the learners' attention to a particular topic.
- They are quite affordable and a useful addition to any trainer's toolbox.

Laser Pointer Tips

- Do not overuse the laser pointer.
  - Too much use and the learners will become distracted.
  - Just use it to direct their attention to important points.

  Consideration — Be careful about where you point the laser. The laser can cause eye damage. Never use it to point to anything near learners. The laser beam can also go through glass. Some schools will not allow them.

Summary

- Today . . .
  - Ideas on how to get to the point that instruction will work on the job.
  - Types of media you should consider for your lessons.
  - Some advantages and disadvantages of the media.
  - Some ideas for using the media effectively.
  - AND . . . Showed you how to write a lesson plan.
Midterm Exam

• We have a scheduled Midterm on February 26th.
• It will be a short answer essay exam.
• You will have a four-hour window to complete the one-hour open-book, open-note exam.
  – I will email it to you and post it on the web site for the four hours.
  – We will not have class, so you can take it at home.
• You will email your answers back to me within the 4-hour window of time.
• I’ve posted a study sheet for you on the web site.

Next Week -- Feb 19th

• Planning the Learning Experience
  – Read Chapter 25 in your text

Let’s go home . . .