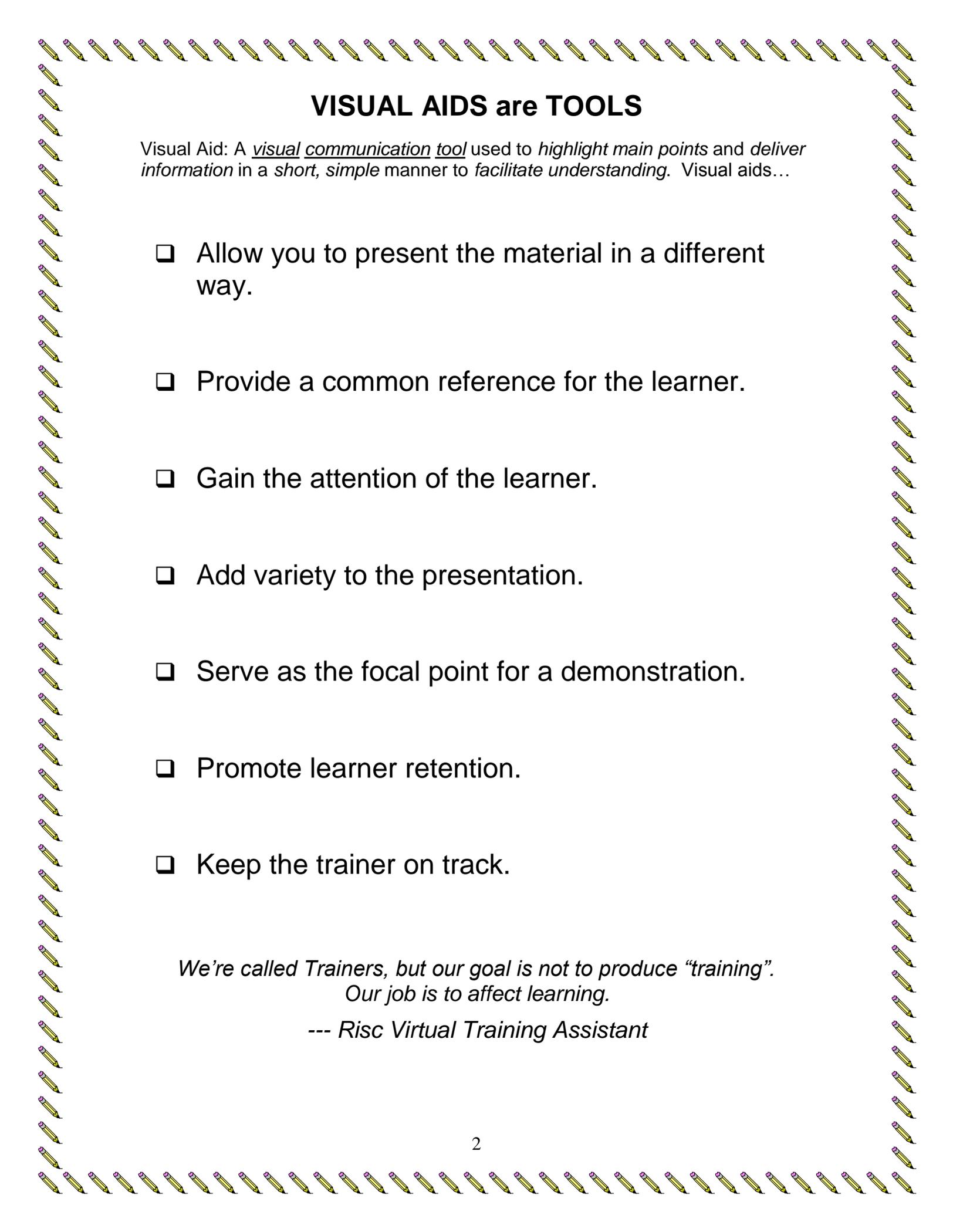


Using Visual Aids Effectively

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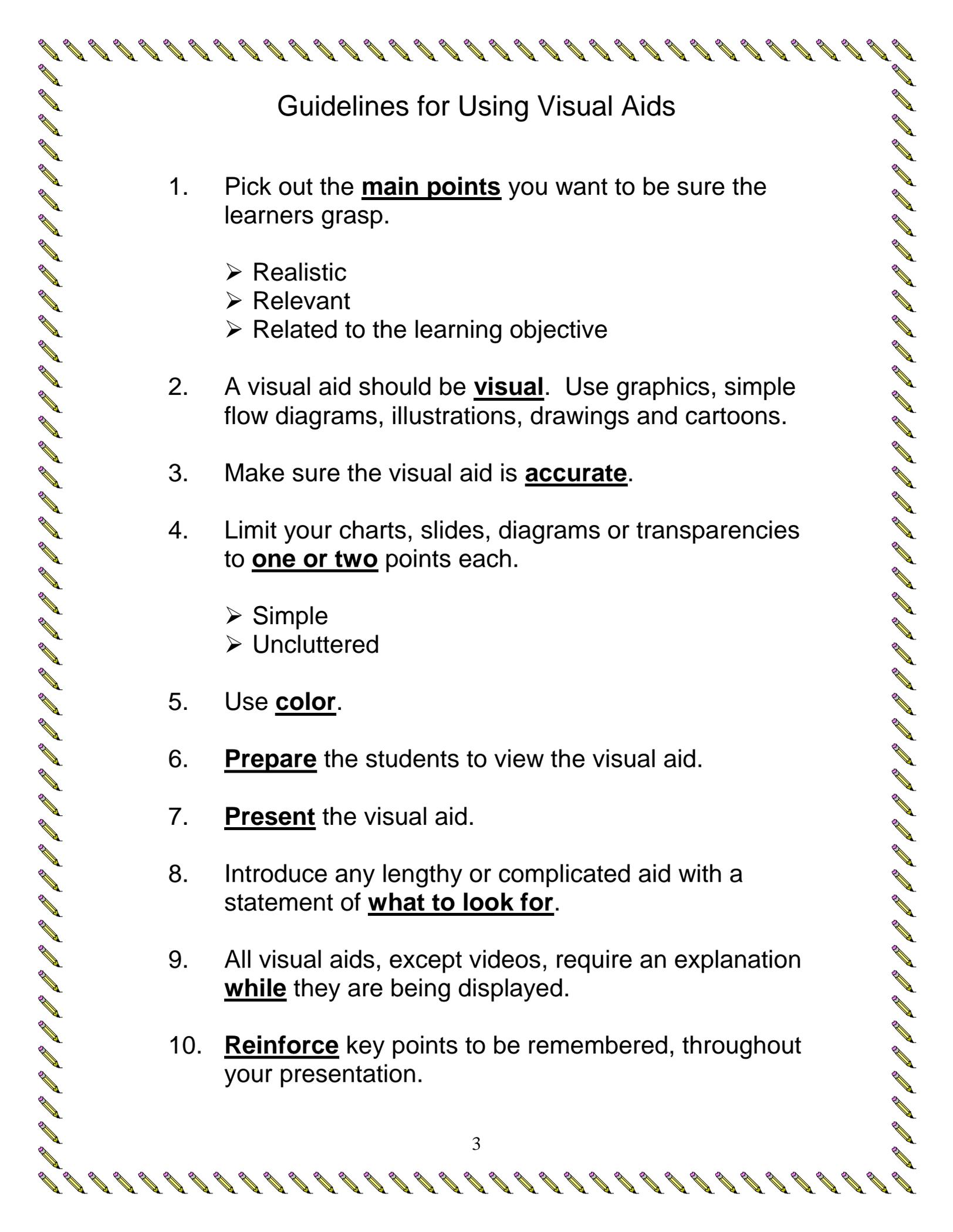
VISUAL AIDS are TOOLS

Visual Aid: A *visual communication tool* used to *highlight main points* and *deliver information in a short, simple manner to facilitate understanding*. Visual aids...

- Allow you to present the material in a different way.
- Provide a common reference for the learner.
- Gain the attention of the learner.
- Add variety to the presentation.
- Serve as the focal point for a demonstration.
- Promote learner retention.
- Keep the trainer on track.

*We're called Trainers, but our goal is not to produce "training".
Our job is to affect learning.*

--- Risc Virtual Training Assistant



Guidelines for Using Visual Aids

1. Pick out the **main points** you want to be sure the learners grasp.
 - Realistic
 - Relevant
 - Related to the learning objective
2. A visual aid should be **visual**. Use graphics, simple flow diagrams, illustrations, drawings and cartoons.
3. Make sure the visual aid is **accurate**.
4. Limit your charts, slides, diagrams or transparencies to **one or two** points each.
 - Simple
 - Uncluttered
5. Use **color**.
6. **Prepare** the students to view the visual aid.
7. **Present** the visual aid.
8. Introduce any lengthy or complicated aid with a statement of **what to look for**.
9. All visual aids, except videos, require an explanation **while** they are being displayed.
10. **Reinforce** key points to be remembered, throughout your presentation.

Chalkboards and Whiteboards

Whiteboards and electronic whiteboards have mostly replaced chalkboards, however at some training sites, chalkboards may be the only available visual medium.

Things to Consider:

- Avoid talking while you are writing with your back to the group.
- Use DRY ERASE markers on whiteboards
- Write legibly and large enough for those in back to see
- Clean whiteboard with board cleaner or diluted ammonia solution

Advantages:

- Flexible and reusable
- Usually available
- Easy to use
- Can use a variety of colors
- Can make copies from electronic whiteboards

Disadvantages:

- Glare
- Recorder may block view
- Use ONLY Dry Erase marker
- Doesn't work for large groups
- Generally can't save for review or transcription later
- Chalk dust is messy
- Chalk can make noise on board

Computer Aided Instruction

The computer projection panel is a device that attaches to the video output of a computer. The images that are typically seen on the computer monitor are then projected onto a large screen. Every command or keystroke is then visible to the audience. This visual aid is ideally suited for software/program training. Other visual aids should also be used to support and enhance computer-aided instruction.

Learners can follow along on their own PC's and notebooks. It allows them to see what the screen image should look like, and what keystrokes were used to get there. Each type of projection equipment has its own complexities. Using the equipment correctly will add professionalism and polish to your lesson or presentation.

Things to Consider:

- Need a high intensity projector, or data-show panel with an overhead projector
- Training site needs the software version your presentation is designed for
- May need to create a "training data base" for students to practice on, that doesn't impact the actual data base
- Verify that presentation laptop computer is compatible with the system at the training site
- Avoid tendency to concentrate more on the technology than the content
- Color projection panels will display the exact information shown on a computer screen
- Take time to practice using the equipment before you teach

Advantages:

- Demonstrations and guided instruction are easily portrayed
- Instructor performs every step of a process and the trainees can work through examples or exercises to enhance learning
- Realistic setting

Disadvantages:

- Lighting in classroom may need to be adjusted for best visibility
- The instructor may tend to move too quickly through the screens or doesn't thoroughly explain each step while demonstrating
- Letters and characters may not be visible in large rooms

ELMO (Document Camera)

The ELMO is a visual image graphics camera that enhances the presentation of documents and physical models and props. Power point or other presentation software can create and produce professional looking paper documents or acetate transparencies for projection. The instructor can stand anywhere near the ELMO without interfering with the projection. It projects through a projection panel. The ELMO can be used like the overhead projector and also allows the instructor the ability to show objects, such as:

- 3-Dimensional such as (Mineral) and other samples, examples or models
- Newspaper clippings, Maps, Master Title Plats, Diagrams
- Textbook or hard copy documents
- Photographs, Negatives of pictures
- Small tools or equipment

Things to Consider:

- ❑ Use a San Serif font (simple lettering, without “feet” –the short strokes at the end of letters) such as Arial, with at least 24-point bold lettering
- ❑ No more than 6 words per line for prepared documents
- ❑ Select key words or phrases, with only 3-4 bullets per page
- ❑ Horizontal or Landscape format is best
- ❑ Turn off ELMO when no longer using it for presentation
- ❑ Place a pen or pointer on the ELMO or use a laser pointer for the screen to direct attention to specific points

Advantages:

- Can operate from front of room
- Can work for different size groups
- Relatively easy to use
- Can reveal material
- Can use drawings and partial fill-in-the blanks
- Can complete illustration in advance or draw/write as you go
- Projects items and documents in true size and color or black/white
- Documents can be sized to highlight specific areas

Disadvantages:

- Lighting must be dimmed
- Hard to use instructor prompt notes
- Can't display around the room
- May turn and talk to screen
- Certain colors may not show up well, unless they are in contrast
- Requires specialized equipment which may not be available at all training sites

Flipcharts

Flipcharts can be made in advance (make sure accurate), or can capture thoughts and ideas at the time. They are an effective method of presenting information. They can be presented on an easel or may be attached to the walls around the room. Flipcharts that are used frequently can be laminated to increase their lifetime. There are three things to remember for flipcharts:

- VISIBILITY 1" letters can be seen at 30 feet
- SIMPLICITY Uncluttered
- CLARITY White space, and does it make sense

Things to Consider:

- ❑ No more than 5-7-9 lines per page; and no more than 2-3 colors per page; keep in mind red and green are the most likely colors for color blindness.
- ❑ Use 1 ½" – 2" letters for readability; Check from the back of the room
- ❑ Use upper and lower case letters for readability and emphasis
- ❑ Keep the symbolism of the colors consistent
- ❑ Use a ruler or T-square or lined flipchart paper
- ❑ Keep blank pages in between so no "see-through" of following page
- ❑ Stand to the left side of flipchart as the students see you, partially facing participants to write (people read from left to right, and will follow you)
- ❑ Use (tape) tabs on the side for easy reference
- ❑ Keep masking tape or stick pins to attach to walls
- ❑ Record what is said; ask participant to restate to shorten, if needed

Advantages:

- Available, easy to use and re-use
- Can complete before training
- Can write instructor notes in pencil
- Can be Spontaneous
- Can reveal chart
- Can use borders, drawings and partial fill-in-the blanks
- Can number and code pages
- Can display around the room

Disadvantages:

- May be hard to see
- Instructor's back to audience
- Tendency to talk to chart
- Doesn't work for large groups
- May be limited by space and size of chart
- Recorder may block view

Handouts

Handouts are prepared in advance and distributed to the learners before or during training. The information can be used during the training, and used as a reference or Job Aid, after the training. Grids, charts and graphs can be effective as handouts. Graphics (puzzles, games, optical illusions, diagrams) can help increase retention and training transfer.

Things to Consider:

- ❑ Handouts should be numbered with a standard, simple system for a notebook for easier reference, and coded/dated for ease of updating
- ❑ Keep concise and designed for easy reading, with no more than 2 different typefaces per page
- ❑ Need to be relevant and should point out key points of training
- ❑ Prepare participants for note taking or highlighting key points
- ❑ Vary “reading” handouts with some interactive handouts requiring the participants to fill in information to stimulate their interest and attention
 - “Guided Note taking”, leaving blank spaces for participants to fill in
 - Case studies for students to read and respond to during the training
 - Templates can be copied onto the back of handouts to transform them into content-related job aids, activities and review tools
- ❑ Leave white space on page; a crowded handout is difficult to read
- ❑ Plan and select well in advance; Review thoroughly
- ❑ To be useful later, handouts should be a part of the training too
- ❑ Can color code handouts to help organize, or provide interest

Advantages:

- Allows learners to absorb information at their own pace
- Can substitute graphics for text
- Provides helpful reminder of points covered during training
- Becomes a Job Aid after training
- Eliminates need to take extensive notes, while guiding learners to take notes on key points

Disadvantages:

- If information isn't used in training, participants aren't likely to refer to it
- Can be too complicated
- If not organized, can be frustrating for participant to find and use
- Overused if they are the only visual
- Distributing during training can be distracting and time consuming

Job Aids

Job Aids are concise, task-specific guides to reinforce learning back on the job. They include checklists, worksheets, templates, and a variety of other forms that can also be used as course materials. These aids provide a structure that helps participants to remember and apply what they have learned in the training. Job Aids are most effective when they are used and explained in the training itself.

Learners can create their own Job Aids during class, or the instructor can provide pre-made Job Aids. If the students construct their own Job Aid, the instructor should check it for accuracy to ensure that it will be supportive on the job.

Examples include:

- Checklists, Worksheets
- Decision charts, graphs
- Pocket Cards
- Flowcharts of a process
- Step by Step instructions
- Computer keyboard reference card
- Order forms, report forms
- PDA's (Regulations, CFR, Handbook, Manual data stored)
- On-line Reference, Manuals, Handbooks

Things to Consider:

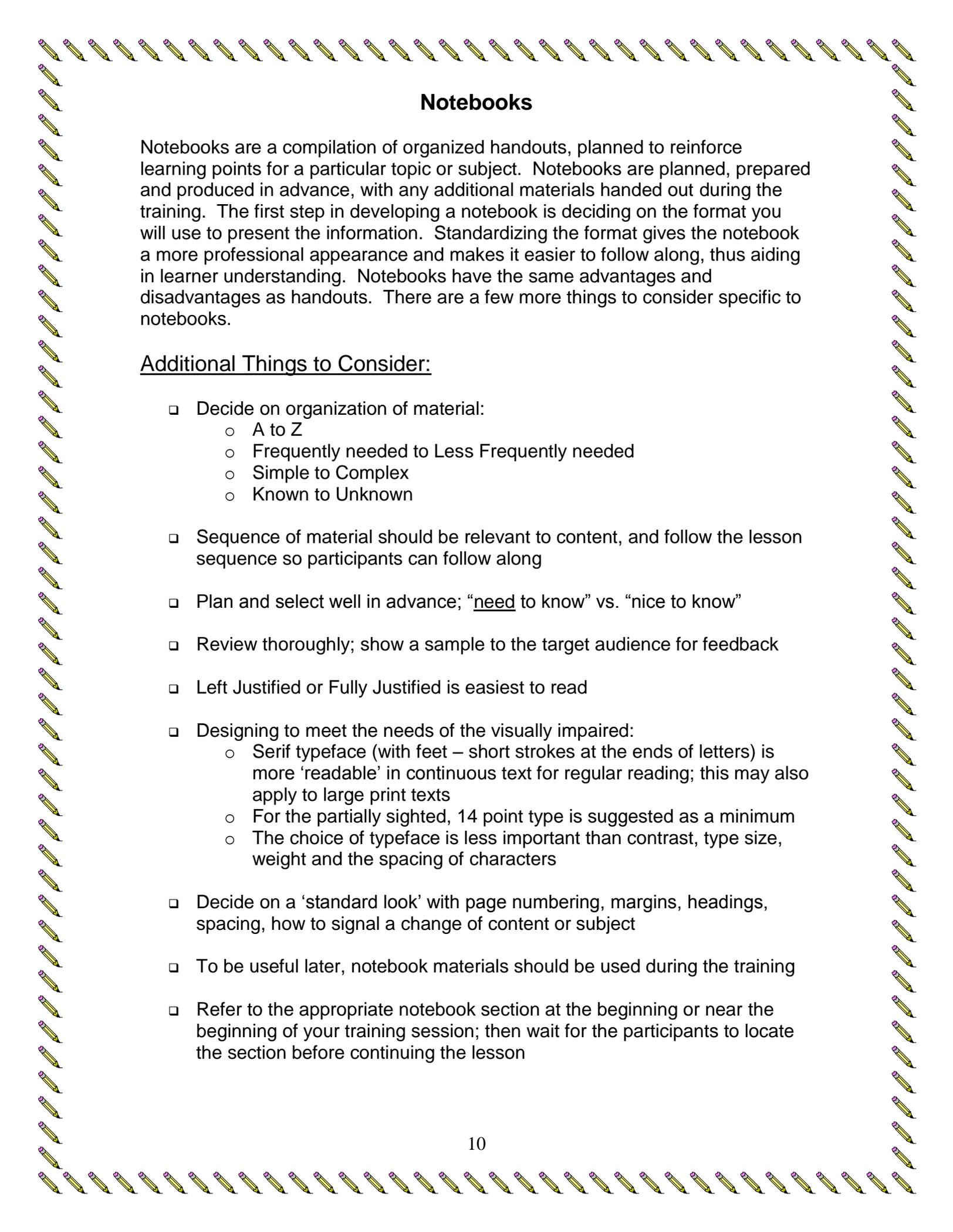
- ❑ Job Aids should be dated and should resemble the system, form, data entry screen etc. that they were designed to support
- ❑ Keep them simple, uncluttered, compact and concise
- ❑ Easy to use, or they won't get used
- ❑ Accommodate learner's styles and needs as much as possible
- ❑ Think about the setting where they will need to be used

Advantages:

- Eliminates memorization anxiety common among adults
- Can substitute graphics for text
- Just-in-time training

Disadvantages:

- Reliance on Job Aids can lead to a false sense of confidence
- Users may follow the Job Aid blindly without checking their work



Notebooks

Notebooks are a compilation of organized handouts, planned to reinforce learning points for a particular topic or subject. Notebooks are planned, prepared and produced in advance, with any additional materials handed out during the training. The first step in developing a notebook is deciding on the format you will use to present the information. Standardizing the format gives the notebook a more professional appearance and makes it easier to follow along, thus aiding in learner understanding. Notebooks have the same advantages and disadvantages as handouts. There are a few more things to consider specific to notebooks.

Additional Things to Consider:

- Decide on organization of material:
 - A to Z
 - Frequently needed to Less Frequently needed
 - Simple to Complex
 - Known to Unknown
- Sequence of material should be relevant to content, and follow the lesson sequence so participants can follow along
- Plan and select well in advance; “need to know” vs. “nice to know”
- Review thoroughly; show a sample to the target audience for feedback
- Left Justified or Fully Justified is easiest to read
- Designing to meet the needs of the visually impaired:
 - Serif typeface (with feet – short strokes at the ends of letters) is more ‘readable’ in continuous text for regular reading; this may also apply to large print texts
 - For the partially sighted, 14 point type is suggested as a minimum
 - The choice of typeface is less important than contrast, type size, weight and the spacing of characters
- Decide on a ‘standard look’ with page numbering, margins, headings, spacing, how to signal a change of content or subject
- To be useful later, notebook materials should be used during the training
- Refer to the appropriate notebook section at the beginning or near the beginning of your training session; then wait for the participants to locate the section before continuing the lesson

Notebooks continued

Choosing Graphic Formats for Information:

If you wish to ...	Then consider using...	For Example...
Provide a means to record information	A decision chart	This chart is a decision chart
Provide memory joggers to help learners carry out a task	A checklist	The figure below is a checklist
Provide a means to record information	A worksheet	Refer to the Lesson Plan template; H.O. #5.3 and H.O. #5.4

Guidelines For Developing Notebook Materials:

No:	Guidelines:	Check when Done:
1	Use a Table of Contents and tabs to make it easier for learners to find and use materials	
2	Title the notebook page or handout	
3	Identify the purpose or objective of the written material	
4	Specify when and how the written material is to be used	
5	Reference any additional materials that are needed	
6	Bold print, underline or capitalize to emphasize information	
7	Use white space so it's easy to read	
8	Use short, active tense sentences	
9	Avoid unnecessary information	

Overhead Transparencies

One of the most readily available visual aids is the overhead projector. Transparencies can be easily prepared by drawing directly onto the transparency acetate, using a copy machine to copy onto a transparency, or printing directly onto the transparency. Using Power point or other presentation software can make creating and producing professional looking overheads much easier.

Things to Consider:

- ❑ Keep them simple and visible; to check for visibility, place OH on the floor and stand over it; if you can read the text, your audience probably can too
- ❑ Plan and select in advance; Review for accuracy
- ❑ Use simple, bold lettering; such as for an Arial font at least 24 point bold
- ❑ No more than 6 words per line; ½” – 1” lettering height
- ❑ Select key words or phrases, with only 3-4 bullets per page
- ❑ Have replacement bulbs available
- ❑ Can use frames or protector sheets with wings to write instructor notes
- ❑ Be sure to number or order transparencies for easy reference
- ❑ Horizontal or Landscape format is best
- ❑ Turn off projector or cover projection mirror when changing slides
- ❑ Use a pen or pointer to direct attention to specific points

Advantages:

- Can operate from front of room
- Complete in advance of training
- Relatively easy to use
- Can reveal transparency
- Can use drawings and partial fill-in-the-blanks with a/v pens
- Increased visibility
- Normal Lighting
- Durable, re-usable and portable
- Can use a variety of colors (2-3 per page; theme throughout)

Disadvantages:

- Can be awkward to transport
- Need overhead projector and screen
- Some machines are noisy
- Bulbs may burn out
- May create a barrier between you and the participants
- Instructor may block view
- Can't display around the room
- Instructor prompt notes are limited
- Keystoning (top of image is wider than bottom of image-occurs when projector is lower than the screen)

Power Point

Power point is a desktop presentation program geared to producing presentations rather than documents. The presentation consists of a sequence of slides that once created, can be displayed on an overhead projection system, on a computer screen, printed onto transparencies, or printed as handouts for the participants. **Note: Here are two PowerPoint templates available for your use: 1) Classroom Template; 2) KRC Template.**

There are four options to choose from when creating power point:

- 1) Auto Content Wizard – walks you through building your own presentation;
- 2) Design Template – choose from predefined templates that define color, text font etc.;
- 3) Blank Presentation – which allows you to create your own presentation with pre-designed slide layouts;
- 4) Open an existing presentation - if you want to create a similar presentation.

A blue background is often associated with business related topics, while a green background may be thought of more as an educational background color.

Power Point slides may be printed in hard copy form in several different styles:

- Full Slide copy
- Handouts = 2, 3, 4, 6, or 9 slides to a page
 - 3 slides to a page has lines for note taking, next to the copy of the slide
- Notes page – for student notes on the bottom of slide - or instructor teaching notes; graphic on top, detailed notes on the bottom
- Outline view – for text outline

Microsoft Office Power Point Training is offered on-line through NTC.

Advantages:

- Easy to transport and access over data lines or hard drive
- Can include animation, voice narration, music, video playback
- Charts, graphs, pictures easily added and manipulated
- Can be interactive
- Can reveal point by point or apply “flying” effect to fill in the blank
- Can work for different size groups

Disadvantages:

- Pastel colors may not show up well, unless they are in contrast
- Computer hook up, projector and screen required
- Dimmed lighting and text slides may put participants to sleep
- May turn and talk to screen
- Additional software is needed to create computer animations
- Can't display around the room

Things to Consider about Power Point:

- ❑ Think about your written presentation, and determine where graphics, pictures, symbols may be substituted for, or enhance text or spoken word
- ❑ Slide templates can be overused; You can change by modifying the template color, font or images on the 'slide master'
- ❑ For text pages, select key words or phrases of text, with only 3-4 bullets of text per page
- ❑ Test slides for readability; if you can read the monitor screen 6 feet away, the projection presentation will likely be visible to the participants
- ❑ If you use slide 'transitions' and 'builds' as a change-up between topics, guard against detracting from the message
- ❑ 'Partial build' reveals one point at a time, so participants can follow along
- ❑ Horizontal or Landscape format is best
- ❑ Ideally, stand on the left side of the screen as the audience sees you, (people read left to right) so participants can follow your gestures and the pointer, and then return their eyes to you
- ❑ Gesture or use a pointer to direct attention to the screen (motion attracts attention); your movement will re-capture participant attention again
- ❑ Don't rely on Power Point to be your entire presentation
- ❑ Use technology to support the message, not detract from it
- ❑ Turn on BOTH the laptop and projector screen so you can refer to the laptop while participants look at the screen behind you
- ❑ Turn OFF all screensavers on your pc
- ❑ Power Point is mouse driven – using a remote mouse enables you to move away from the pc and be more interactive with the students
- ❑ Use a laser pointer for the screen to direct attention to specific points
- ❑ Arrive early and test everything!
- ❑ Be prepared with back up files, a power source for the pc and projector, and batteries for the mouse

Example of PowerPoint Handout (3 slide per page) Print Out

Grabbing Attention

- Grabbing and maintaining the attention of students at the beginning of a lesson is important. Attention focusing techniques include storytelling, visual analogy, magic illusion, and theatrics.

Grabbing Attention

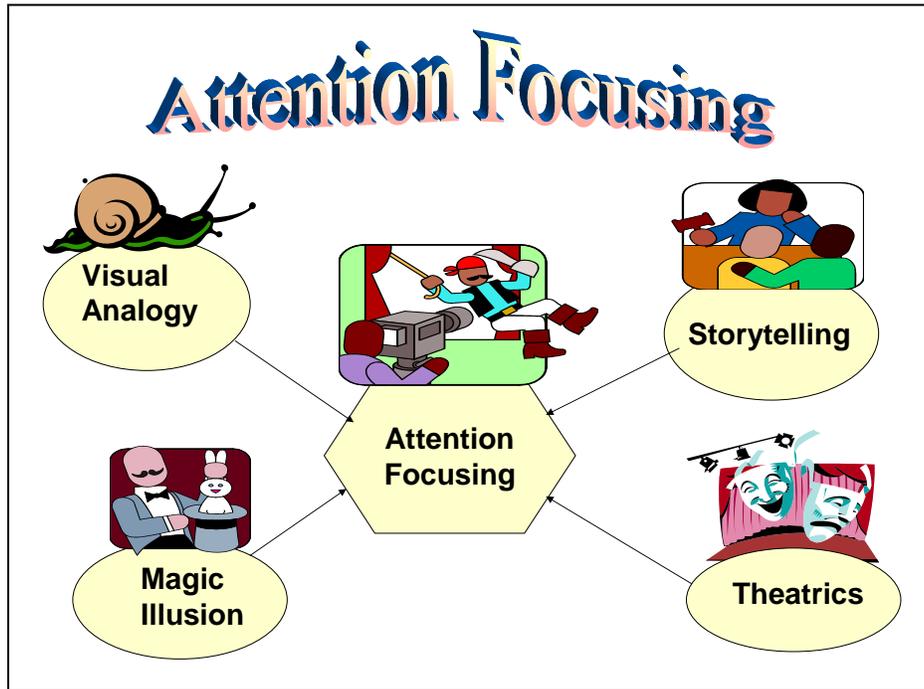
Keyword Identification

Grabbing and maintaining the attention of students at the beginning of a lesson is important. Attention focusing techniques include storytelling, Visual analogy, magic illusion, and theatrics.

Grabbing Attention

- Story Telling
- Visual Analogy
- Magic Illusion
- Theatrics

Example of PowerPoint “Notes” Print Out



You can see how the text that was shown in the bubbles are now associated with graphical images.

Note: this is the note section of the power point. This can be used as a participant handout page (information for the participant), an instructor page (information only for the instructor), or as both.

Example of PowerPoint “Outline” Print Out

1 

- Grabbing and maintaining the attention of students at the beginning of a lesson is important. Attention focusing techniques include storytelling, visual analogy, magic illusion, and theatrics.

2 

3 

- Story Telling
- Visual Analogy
- Magic Illusion
- Theatrics

4 

5 

•

6 

Slides

The use of slides as a visual aid is being replaced more and more by inserting pictures and slides into Power point presentations, because of ease of updating and presenting. However, if you are using slides as part of your instruction there are a few things to consider. For slides to assist in the facilitation of learning, they must be carefully selected and effectively presented. A follow-up discussion incorporates the learning principles of repetition, using another medium, and reinforcing learning.

Things to Consider:

- ❑ Preview before showing to check if current, relevant and correctly loaded
- ❑ Prepare talking points to accompany your slide presentation
- ❑ Let participants know beforehand what they are supposed to look for or what questions they need to answer
- ❑ Use a few good slides to make your point
- ❑ Limit the time for the slide show to no more than 15-20 minutes
- ❑ Don't leave a slide up more than 30 seconds
- ❑ Break up a longer presentation and intersperse with other activities
- ❑ Number your slides in sequence before placing in tray
- ❑ Try to face the participants for better voice projection
- ❑ Use a laser pointer to highlight learning points

Advantages:

- Allows several sites to be seen
- Can back up or advance
- Brings the field into the class
- "A picture is worth a thousand words"
- Fairly inexpensive, and easily updated

Disadvantages:

- Slides need updating
- Can't post around room
- Room must be darkened
- Slide carousels can be noisy and cumbersome
- Slide projectors may not be available
- Extra effort needs to be taken to keep the learning alive

Videos and Films

The use of films and videos requires more than just threading or loading a VCR tape. For films or videos to be real partners in the facilitation of learning, they need to be carefully selected, presented and followed up with a discussion or some kind of debrief or activity. A follow-up discussion incorporates the learning principles of repetition, using another medium, and reinforcing learning.

Things to Consider:

- ❑ Preview before showing to check for relevancy, and determine if it's current or outdated information
- ❑ Identify parts you want participants to look for and cue to that spot
- ❑ Let participants know beforehand what they are supposed to look for or what questions they need to answer
- ❑ Make the film or video relevant to your instruction
- ❑ Avoid showing videos or films after lunch if at all possible
- ❑ Limit the time for the video or film to no more than 15-20 minutes
- ❑ "Chunk" a longer presentation and intersperse with other activities
- ❑ Leave recessed lighting on so participants can take notes

Advantages:

- Allows several experts to be heard and seen
- VCR's are usually available
- Brings realism into the class
- Provides a front seat for many events and demonstrations
- Reduces the need for long demonstration processes
- Multi-sensory approach

Disadvantages:

- Films and videos become outdated and lose their impact
- May be expensive
- Room must be darkened
- Films can be cumbersome to set up and noisy to play
- Film projectors may not be available
- Difficult to control attention

The Impact of Color

PowerPoint Background:

Impact of Color:

1. GRAY Indicates neutrality, a good transition slide color. [Avoid using when displaying information critical to the objective.]
2. BLUE Calming effect on emotions, tied to tradition and lasting values, loyalty, security and contentment, factual information.
3. GREEN Seen as analytical, precise, accurate, acts as a stimulus for interaction; educators and trainers interested in discussion of the topic and learner involvement may benefit most from using this background.
4. RED Conveys vitality and intensity of the experience, an urge to achieve results and succeed; may lead to a heightened sense of realism about the topic, even to the point of increasing enthusiasm.
5. YELLOW Bright, cheerful, stimulates and radiates associated with the future, both stimulating and attractive. [Best used for foreground elements such as headings.]
6. VIOLET Represents something mystical or magical. Avoid using for critical business information. Data may be viewed as unimportant or unrealistic; use as a background for less critical information such as humor, special effects or transitional visuals such as the typical “coffee break” image used to indicate the end of a session. Also may use when objective of presentation is to entertain or amuse.
7. BROWN Conveys establishment of a foundation, permanency; somewhat of a passive color.
8. BLACK Powerful color; strong, uncontrollable, stubborn protest against current state. Associated with things that have already occurred and will not change such as financial results. The visual is interpreted as “more important.”

Normally, you should use only one consistent background color throughout the presentation. However if you wish to change background colors in a presentation, have a reason that is obvious to the audience, such as a shift in topic or change of subject.

¹ *Purpose Movement Color A Strategy for Effective Presentations.* Mucciolo, Tom and Rich Mucciolo. MediaNet, Inc. New York, New York, 1994.

Visual Aid Selection Grid

No:	Visual Aid:	Best Uses:
1	Chalkboard and Whiteboard	<ul style="list-style-type: none"> - For spontaneous listing or recording - Emphasizes key points - Material is shown only in words - To display a large diagram, extensive process or large amount of text
2	ELMO (copy camera) and Overheads	<ul style="list-style-type: none"> - Supplements lecture or discussion - Illustrates information for a case study, or demonstration - To encourage, highlight and review student comments - Visually summarizes group work, presentations - To introduce or summarize material - When non-moving visuals are needed - When used for a large group - You want to keep the lights on - You want to control or change the sequence of presentation - You want to point out the elements of a visual - You want portability - You want to build up a display (overlay) - You want to interact with the learners while projecting the visual aid - Material to be displayed is not elaborate - You want to re-present a visual you have used earlier, which is a powerful memory aid
3	Flipchart	<ul style="list-style-type: none"> - Serves as a road map for the class - For spontaneous listing or recording - Emphasizes key points - Learners need to display conclusions or work - Material needs to be constantly visible (on walls) - For lists, procedural steps - To show a sequencing of ideas - To introduce new terms, definitions - For simple sketches - To visually show math problems, solutions - Assignments, case study questions reminder - To show slogans - For group work, brainstorming
		<ul style="list-style-type: none"> - You want a hard copy of another media

No:	Visual Aid:	Best Uses:
4	Handouts	<ul style="list-style-type: none"> - The learners expect something tangible to take with them - Aids in organization and learning of materials - Promotes application of learning - Can serve as a Job Aid after the training - To have material visible for a prolonged time - You want learners to proceed at their own pace - Other media is too costly
5	Models and Simulators	<ul style="list-style-type: none"> - When learners need to inspect and physically manipulate a machine, piece of equipment, or experience a real-life circumstance - When damage to equipment will not occur - Realism isn't possible any other way
6	Power Point	<ul style="list-style-type: none"> - To present any combination of text, graphics, photographs, audio, animation or video - There is only one planned sequence for the presentation - When there is a large volume of visuals to present - You want a list or graphic to build in multiple steps - When revision of content occurs frequently
7	Slides	<ul style="list-style-type: none"> - When non-moving visuals are required - Cost of visuals must be kept low - A series of visuals is to be shown - Progressive disclosure of information is needed - Highly realistic visuals are needed - Special effects, cut-a-ways, enlargements are needed - Permits visual materials to be greatly enhanced and held in view while explained
8	Video	<ul style="list-style-type: none"> - When moving visuals are needed - A complete situation must be shown - Replay, slow motion and analysis are desired - To show a process or procedure - Has high credibility or believability which leads to acceptance by the learner - Need uniformity of the message e.g., for technical information that needs to be communicated to many people at different sites and times