DELIVERY STRATEGIES

Terminal Objective (TO): Given a performance-based objective, develop a delivery strategy that would get the intended target audience to that objective and meets the minimum criteria specified in the NTC Lesson Plan Evaluation Checklist (LPEC).

Enabling Objectives (EO): In order to reach the TO each student should, by the end of the lesson, be able to…

- Define learning and learning strategy.
- Explain why it is important to select and develop the appropriate delivery strategy prior to training others.
- Give examples of different delivery strategies.
- Describe how to select the appropriate delivery strategy.
- Describe how to facilitate each delivery strategy.
- Summarize pros and cons associated with using different learning strategies.

WHAT ARE DELIVERY STRATEGIES?

DEFINITION: Learning is the process of gaining knowledge, understanding, or skill by study, instruction, or experience.

Each lesson should use multiple delivery strategies. You may use a dozen or more delivery strategies to facilitate the learning process before, during, and after the delivery of the content of one lesson.

Learning requires a two-way process that assures that not only is the content "sent" but also that it is "received." Delivery Strategies are those devices used to assure that a message is received at or near the time it is sent. They serve the purpose of a feedback mechanism.

FUNCTION: Delivery Strategies are used to motivate, clarify, focus, get feedback, and reinforce key points.

- Motivate: Adults are generally motivated if they can see a need and use to transfer the lesson to their job. It is important to use strategies that relate the knowledge/skill to the participants' jobs. Use strategies that let participants share experiences that relate their job to the lesson.

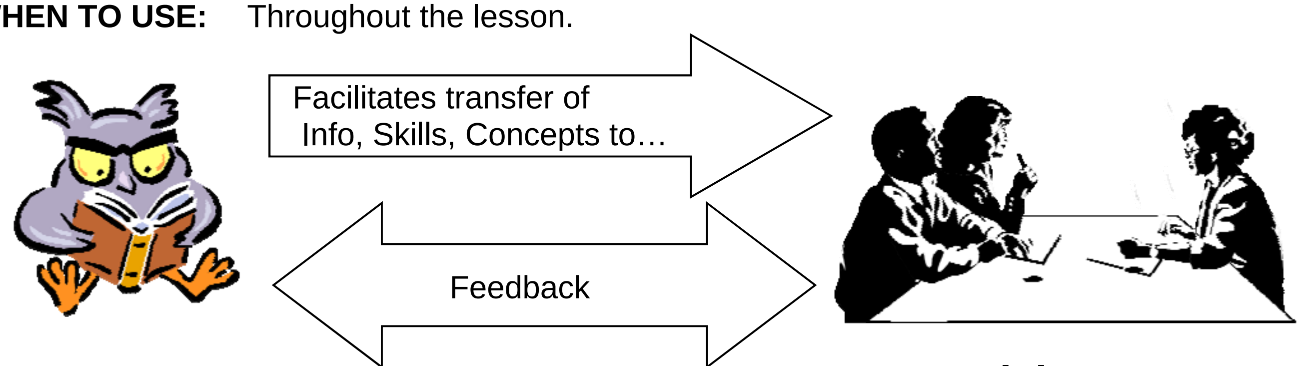
- Clarify: – When the participants are talking about and/or doing the skill, the participant will be able to clarify for themselves how they can apply the lesson. Additionally, the instructor has an opportunity to see where clarification is needed.

- Keep on focus: - To have participants focus on the lesson, it is critical to use delivery strategies that keep them physically, mentally, and emotionally involved.

- Get feedback: - For content to be understood, it must be received and applied. To insure that this happens, the instructor gets feedback from the participants on what they heard or saw, and the participants get feedback from the instructor on their application of the content.

- Reinforce key points: - Every lesson has a few key points that are the keys to achieving the objective(s). Using a variety of delivery strategies to highlight these key points will increase the potential for learning and retention.

WHEN TO USE: Throughout the lesson.



Instructor… **Participants**

"Education is our passport to the future, for tomorrow belongs to the people who prepare for it today."
Malcolm X

Guidelines to Delivery Strategies:

Chunk information - Arrange the content into "chunks" of information to help people learn and remember data, processes, and cognitive material. Remember, the less experienced (relative to the topic) the participant, the smaller the chunk should be.

Ask questions - To check for understanding of the information delivered, ask specific content questions. Include these questions and possible answers in your lesson plan. The following are a few tips on asking questions.

- Ask the question and then allow time (at least 10 seconds for a response. If you still do not receive an answer, try asking the question in a different way or in a series of questions leading up to the answer.
- If a partial response is given, ask a follow-up question which asks for more information.
- Spread the questions around. Not calling only on the "Frequent Fliers" keeps everyone alert.
- Be careful about embarrassing those who seldom volunteer responses. Allow discussion with one or two other people before asking for an answer.

Avoid:

- Asking “Is that clear?" or “Are there any question?” you can follow up by asking, “What questions do you have?” This allows the student to feel comfortable with asking a question.
- Using questions that can be answered with "Yes or No." They don't really test learning unless tagged with "Why?" "Why not?" or "How?"
- Leading questions, which indicate how you want it to be answered. This discourages independent thought.
- Long questions or asking two questions at one time. They are hard to follow.

Give feedback

- Reinforce correct answers.
- Determine why wrong answers were given and help to correct them. This can be done by repeating or rephrasing the answer to clarify your understanding of it. "I think what you're saying is? Is that accurate?” If the answer is no, ask the person to rephrase their answer. Another response to a confusing or incorrect answer is to ask, "Why do you say that?” This helps the person to better understand their own thinking. It helps them verbalize thoughts and explain the answer more clearly. If the answer is still incorrect, turn the question over to the group: "Mike, you have some interesting points. What does the rest of the group think?” If Mike finds that the entire group also disagrees with him, he will most likely re-evaluate his answer. These techniques also give you a little more time to formulate a response if the correct answer does not come out in the discussion.

Provide opportunities for practice with feedback

- Be sure to include an opportunity for participants to practice remembering and applying the information that has been delivered before the assessment exercise. Again provide feedback to reinforce appropriate answers and clear up misconceptions.

Set up assessment with feedback

- Set up the assessment exercise in a positive manner with clear instructions. Feedback may be given via answer key, evaluation guidelines, or orally. Key it to reference material to help participants go back over weak areas.

“You can lead a boy to college, but you cannot make him to think.”
Elbert Hubbard

BREAKING THE ICE

Icebreakers are a good way to establish the climate of your class, setting a more comfortable and conducive to effective and enjoyable learning. According to Geri E. H. McArdle, Ph.D. author of Delivering Effective Training Solutions, Icebreakers provide an opportunity to immediately make everyone-including yourself-feel more at ease, allow you to learn about the participants, and break the audience's preoccupation with work or personal issues. They also help diminish their fear of what is to come in the learning process.

Introductions are the most common icebreaker with two easy variations for handling them, the first is where the participant introduces themselves and the other participants introduce each other. As a rule of thumb, they each should not consume more than 5 percent of the total presentation time.

ALL DIFFERENT KINDS

Icebreakers can be classified according to the kind of information they provide a trainer and the way that information is revealed.

<u>The Personality Report</u> icebreaker asks group members to volunteer specific information about themselves. It enables participants to define needs and fears that relate to the workshop. For example, in a stress management course, a trainer might introduce the topic by dividing the group into pairs and asking participants to share with their partners five routine experiences that "make their blood boil," rating these experiences from most trivial to most serious. Participants in this icebreaker would identify, evaluate and report on types of activities that cause stress in their lives.

<u>The Personality Clue</u> icebreaker indirectly elicits information about group members that they might not otherwise articulate. By describing favorite childhood toys, for example, participants may reveal significant aspects of their personalities, and actually describe themselves.

<u>The Attitude Report</u> asks participants to verbalize their attitudes toward the topic at hand. Once, in a course on interviewing and selection, a trainer began by passing around blank cards on which participants anonymously listed three "do's" and three "don'ts" of interviewing. He collected the cards and used their information as a springboard into the topic of interviewing as well as cues to the kinds of material to focus on in the remainder of the session.

"It is what we think we know already that often prevents us from learning."
Claude Bernard

Introduction of Participants: Participants may wonder about the other people: "Do they know more (or less) than I do?" "Is anyone here I should know?" "How will the others react to me?" Nevertheless, you should introduce participants to one another only when (1) people are meeting for the first time; (2) the group has fewer than 50 people; (3) the session will last more than two hours; and (4) group discussion will be encouraged.

As a rule of thumb, introductions should not consume more than 5 percent of the total presentation time. You have two options for handling the introductions.

> Each participant introduces himself or herself: With four or five areas that should cover listed on the board, ask participants to introduce themselves. Suggest that they make some notes on what they want to say, and ask for volunteers to go first. People usually prefer choosing their own time to speak. When you follow some systematic order, each participant becomes more and more tense as his or her turn approaches and often does not hear what is being said. Allow approximately thirty seconds per participant.
>
> Participants introduce one another: Provide four or five areas to explore and ask each participant to interview the person to the right or left (provided he or she does not already know that person). You may have to help the group divide into pairs. Allow five or ten minutes for one person to "interview" the other, and then ask them to switch roles. Ask for volunteers to introduce the people they got to know. When twenty to forty people are involved, allow thirty to sixty minutes for the exercise.

Allowing participants to introduce one another has the advantage of "breaking the ice" by getting people involved and speaking out. (Many may already have decided that their role will be just to sit back and listen.) Participants may also learn interesting things about each other, because people are often shy about relating their own attributes but will let others do it for them. The procedure also helps each participant develop a rapport with other participants; when mutual interests and backgrounds are revealed, each participant gets to know at least one other person very well. The value of this technique diminishes as group size increases and duration of the course decreases.

Before selecting an icebreaker, a trainer must examine the underlying goal of the session and determine ways to make participants aware of that goal. An icebreaker can introduce the goal at the beginning of a session and continue to emphasize it throughout the workshop.

Several cautions should be observed in selecting an icebreaker:

- ☐ Don't use icebreakers in which participants could fail or be embarrassed. Remember, the objective is to establish a climate of trust.
- ☐ Relate the activity to the course goal and objectives.

"The person who graduates today and stops learning tomorrow is uneducated the day after."
Newton D. Baker

Warming Up to the Topic

Warm ups are used at the beginning of a session or for starting up a class again after a long lunch break or in the morning. They are often a fun way to introduce or begin a topic. They can help you build rapport with the participants and get them involved in the material you will be presenting.

CHARACTERISTICS OF WARM UPS

1	BRIEF	They can range from a one-minute visual illustration or verbal vignette up to a 15-minute group discussion exercise. However, since they are used for supplementing other material, the time devoted to them should be minimized.
2	PARTICIPATIVE	To be effective, warm ups must involve the participants physically (through movement) or psychologically (through visual and mental stimulus). Warm ups draw the participants' attention, and make them think, react, or laugh.
3	USE PROPS	Warm ups often involve the use of a simple prop to add realism to the activity. The prop may be a picture, hat, water jug, or bag of lemons.
4	LOW RISK	In order to ensure success, present the activity in a positive and professional manner and in the right context.
5	SINGLE FOCUS	Warm ups are often used to illustrate a single point.

*****Don't let warm ups drag on. Once the point is made, move directly into the main part of the session.*****

EXAMPLES OF WARM UPS

Expectations or Concerns about the session can be raised and recorded on flip charts. This can be done individually or in buzz groups.

Key Terms from the previous or new session, selected by the instructor, can be reviewed in teams of two or more learners. After about five minutes, the instructor calls on people for definitions, asks questions that delve more deeply into the material, and solicits learners' questions.

A Demonstration that makes a point about why they should learn your lesson could be done. For example having several people fold and tear paper following verbal instructions illustrates the importance of writing specific as well as clear objectives for a course.

A Question and Answer warm up relaxes participants and makes them more receptive to the topic. You will need to prepare four or five open ended questions to hook them in to your topic.

An Information Dump from the previous session sometimes needs to occur before you can get them involved with your topic. Work with the preceding instructor to prepare a warm up that will close out the session and transition into your topic.

"Every job is a self-portrait of the person who did it. Autograph your work with excellence."
Unknown

Lecture

Description and Purpose:

- Presents a subject or gives oral directions that will lead to interactive delivery strategies (involve the participants actively).
- Provides opportunity for subject matter to share knowledge and experience.
- Stimulates thinking to open discussion.

Process:

- Determine the learning outcome to be supported or assessed.
- Design the three sections - introduction, during, and debrief/summary.
- Deliver the lecture ending with an interactive debrief/summary.
  (usually should also have some interactivity in the introduction and during section)
- Effective Lecturing: A Few Tricks of the Trade
  - Do not present too many points – generally one to four major points for half an hour.
  - Present summaries both at the beginning and the end.
  - Pause occasionally to give listeners a chance to catch up and summarize for themselves.
  - Allow time for participant questions!!
  - Use visual aids to support your points
  - ***Always leave time for the debrief/summary (if due to time constraints you need to shorten or leave out something – do not leave out this)***
- More techniques to keep your audience interested.
  - Change places: Move around; speak from the back of the room, the front, the left or the right of the room.
  - Use gestures - hand, head, and body movements.
  - Use silence for reflection, question formulation, concentration.
  - Change tone of voice - loud-mellow, fast-slow, happy-sad, technical-personal, etc.

Set Up:

- Group Size: Any.
- Time Required: Try keeping it to no more than 10 minutes. At that point use a delivery strategy that requires the participant to change from passive to active behavior, from listening to doing, from instructor doing most of the work to the participant doing most of it. There is no reason why the instructor could not have a one or even two-hour lecture -- as long as it is broken up with interactive delivery strategies...***keep participants involved.***
- Physical Setting: Each participant should have a full view of the lecturer at all times.

Pro's	**Con's**	**Preparation**
- Factual material is presented in a direct, logical manner. - May provide experiences that inspire - Useful for large groups.	- Proficient oral skills are necessary. - Audience is often passive. - Learning is difficult to gauge. - Communication is one-way.	- There should be a clear introduction and summary. - Effectiveness related to time and scope of content. - Is always audience specific; often includes examples, anecdotes.

"The basic idea behind teaching is to teach people what they need to know."
Carl Rogers

Brainstorming

Description and Purpose:

- Used to bring forth thoughts, associations, and/or ideas.
- Responses are not evaluated until the end. Each response produced does not need to be usable. Instead, initial responses can be viewed as a starting point. Examples of how brainstorming is used includes asking the participants to list:
  - What they know about the lesson or "chunk",
  - Possible solutions to a problem,
  - Possible issues involved,
  - What the participants learned
  - And more….
- Invites participants to recall existing knowledge in their own minds. It can help orientate the participant to the topic and motivate to fill the gaps in their knowledge.

Process:

1. Determine the learning outcome to be supported or assessed through the activity.
2. Display directions.
3. Have the group(s) brainstorm.
4. Debrief the activity to ensure key points are emphasized.

Setup:

- Group size: Any size. For full participation, use groups of 3 to 8.
- Time required:
  - Dependent on the depth you want to go but at least 5 minutes plus time for discussion
  - Set and display the timeframes (handout, flipchart, overhead, or PowerPoint slide) for brainstorming and report outs.
- To help the brainstorming and later the discussion, each group records their responses on flipchart paper or a white board.
- Call time when the announced time is almost up for the brainstorming.
- Have each group report out on all their responses, ***or***
  - *Use an alternate structure such as:*
    - Second and follow on groups report on responses not covered by the group prior to them.
    - Summarizing the key themes
    - Answering a question about the process used, or
    - Explaining how they will use the information.
- Debrief – ensure the key points for the lesson are identified (by instructor or participants).

Pro's	**Con's**	**Preparation**
- Listening exercise that allows creative thinking for new ideas - Encourages full participation because all ideas are equally recorded - Draws on group's knowledge and experience - Spirit of cooperation is created - One idea can spark off other ideas	- Can be unfocused - Needs to be limited to 5 - 7 minutes - Students may have difficulty getting away from known reality - If not managed well, criticism and negative evaluation may occur - Value to students depends in part on their maturity level	- Teacher selects issue - Teacher must be ready to intervene when the process is hopelessly bogged down - Develop predetermined sample questions

"The secret to education is respecting the pupil."
Ralph Waldo Emerson

Case Studies

Description and Purpose:

- Excellent way to get the group involved in a meaningful way.
  - Participants relate the lecture to relevant real-life situations (real or simulate real life).
  - Cases encourage interaction between participants and/or to help participants analyze and solve specific problems.

Process:

1. Determine the learning outcome to be supported or assessed through the activity.
2. Provide each participant a description of a case (situation) including question(s) which require application of the skill and knowledge covered in the lesson(s).
3. Have the group(s) work on the case. Sometimes you may want to cover multiple cases by having a few groups to one case while the other groups do a different case. You could even have each group do a different case. In the final briefing, all the points could be brought out.
4. Decide how to set up small groups. Can they work with the people seated close to them, mixed randomly, or will there need to be various levels or types of expertise in each group?
5. Groups report results. There could be multiple steps requiring report outs at each step.
6. Debrief the activity to ensure key points are emphasized.

Set Up:

- Group Size: Any size. For full participation, use groups of three to eight participants. It is best to have two or more groups. This exposes participants to different approaches to the same problem as each small group processes the case study differently.
- Time Required:
  - Can range from 5 minutes to the entire course depending on the complexity and the sharing process.
  - Set and display the timeframes for each stage of the activity.
- Have the group select a discussion leader and a recorder.
- Attributes of a good case:
  - Appear real – i.e. have the trappings of a current problem (or it could be real).
  - Has general applicability. Generally it should be similar to the real job experience – not that horrific exception!
  - Complex enough to be challenging, but not so complex that objective gets lost or the participants get too frustrated to complete the case.
  - Long enough to introduce the facts of the case but not so long as to bore the reader or to make the analysis tedious.

Pro's	Con's	Preparation
- Develops analytic and problem solving skills - Allows for exploration of solutions for complex issues - Allows student to apply new knowledge and skills	- Students may not see relevance to own situation - Insufficient information can lead to inappropriate results - Not appropriate for elementary level	- Case must be clearly defined - Case study must be prepared

"For the mind does not require filling like a bottle, but rather, like wood, it only requires kindling to create in it an impulse to think independently and an ardent desire for the truth."
Plutarch

Panel

Description and Purpose:

- Present different perspectives or aspects of an issue. This format allows experts to present information or debate. It can illicit better discussion than a one person discussion. Plus, a frequent change of speakers keeps attention from lagging.
- Way of tapping multiple subject matter experts for short discussions on multiple aspects or views of subject.

Process:

1. Determine the learning outcome to be supported or assessed through the activity.
2. Coordinate with panel members to outline time, purpose, and process to interact with participants. Ensure that each panelist understands his/her role and is aware of the names, backgrounds, and roles of other panelists.
3. For the participants, explain the focus of panel and introduce panel members.
4. Panel members answer questions and/or present their sections. To ensure the participants get the most possible out of the experience, include structured interaction between panel members and with the participants.
5. Debrief the activity to ensure key points are emphasized.

Set Up:

- A panel can have as few as two speakers (or two groups) or as many as six. More than six generally becomes unwieldy.
  - Panelist can be members of the cadre, guest speakers, or subject matter experts within the ranks of the participant group or any combination.
  - To discuss opposing or conflicting viewpoints panelist tables can be placed in a "V" shape. Each panelist responds has a specific time to respond to questions (either preformatted or spontaneous from the participants.) This method can create sensitivity, understanding of, and empathy for both sides of an issue.
- Time:
  - 15 minutes for an impromptu debate to one hour for prepared and more structured events.
  - Generally, 5 to 10 minutes per panel member is adequate. Generally, each panel member should have equal time.
  - Allow also for time for interactions.
- Panel setting: Panelists should be located at the front of the room. The moderator can sit to the side so they can see both the panelists and the audience.

Pro’s	Con’s	Preparation
- Experts present different opinions. - Can provoke better discussion than a one person discussion. - Frequent change of speaker keeps attention from lagging.	- Personalities may overshadow content. - Experts are often not effective speakers. - Subject may not be in logical order. - Not appropriate for elementary age students. - Logistics can be troublesome. - Discussion to avoid angry of hurtful situations. - Personalities can overshadow discussion.	- Teacher coordinates focus of panel, introduces and summarizes. - Teacher briefs panel.

"The only dumb question is the question you don't ask.”
Paul MacCready

Demonstration

Description and Purpose:

- Demonstration is a delivery method in which the instructor explains and shows the precise actions necessary to perform skills or processes. Demonstrations generally include time for the participants to practice.
- Demonstrations makes explanations concrete and appeals to several senses.

Process and Set Up:

1. Prepare
   - Yourself (have a plan and practice)
   - Materials (have sufficient samples for learners to practice with)
   - Participants (get their attention)
2. Present
   - Practice before presenting.
   - Place participants so all can see
   - Point out principles being demonstrated as you go
   - Associate demonstration with everyday things
3. Reinforce
   - Have participants practice the skill or process (on their own or in groups)
   - Be available for questions and check each participant's progress. Assess whether or not they can do it without assistance.
   - Discuss exceptions or questions that arose as they tried it on their own.
4. Debrief with the entire group to share lesson learned and ensure key points are understood.

Notes:

- If the process is long and/or complex, demonstrate, have the participants practice, giving them practice time after each step. It may be beneficial to give them an additional exercise or assessment that has them do the whole process without instructional breaks.

Pro's	Con's	Preparation
- Gives students excellent examples to follow. - Shows connections between concepts, events, processes.	- Poorly organized or ineffective demos confuse students about concepts and processes. - Has little, if any, practical value for subject matter content that is not skill-oriented.	- Determine prior knowledge of students. - Determine processes, concepts and skills to be learned. - Determine pointes of similarity and dissimilarity. - Secure any and all equipment and supplies needed for the demo.

"The objective of education is to prepare the young to educate themselves throughout their lives."
Robert Maynard Hutchins

Discussion

Description and Purpose:

- Uses the resources of the participants; pools ideas and experiences from group.
- Provides participants an opportunity to practice critical thinking skills and/or synthesizing several sources of information into a coherent perspective.
- Give participants opportunities to formulate applications of principles. This delivery strategy invites participants to develop and express their ideas.

Process:

1. At the outset, clarify the objective of the discussion (what you expect to be the end result), the process you wish the group to adopt (how the discussion ought to proceed, which rules should be followed), and what your role will be.
2. Prepare the questions to be answered in advance of the discussion so that you can be consistent in class.
3. Have the discussion. Be prepared to clarify things when the discussion becomes confused. Be careful not to sneak in your own answers.
4. Encourage participants to contribute and to help them make comments that respond to their classmates' observations.
5. Don't fear silence. It's absolutely essential. When you are responsible for facilitating a discussion, you may feel that a lack of response within one or two beats is stretching into an eternity. However, even if you have posed a very interesting question or situation, the participants will need some time to think and formulate a response.
6. Ask participants to sum up the outcome of the discussion.

Set Up:

- Group size:
  - o Entire class if you wish to guide the process of discussion.
  - o Groups of 3 to 8 participants if you wish the participants to guide the discussion.
- Time: Generally 5 to 20 minutes but it depends on the complexity of issue.
- Physical Setting: Participants should be able to see and hear each other easily.

Pro's	Con's	Preparation
- Pools ideas and experiences from group - Effective after a presentation, film or experience that needs to be analyzed - Allows everyone to participate in an active process	- Not practical with more than 20 students - A few students can dominate - Some students may not participate - Is time consuming - Can get off the track	- Requires careful planning by teacher to guide discussion - Requires question outline

"Unless you try to do something beyond what you have already mastered, you will never grow."
Ronald E. Osborn

Field Trip/Exercise

Description and Purpose:

- Structured opportunity for participants to practice the course or lesson skills within a workplace context. Participants are expected to work on tasks or projects relevant to their learning progress.
- Provide first-hand observation of a process, procedure, or event that could not be brought to the classroom in a better way.

Process:

1. Determine the learning outcome to be supported or assessed through the activity.
2. Make the arrangements well in advance.
   - The site must be applicable to the course goal and objectives.
   - Is the site accessible at the time you will be taking the participants
   - Be sure permissions have been granted by the land managers/owners.
   - Instructors responsible for the field exercise should visit the site and discuss the exercise with the course coordinator.
   - Do you need to prepare the site?
   - Is the weather suitable to do the field site exercise?
   - Plan and document itinerary.
   - How will participants get to the site (and is there room to park all the vehicles)
   - What needs to be done to maximize the comfort and safety of the participants?
3. Prepare participants by telling them:
   - About the site (access difficulties, safety cautions, history if relevant to the lesson, land ownership, and other relevant information)
   - Outcome expectations ***(see next page for example).***
   - Requirements regarding dress and material (such as tools, lunch, water, etc.) to bring.
4. If needed, do a demonstration in the field.
5. Conduct field exercise.
6. Groups report results. There could be multiple steps requiring report outs at each step.
7. Debrief the activity to ensure key points are emphasized.

Set Up

- Group Size: The class should be divided into groups of 2 to 10 participants.
- Time: Variable. Include the time to travel to and from site(s). Allow for extra time if multiple vehicles are used. Having 2-way radios will help avoid losing small groups.

Pro's	**Con's**	**Preparation**
- Opportunity for first-hand and hands-on learning (practice skills) - Build upon Classroom ideas and subjects	- Can cost extra time and expenses spent planning and implementing	- Coordination between site owners/managers, travel accommodations, on site demonstrations

"The important thing is not to stop questioning."
Albert Einstein

Field Trip/Exercise Outcome Expectations – Example 1

Grazing Management for Riparian-Wetland Areas
Course XXXX-XX

Field Exercise
Guidelines for Team Presentations of Results and Recommendations

On the last day of the course your team will present a report on your recommendations based on the field exercise results.

Team presentations will include the following:

- Ten copies of your team's written report (limited to five pages) that addresses the following management components:
    1. Issues
    2. Goals
    3. Objectives
    4. Strategies including both time lines and rationale for:
        - The least that needs to be done to reach objectives
        - The optimum that could be done to reach objectives
    5. Monitoring
    6. Evaluation

- All major recommendations or findings from your report summarized on flip charts.

- A fifteen minute presentation on your team's report and recommendations to the class and the five member instructor panel. Please use a different presenter for each part of the presentation. Presentations will be given from the front of the room. The presentation should involve as many team members as possible.

- Objectives that conform to the six "Characteristics of a Good Objective."
    1. State the component
    2. State what is to be accomplished
    3. State the amount of change
    4. State the location
    5. Establish a time frame
    6. Ensure the objective is compatible with the land use plan

- Schedule time for questions; all team members should be available to respond to questions from the class and the five member instructor panel. All team members should be prepared to defend their team's report and recommendations.

"The roots of education are bitter, but the fruit is sweet."
Aristotle

Field Trip/Exercise Outcome Expectations – Example 2

Dams/Reservoirs/Stock Ponds - Field Exercise

Purpose:

This module provides you with the framework for doing the qualitative and quantitative measurements for Dams, Reservoirs, & Stock Ponds as needed for agency databases and filing for water rights.

Exercise Site: Grove Creek Reservoir

Background information to complete this exercise:

- *livestock use = 50 cattle from May 15 to November 15 (or 185 days)*
- *deer range (25 deer yearlong, heavier use during winter)*
- *antelope herd management area (45 antelope yearlong)*
- *horse use (10 horses for occasional day use for recreational riding and game retrieval from block management area; assume 5 days/month)*
- *water usage rates allowed by DNRC:*
  - *15 GPD (or 0.017 AFA) for 1 beef cow*
  - *22.5 GPD (or 0.225 AFA) for 1 horse*
  - *15 GPD (or 0.017 AFA) per 5 deer or 5 antelope*

1. Complete circled portions of the reservoir inventory form.

2. What is the capacity of this reservoir? (Reminder: Note shape of the pond.)

3. Assume that this reservoir is the only source of water for this allotment, that it is full as of May 1 annually and receives no more inflow. Is the capacity sufficient to supply the number of livestock and other uses in this allotment during the time period cattle are in the allotment (from mid-May through mid-November)?

4. If you were to apply for water rights for this reservoir, which form you would need to complete and why?

5. Taking into consideration summer inflows from thunderstorms and evaporation losses, what is the TOTAL ANNUAL AMOUNT would you claim when filing for water rights for this reservoir?

“Learning anything worthwhile is difficult.”
Gilbert Highet

Role Play / Simulation

Description and Purpose:

- Focuses attention on the interaction of people with one another. It emphasizes the functions performed by different people under various circumstances.
- Allows the role players to practice particular behaviors or skills while the other participants practice observing and then critiquing the performance and the outcome.
- Controlled, partial replication of the actual world in which participants assume roles and then work their way through an open-ended "script."

Process:

1. **Setting the Scene** - Provide a valid reason for its use based on the course objectives. Keep it real; avoid appearance of being "faked".
2. **Role-Play** – Be very specific in your instructions:
   a. Assign specific roles to people. Capitalizes on participants' interests and areas of expertise.
      - Role Player(s)
      - Observers – given clear instructions on what to look for and write down. They will be asked to report their observations after the role-play.

   b. Describe time frames, and any other process rules or guidelines.
3. **Debrief/Summary (such as this typical debrief/summary):**
   - Ask the role-players to report how what went well and then what could be improved
   - Ask observers to report what they saw and heard.
   - Summarize the key points to meet the purpose of the role play

Set Up:

- Group Size: 2 to the whole class:
  - Whole class – used to demonstrate a behavior for the whole class to discuss. In this case, the role is usually (but not always) scripted for the role players.
  - Two or Three – used to allow each person to practice a behavior (one person practices, one responds to the behavior, and if there are three people, the third is the observer. In this case, the role is usually free form (not scripted). Roles rotate until everyone in the group has practiced. All groups participant simultaneously.
- Time Required: 5 to 30 minutes depending on the complexity of the scenario and the detail to which you want the observers to discuss the role play.

Pro's	Con's	Preparation
- Introduces problem situation dramatically - Provides opportunity for students to assume roles of others and thus appreciate another point of view - Allows for exploration of solutions - Provides opportunity to practice skills	- Some students may be too self-conscious - Not appropriate for large groups - Some students may feel threatened	- Teacher has to define problem situation and roles clearly - Teacher must give very clear instructions

"You cannot teach anyone anything. You can only help them to discover it within themselves."
Galileo Galilei

Training Games

Description and Purpose:

- Games can be useful for both fun and learning. They are especially helpful as lead-ins to other activities.
- Games aid in the transfer of learning by using them as:
  1) an introduction to new material, or
  2) a summary or,
  3) a synthesis for more complex topics, or
  4) more ways
- Games accelerate a learner's ability to understand and retain complex principles, procedures, and other critical information.
- Participants are involved in an exercise in which competition, cooperation or both are used to learn or practice previously learned material.
- There are many types of games available. There are thinking games, action games, board games, simulations, and many more.

Process:

1. Determine the learning outcome to be supported or assessed.
2. Select a game/simulation that is relevant to the learning content and the participants' context.
3. Develop game content and directions.
4. Play game.
5. Debrief - Ask participants what were the key learning points.

Set Up:

- Group Size: 2 to the whole class
- Time: Usually 10 -15 minutes but will vary.
  - o Some management board games last all day or even all week.
  - o Some like wuzzles (word puzzles) last only 2 to 3 minutes
- Physical Setting: Each game has own set up.

Variations and Additional Notes:

- Be creative and combine ideas or even invent your own.
- To be effective a good learning game has defined, yet subtle, balance of fun (game play) and skill (content) that provides a dynamic learning environment.
- The best games promote immediate player involvement and continued interest through an intriguing working format. After beginning, the game continues to promote involvement through a balance of chance and challenge.
- Game benefits are learner-centered activity, using random elements, building teams and it's a change of pace!
- Some commonly used types of games are:

• Wuzzles	• Hangman	• Crossword puzzles
• Bingo	• Board games	• Scavenger hunts
• Definition match (contest)	• "TV" quiz contests (Jeopardy, Family Feud, etc.)	• Ad Campaign (like selling key learning points)
• Truth or Lies	• Sequence shuffle	• Tic-Tac
• Brainteasers	• Jigsaw puzzles	• Word Searches

"To learn anything fast and effectively, you have to see it, hear it, and feel it."
Tony Stockwell

Delivery Strategy Factors

According to ASTD Lesson Design and Development, Issue 8906, Instructional Systems Development, Before choosing techniques and training materials, the designer must consider many factors. These include the following items:

Instructional Objectives
Instructional techniques and activities must match the objectives—whether they involve cognitive learning (knowledge), psychomotor learning (skill), or affective learning (attitude):

- Cognitive learning involves mental processes and the acquisition of knowledge.
- Psychomotor skills involve manipulation of objects or machinery based on mental decisions. Training techniques include demonstration—practice, simulation, and mock-ups.
- Attitude involves motivation and perceptions. Training activities include role play, discussion, and brainstorming.

Cost or Budget
Designers must always keep in mind cost benefit when determining training media and activities. Does the effectiveness of the activity in helping learners meet learning objectives justify the expense?

Lesson Content
Techniques and media must be consistent with the lesson content.

Learners' Knowledge and Expectations
Learners will come from different ages and backgrounds as well as varying levels of experience and knowledge. Training activities must meet their needs while avoiding the extremes of being overly simple or too complicated. Trainers must consider the learners' level of comfort with different activities.

Trainer's Experience and Capability
The trainer should be comfortable and experienced with the training technique. If he or she has not tried a particular technique before, sharing that information with the learners can help enlist their support.

Time Availability
Expected duration of training activities must realistically fit within time constraints.

Facilities, Equipment, and Material
Even such constraints as fixed row seating can greatly affect the choice of training and learning activities, and the availability of equipment obviously affects the choice of training media.

"It's okay to make mistakes. Mistakes are our teachers, they help us to learn."
John Bradshaw

Selecting Instructional Techniques and Materials

The chart below matches some training techniques and instructional media with the three categories of learning (knowledge, skills, and attitudes—KSA). Use the chart only as a guide.

Technique/Activity	Knowledge	Skills	Attitudes
Assigned reading and research	X		X
Brainstorming	X		
Buzz group	X		X
CD-ROM	X	X	X
Computed-based instruction	X	X	X
Critical incident	X	X	X
Demonstration/practice		X	
Field project	X		X
Field trip	X		X
Flipcharts	X		X
Games	X	X	X
Guided discussion	X		X
Handouts	X	X	X
Job aids		X	
Lecture	X	X	X
Manuals	X	X	X
Panel	X		
Role play		X	X
Simulation		X	
Video	X	X	X
Web-based instruction	X	X	X

ASTD Lesson Design and Development
Issue 8906, Instructional Systems Development

"To be ignorant is not such a shame as to be unwilling to learn."
G. W. Hoss