



U.S. Department of Transportation
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The Circle Of Learning

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Introduction

This updated version of *The Circle of Learning* has been prepared by Instructional System Designers and Master Trainers at the National Highway Institute (NHI) and contains some new techniques and updated design media. The manual will assist new and experienced instructors and include the most effective methods of educating adult learners. We strongly believe that our learners should be active participants in their learning. Each learner brings their own knowledge, experiences, and ideas to our training courses. NHI respects that this impacts how each learner will process new information and engage in the learning. The more engaged they become in the learning process, the more they will retain from the training provided. This could include having the instructor figure out how the training fits into the strategic vision of the host, so that the training has more value and meaning to the learner.

The title of the manual, *The Circle of Learning*, emphasizes learner-centric instruction and the value of the instructor enabling the learner to take ownership of the content. It also reflects our belief that effective adult education involves a continual process of understanding the needs of the adult learner, preparing for training, conducting training, and following up with post-training reviews.

The Circle of Learning consists of the following four sections:

- I. An Introduction to Adult Learning
- II. Training Preparation
- III. Conducting the Training
- IV. The Post-Training Review

Each section has an introduction that provides an overview of the section and its topics. Each topic includes a general description; or a challenge to effective learning (also known as a stage setter or case study); and a range of suggested solutions based on our years of practical experience and input from other NHI instructors and learners.

We have placed our “Possible Solutions” below some of the challenges you might face. It is essential that you review these solutions during each stage of instruction. The solutions will help you to not omit any items and ensure a smooth flow of course instruction. We strongly encourage all NHI and contractor instructors to use this manual and request feedback about its usefulness. We appreciate your comments, questions, and suggestions for improvement.

I. Introduction to Adult Learning

It is well documented that adults expend considerable time, cost, and energy to acquire new knowledge that will help them in their jobs and in their lives. Research shows that adults benefit most from practical, problem-solving learning activities.

If, as an instructor, you find that your adult participants are not responding to your teaching methods, consider whether your presentation style meets their special learning needs. For many years, educators assumed that the principles and techniques used to educate children would be equally effective in educating adults. However, as knowledge accumulated, both from experiences teaching adults and from research in adult education, it became increasingly apparent that adults possess unique learning characteristics. Unlike children, adults are in charge of their own lives and are responsible for making important life decisions. Thus, an “instructor-centered” approach, in which participants are dependent on the instructor to make decisions, is not the most effective method of training adults.

In the workplace, adults are expected to solve problems and improve the overall quality of the work environment. To provide adult participants with the necessary skills to accomplish these tasks, you must adopt the role of the “learner-centered” educator. Your training techniques must engage your participants in discussions and provide them with opportunities to tackle problems on their own.

You must consider several **principles (facts, foundations or truths)** of adult learning to ensure that a process is properly built into your training. These principles are as follows:

- A. Adults enter the educational environment with a great deal of valuable experience.
- B. Adults are willing to learn if they see the benefits of acquiring new information.
- C. Adults learn in a climate that minimizes anxiety and encourages experimentation.
- D. There are several variations in adult learning styles.
- E. Adult learners are self-directed.

This section addresses these principles in more detail.

Reference

For more information, see Malcolm Knowles’s *The Modern Practice of Adult Education*.

A. Experience

Adults enter the educational environment with a great deal of valuable experience

Adults want to be recognized for what they know. They bring to the learning environment experiences that are rich sources of information for themselves and others. The more explicit you can make the relationship between your participants' current knowledge and the new knowledge they are about to acquire, the deeper and more permanent their learning will be.

Challenge

Provide an opportunity for your adult participants to link new knowledge and skills to knowledge and skills, they have learned previously

You have lots of slides, handouts, and the latest data on the topic you are presenting. Halfway through your presentation you notice that some of your participants are engaging in side conversations, some are reading the newspaper, and others are sitting passively. You did not expect this and ask yourself, what is wrong with this picture? What should I do now?

Possible Solutions

- Use an icebreaker at the beginning of the session. Not only will it allow participants to get to know each other, it will allow you to learn more about your participants' backgrounds and/or experiences.
- Maintain your role as a facilitator; avoid preaching, lecturing, or injecting your own thinking.
- Do not top off discussions and reports with your own opinions.
- Let participants share their knowledge and feel a sense of accomplishment through their own contributions.
- Use techniques such as problem-solving activities, group-centered discussions, role- playing, and critical-incident processes.
- Use case studies. Have participants break into teams and create a case study for another team to solve. This exercise allows participants to:
 - Share knowledge
 - Gain a sense of ownership of the learning situation
 - Network among their peers
 - Face real-life situations
- Avoid questions that require a simple yes or no answer. Use open-ended questions to draw out relevant participant knowledge and experience.
- Maintain an environment that is relaxed and cheerful. Periodically reward participants for trying and succeeding, and for taking risks that do not work out.

B. Benefits

Adults are willing to learn if they see the benefits of acquiring new information

Adults tend to learn best when they “need to know” or “need to be able to do” something so that they can perform more effectively and with greater satisfaction in their lives or work situations. You can create conditions and provide tools and procedures to help your participants fulfill these needs. A learning program should have a hands-on application and be sequenced according to the participants’ readiness to learn.

Note: Adults sometimes feel that “being told” by their supervisor to attend a training course infringes on their ability to make their own decision to do so. Consequently, they may react with resentment, defensiveness, and resistance to learning.



Image Source: FHWA | NHI

Challenge

Keep your participants’ motivation level strong and intact throughout the learning experience

When participants remark, “I don’t get it” or “I need to know how it works” or “Let’s try it out first” or “Why go over it again? We’ve already talked about it,” you know that you must change some elements of your lesson plan so that you will not lose your audience.

Possible Solutions

- Compare the relationship between the goals of the training session and the goals of the participants and the sponsoring agency/organization.
- Provide participants with a clear understanding of the learning outcomes.
- Inform participants how learning will translate into success in their daily lives or work.
- At the beginning of the session, ask participants, “What do you want to get out of this course?” List their responses on a flip chart and post them on the wall. Revisit the list throughout the training, and again at the end of the class. Check off each expectation that they have met.
- Provide participants with self-evaluation techniques such as simulation exercises, observing role models of superior performance, group teach back, and role-play.
- As you set up group activities, consider the following techniques:
 - Provide participants with two, three, or even four activities and let participants choose among them. This gives participants an opportunity to select an activity that produces the best results.
 - Relate the course material to the participants’ personal and professional life experiences. Ask “how” questions such as “How will you use this at work?” or “How do you see this helping you in your job?”
- As an end-of-the-course summary, ask participants, “What actions are you going to take next?” “What did you learn?” “How are you going to put your learning into practice?”

C. Learning Environment

Adults learn in a climate that minimizes anxiety and encourages experimentation

How often have you sensed apprehension in your learners? What might have caused this discomfort?

One of your goals as an instructor is to provide a learning climate that minimizes anxiety and fosters confidence. Consider the following:

- Class size (small enough to enhance interactivity)
- Participant background (work experience, life experience, education, desire to grow)
- Physical learning environment (room layout, equipment, facilities, support)

Challenge

Provide a learning climate that minimizes anxiety and fosters confidence

Some participants may have negative memories of the classroom from their school days— cramming for tests, anxiously awaiting grade postings and report cards, failing classes. If your participants seem reluctant to take an upcoming test or quiz, or shy away from participating in activities that will test them on what they have learned, step back and reevaluate your classroom presentation.

Possible Solutions

- Provide a climate of cooperation rather than competition.
- Acknowledge effort as well as achievement. Avoid using “win-lose” contests and exercises.
- Never punish or ridicule a participant for taking a risk that did not work out. Provide a comfortable learning environment. Consider the following classroom setting:
 - Ample lighting
 - Good acoustics
 - Adequate ventilation
 - Frequent breaks—one 10-minute break every hour vs. one 20-minute break every two hours.
- If you are providing refreshments in the classroom, allow the participants to get their refreshments quietly.
- Have music playing in your class pre-session.
- Participants need to feel that they are respected. You can create this impression by doing the following:
 - Greeting every participant personally
 - Providing name tags or name tents and wearing one yourself
 - Calling participants by name
 - Giving participants an opportunity to ask questions
 - Providing an opportunity for participants to practice what they are learning.
- Create a fun environment. Keep an open mind and stimulate discussions. This will increase the participants’ willingness to take risks and try new things.
- When facilitating role-playing, use the terms “practice activity” or “practice session.” These terms are less threatening.

D. Adult Learning Styles

There are several variations in adult learning styles

Participants differ in how they approach problems and process information. Some participants like to get the big picture first, while others like to begin with specific examples and details. Some like theory before practice. Others do not. While we all have a variety of learning styles, we each tend to employ a primary style.

Challenge

Set up a successful learning climate in which participants are truly treated as adults

You are during a PowerPoint presentation, using the latest “bells and whistles.” You notice some blank faces in your audience. Why? Perhaps you have not considered the various learning styles of your participants. A slick PowerPoint presentation might appeal to the visual learner, but the hands-on learner will become discouraged by this method.



Image Source: FHWA | NHI

Possible Solutions

- Consider the following three primary adult learning styles
 - **Visual**—learning by looking, seeing, viewing, watching
 - **Auditory**—learning by listening, hearing, speaking
 - **Tactile/Kinesthetic**— learning by experiencing, moving, doing
- Some methods that appeal to each adult learning style are as follows:
 - **Visual**— videos/slide presentations, prepared flip charts, reading silently or demonstrations
 - **Auditory**— lectures, group discussions, conversations, sharing
 - **Tactile/Kinesthetic**—role-plays, simulations, practice demonstrations, writing/note taking, movement activities
- Change the pace and techniques of your training from time to time.
 - Use different delivery methods and audiovisuals
 - Bring in other people, such as guest presenters.
 - Change the classroom configuration and seating plans for different learning the workshop. For example, a U-shaped arrangement of tables fosters interaction; grouping of tables enables small groups to work together, break-out rooms encourage problem solving and brainstorming activities. (See page 12, “Equipment and Room”)

E. Adult Learners Are Self-Directed

Adult learning is an internal process

Methods and techniques that involve your adult participants most deeply in self-directed inquiry will produce the greatest results. This is not to suggest that you have less responsibility in the learning-teaching transaction, only that your responsibility lies elsewhere in the activity. Your responsibility lies less in giving ready-made answers to predetermined questions and more in creating a learning climate in which participants have input into what, why, and how they will learn.

You must find the best ways to guide participants in discovering the important questions and answers for themselves.



Image Source: Auttapon Wongtakeaw | Shutterstock.com

Challenge

Create a learning climate in which participants have input into what, why, and how they will learn

When adult participants enter a training program, they often revert to their pre-adult school days, putting on hats of dependency. Problems will arise if you accept this role and start teaching your adult participants as if they were children.

Possible Solutions

- Develop training materials that allow creativity and learning reinforcement.
- When introducing a new topic, ask participants to list five things they know about the topic and five things they want to learn.
- Avoid demonstrating solutions; instead, stress participant participation in problem solving.
- Ask participants to write on the inside of the title page of their training manuals “action ideas” they want to remember after the training is over.
- Make the classroom experience match real-world conditions by using role-playing, simulations, case studies, field trips, and discussions with peers.
- Regardless of media, straightforward how-to is the preferred content orientation when beginning a learning project.
- Provide more time for learning new psychomotor tasks. Adults tend to compensate for needing more time by being more accurate and making fewer trial-and-error ventures.

II. Training Preparation

It is critical that you prepare for the training session. This means more than reviewing the lesson plan and arriving at the training site 15–30 minutes before the beginning of class. Training preparation involves developing and using checklists, coordinating training with site coordinators, conducting a detailed course material review before class, and ensuring that the equipment and classroom are ready for the training event. Training preparation enhances NHI instructor credibility and creates a more relaxed atmosphere and sense of accomplishment in the classroom.

Listed below are the topics that we will discuss in this section:

- A.** Checklists
- B.** Coordination
- C.** Detailed Course Material Review
- D.** Target Audience Identification
- E.** Equipment and Room
- F.** NHI Resources/Support

The topics listed above are not all-encompassing. However, they do provide a good starting point for both new and experienced instructors. If you know of other topics that you would like to share, please contact one of the master trainers at NHI to talk about your suggestions.

Remember that preparation should be at least 50 percent of your effort. If done well, it will return a dividend of more than 100 percent in improved instruction and learning.



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A. Checklists

Checklists can help you stay on schedule and reduce the likelihood of problems

You can coordinate your lessons without checklists, but they will probably not be complete, and you may forget to address something important. Checklists aid the coordination effort significantly.

Using checklists continuity and task accomplishment. We believe that checklists are so important that we have included them in every section of *The Circle of Learning*.



Image Source: FHWA | NHI

Challenge

Develop a comprehensive pre-training checklist that works for you

Often, instructors arrive at a training location and find that NHI materials have not arrived, there are insufficient supplies and/or equipment, the person with whom they have been coordinating the event is not there, and so on. If you develop and use checklists faithfully, you can significantly reduce or even eliminate problems such as these.

Possible Solutions

- Create your own checklists, or use the ones that we have developed and tailor them to meet your needs.
- Include the following questions/items in your checklists:
 - Number and background of participant
 - Type of facilities, equipment, resources, and personnel support that will be provided
 - The coordinator's availability during the training session (times, place, and phone numbers), and the name of his/her alternate during the session if he/she will not be available.
- Check with NHI, if necessary, for support and answers to your questions.
- Within one week of the scheduled training session, check with all your points of contact to ensure that previously arranged support remains the same (if not, determine what has changed), that training materials (ILT) have arrived, and so on.
- It is vitally important that you keep the coordinator's correct contact information on file.

B. Coordination

Many of the problems that we encounter during a course are the result of improper coordination before the course and maintenance of communication throughout the entire training process

Good coordination is important for a smooth training event. It is especially important to coordinate in advance—it will set the proper stage for the training event.

Coordination and communication are paramount to conducting a professional training event; your checklists will be an important tool in these efforts.

Challenge

Ensure constructive and ongoing coordination to minimize problems

How many times have you arrived at a training event to find that the room was too small, you had too many participants, or you could not find the host coordinator? Continuous coordination can prevent these and other problems.

Possible Solutions

- Check with your training supervisor to get as much information as possible about the upcoming training event.
- Contact the state coordinator or sponsor to establish initial rapport and to confirm the date(s) and location of the training, their expectations, and your support requirements.
- If you do not already have your own copies of the training materials, contact the state training officer and request them.
- About one month before the training event, contact the coordinator to get an update on the number and types of participants and any other information you may need.
- Two weeks before the training event, contact NHI to confirm that all needed training materials have been or will be sent (ILT) (this is also a good time to reconfirm the date(s), time(s), and location of training).
- One week before the training event, contact the coordinator again to confirm that support materials have arrived and that the equipment, room, and so on, are still available. This is also a good time to confirm that the coordinator will be available during the training and, if not, to get the name and number of the alternate coordinator.
- Before departing for the training event, check with your point of contact one more time to confirm that the training materials have arrived (ILT), that equipment is available, that you have the latest information on the participants (number and backgrounds), and that you have the specific location of the training event (building and room numbers).

C. Detailed Course Material Review

For those of you who have other jobs, the training task may be an “additional duty”

Regardless, it is your professional responsibility to ensure that you are familiar with the material that you will be teaching. You should thoroughly review the course materials at least one month in advance and ask if there have been or will be any updates or changes.

Challenge

Review the course material before conducting a training session

You arrive at a training location confident in your ability to instruct with the materials provided. However, as you go along, you notice that the material looks different from what you presented in the last session. There are new slides that you have not seen before, and the orientation of the slides does not seem right to you. There is also a new participant workbook with which you are not familiar. You begin stumbling over the material, embarrassing everyone present—you, the participants, your co-instructor, and possible guest(s).



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Possible Solutions

- Order personal copies of all course materials. At a minimum, you should have an instructor guide (containing detailed lesson plans and course agenda), a participant workbook, and any reference manuals or participant exercise books.
- Review the course materials at least one month in advance of your scheduled presentation.
- If you have any questions about the materials, contact your training supervisor or the contractor responsible for the course.
- Keep in contact and coordinate with the contractor responsible for the course.
- If a lesson plan has not been developed, prepare an abbreviated one of your own.
- Practice teaching new material before entering the classroom.
- Review all visual aids and consider eliminating or revising them if they are of poor quality.
- Be professional; go to the training event knowledgeable of the material and confident in your ability to conduct the training sessions.

D. Target Audience Identification

It is of the utmost importance to identify your target audience

We have attempted to assist you with this by providing target audience descriptions in the NHI course catalog. However, you may get participants who are outside the target audience, so be prepared. If you identify your target audience, you will be able to tailor the material you plan to present. You will also interact better with your participants and develop the desired interactive learning environment.



Image Source: elenabsi | Shutterstock.com

Challenge

Identify the target audience as early as possible, and remember who they are

You arrive at the training location prepared to instruct engineers in a course that contains large amounts of technical information and mathematical formulas (as described in the NHI course catalog). Once you arrive, you find not only engineers in the classroom, but participants with non-technical backgrounds who do not have the knowledge needed to fully understand the material.

Possible Solutions

- Review the course catalog's target audience description.
- Communicate with the training coordinator to identify the types of participants that are enrolled in the class.
- Encourage the coordinator not to exceed the catalog description of the target audience.
- Once the class begins, obtain information about your participants as early as possible. Ask them to describe their backgrounds during the introduction and/or complete a written survey.
- After you have identified your audience, remember to present the material using all three learning styles—audio, visual, and tactile/kinesthetic.

E. Equipment and Room

It is important to consider the physical environment in which the training will occur

The room should be of sufficient size to support the number of participants that are attending the session and to maintain at least a minimum level of comfort (heating, air conditioning, lighting, and space for interactivity). Make sure that you have the equipment and supplies that you require and that they are working properly and in good order.



Image Source: elenabsi | Shutterstock.com

Challenge

Specify in advance what your equipment and room requirements will be

You arrive at the training site and notice that the classroom will not be large enough to accommodate the number of participants scheduled for your class. In addition, there are not enough chairs and tables, and the lighting is inadequate. Problems such as these can usually be solved by coordinating in advance. Sometimes you may have to go beyond this method and use direct action.

Possible Solutions

- When you first walk into a training room, evaluate it for adult learning. Consider the following:
 - Lighting (including windows)
 - Placement of tables and chairs
 - Equipment (location, operation, type)
 - Number of learners scheduled
 - Heating/air conditioning
- Room configurations and seating plans should allow for maximum interaction among learners and instructors. A U-shaped, horseshoe, or hollow-square arrangement of tables is preferred. The U-shaped arrangement fosters interaction. The grouping of tables enables small groups to work together. Stay away from the theater-style classroom.
- Carry a training “tool kit” with you that contains, at a minimum, contrasting magic markers, contrasting white board markers, chalk, tape, thumbtacks, and flip chart paper.
- Use contrasting marker colors (blacks, dark blues, and browns) when writing on flip charts, white boards, chalkboards, or view graphs. Limit the color red to highlighting important points or erroneous items.
- Check out all your visual aids and equipment in advance, so that you can be sure that they are in good working order and that you are familiar with their operation.
- If you will be giving a PowerPoint presentation, consider bringing your own laptop and projector and testing them in the physical environment in which you will be teaching.
- Arrive with enough lead time (a day or a few hours) to correct deficiencies.

F. NHI Resources/Support

NHI's master trainers are available to you

We have more than 100 years of combined experience in training and instructional systems design upon which you may draw. In addition, we can lead you to other sources of information. Our goal is to help our customers, the transportation community. By helping you become the best instructors that you can be, we help all our customers throughout the country.



Challenge

Request specific guidance in preparing a lesson plan or general help in improving your presentation skills

You are attempting to update some material in a course that has not been redesigned. At a recent course session, your co-instructor said something about making your presentation “more interactive.” What should you do?

Possible Solutions

- Attend the NHI-sponsored Instructor Development course.
- Call a Master Trainer and ask for guidance.
- Request the following types of help at any time:
 - Direct (by a master trainer)
 - Co-instructor (if certified)
- Attend a course as an observer.
- Visit the NHI Web site at <http://www.nhi.fhwa.dot.gov> to gather information.
- Use the NHI Instructor Handbook or Guide, especially *Developing Your Instructor Skills* (Resource Guide).
- Consult: “Learners’ First: Creating Engaging and Interactive Learning Experience” by NHI, 2021.
- Most importantly, communicate with your peers. You will find that they are your greatest resource.

III. Conducting the Training

According to Robert W. Pike, author of the *Creative Training Techniques Handbook*, adult participants prefer learning experiences that match the real-world conditions of their work environments. Therefore, you must present course material using a combination of interactive methods that clearly demonstrate to participants how they can use the knowledge and skills they have gained in the classroom at work. Interactive methods include group discussions, problem solving, or team exercises, all of which focus on the needs of the learner. This section will focus on the following training topics:



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- A. Instructor Checklist
- B. Ground Rules
- C. Individual Reality
- D. Icebreakers
- E. Motivating Your Audience
- F. Visual Aids (flip charts, videos, slides)
- G. Flip Charts
- H. Videos
- I. Slides
- J. Questions/Answers
- K. Providing Facilitation/Feedback
- L. Working with Groups
- M. Dealing with Difficult People
- N. Learning Outcome Attainment
- O. FHWA/NHI Observers
- P. Language and Communication in a Multicultural Learning Environment

Use the suggestions we offer in this section to expand your knowledge of instructional presentation and increase your participants' comfort level with you as an instructor. The topics listed above are like those NHI master trainers use to qualify instructors for certification.

Reference

For more information on how to enhance your presentation knowledge and skills, see Terry C. Smith's *Making Successful Presentations*.

A. Instructor Checklist

The instructor checklist, referenced in the previous section, is a valuable tool

It ensures that you will have the necessary resources to conduct a successful training session and that the classroom environment will be conducive to learning. You can tailor the instructor checklist to meet your needs. You can incorporate “conducting instruction” elements into the checklist or prepare a separate checklist. It takes a bit of effort to use the instructor checklist, but the effort is well worth it.



Image Source: FHWA | NHI

Challenge

Prevent initial problems from disrupting your presentation

On the first day of class, you arrive early at the training site to set up your presentation. You notice that there are not enough electrical outlets for the visual aid equipment, and the seating arrangement is not as you requested. To get the room ready for the class, you will have to find electrical extension cords and physically rearrange the classroom.

These tasks will probably run into class time. When you coordinated with the local training representative, you discussed these issues, and he/she assured you that the room, equipment, and supplies would be ready. How can you avoid potentially embarrassing situations such as this one?

Possible Solutions

- Use your instructor checklist to confirm with the local coordinator that the items you requested will be available and provide sufficient time to adjust. (Name/phone number of local coordinator)
- Ensure that the local coordinator or assistant is present when you arrive at the training site the first day. Also, ensure that the facility manager is available. The course cannot start if the building is not open, the rooms are not unlocked, and the lights are not working. Having someone there when you arrive early on the first day reduces the time you will need to adjust or corrections.
- Before the course begins, test the equipment operation again, and check once more that all your materials are present and in order.
- Ensure that you know where the local coordinator, facility manager, or assistant will be during the training session. You may need assistance after the course begins. You should be able to contact a reliable source immediately if you have problems so that you will not have to interrupt the flow of instruction.

B. Ground Rules

Ground rules are critical to maintaining good order and discipline during the training sessions

Early on, you and the learners should establish the group norms and expectations regarding behavior in the classroom. You should present the ground rules so that your participants will accept them and acquire a sense of responsibility for their actions.

Challenge

Establish group norms for your participants

During your first day of the course presentation, you notice that some participants are late returning to the classroom from coffee breaks and after lunch. Their tardiness causes a distraction, interrupting the flow of your presentation. Furthermore, you feel obligated to start your presentation all over again so that you will not leave anyone behind. In the future, how can you avoid this and similar situations?

Possible Solutions

- Have a flip chart available to you so you can list the Ground Rules during the introduction phase of your course. Establish rules with respect to, but not limited to the following items to enable a smooth flow of the content and discussions:
 - Attendance:
 - The need to be on time
 - Remain for the entire session
 - Missing days or complete segments of the course will result in non-award of the course certificate and/or Continuing Education Unit (CEU)
 - Tardiness: Disrespectful to instructor and fellow participants
 - Emergencies/exceptions: Notify the instructor as soon as it is possible for you to do so.
 - Prohibit the use of cell phones in the class. Place on vibrate.
 - Restrict side conversations during class. This is distracting and disrespectful to other participants.
 - Encourage participants to return from breaks on time. Remind them that the class will resume at the end of the designated time for the break.
 - Do not allow participants to leave the classroom frequently. Encourage them to wait until breaks.
 - Breaks—duration/promptness of return
 - Leaving the class at times other than breaks
 - Interruptions (side conversations)
 - Dress codes, e.g., wearing a hat in class, cut-off jeans, etc.
 - Respect for others' opinions and concerns
 - Guidelines for handling excessive self-disclosure or extraneous diversions
 - Agreement to participate fully

C. Individual Reality

Each participant in your class has a different concept of reality based on his/her personal and professional experiences

Each participant's individual reality is colored by his/her experiences in a discipline or work area. Some participants' views on a topic or issue may be at odds with your presentation. To avoid disagreements during the course, it is important to maintain a "middle ground" throughout your presentation.



Image Source: Auttapon Wongtakeaw | Shutterstock.com

Challenge

Acknowledge participants' individual realities to resolve conflicts

During a module presentation on highway construction, a project engineer suggests a construction supervisor and a central plant technician immediately oppose. After a couple of back and forth remarks, you sense that the situation is about to get out of hand and could disrupt the remainder of the course. How should you handle this potentially negative situation?

Possible Solutions

- Recognize that you have two or more professionals with different work experiences. In the example above, the project engineer is viewing the situation from his experience as a project designer, and the construction supervisor is viewing the situation from his years of on-site experience.
- Let the participants know that if you were in their positions, you might form the same opinions. Reference the various types of professionals attending the course.
- Try to find some topics on which they all can agree. Look for similarities.
- Solicit input from other participants. Someone else may have experienced a similar situation.
- Suggest a meeting during the break to resolve differences. Do not allow the situation to interfere with your presentation.

D. Icebreakers

Most of the courses you teach will have participants with different transportation backgrounds

It is important to get participants acquainted as soon as possible, particularly if they have never met each other. Exercises known as icebreakers will allow your participants to get to know each other. Icebreakers put participants at ease and get them involved immediately. Starting training events on a positive note is vital to good learning.



Image Source: FHWA | NHI

Challenge

You have just begun a training event. You introduce the course and the learning outcomes, state the agenda, and establish the ground rules. You realized participants may not know each other:

Possible Solutions

- Give a summary of your professional background. Ask your co-instructor(s) to do the same.
- Use an icebreaker to allow participants to introduce themselves.
- During the introductory phase, invite each participant to introduce himself/herself. And briefly speak to the following topics:
 - The type of work they do
 - Years of professional experience
 - Key local issue(s) he/she is dealing with and would like to see addressed during the training session
 - What he/she wants to gain from the course
- The introductory phase exercise will allow participants to get to know each other. It will provide you, as the instructor to:
 - Get a better idea of the composition of the class
 - Allow you to slant your presentation accordingly
- Write participants' expected course outcomes and issues on a flip chart. Post them on the wall. Pay attention to them. When you address these outcomes and issues during your presentation, reference them on the flip chart page and check them off. This will let participants know that you care about their concerns. (Recap at the end of each day.)

Reference

For more information, see Tom W. Goad's *The First-Time Learner*. Also, see Edward Scannel and John Newstrom's *Games Trainers Play*.

E. Motivating Your Audience

Be conscious of your participants' motivation level at all times

There is a direct relationship between motivation and overall participant learning. Research indicates that participants will be much more motivated, if they know exactly what they are supposed to learn and why it is important for them to learn it. Always keep in mind that participants must be motivated to learn. Trainers, too, must be motivated to perform well.

Challenge

Maintain your participants' attention

You have just taught your first lesson of a three-day course. All your facts, technical data, and instructional skills are in place. However, you notice that there are some side conversations in the back of the room, some participants are returning late from breaks, and others are not participating in discussions. Your course outline does not discuss how to motivate your audience. What should you do?

Possible Solutions

- Know your material. Show excitement and enthusiasm for the course. Exuberance is infectious.
- Gear your presentation to meet your participants' needs. During the introduction, ask your co-instructor to write on the flip chart what each participant would like to get out of the course. Post the flip chart page on the wall. When you cover that area during your presentation, be sure to refer to it.
- Tell your participants if the course is a prerequisite, a follow-on, or one in a series on a subject.
- During the introduction, state the course learning outcomes, review the agenda, and briefly discuss the modules and how the various modules relate to each other.
- Ensure that all participants have a current course agenda.
- Get participants involved:
 - Use the "80-20 rule": participant activity should be 80 percent and instructor activity should be 20 percent (you facilitate).
 - Ask open-ended and multi-faceted (building block) questions.
 - Ask a participant to explain a transportation situation unique to his/her region.
- Call participants by their names (check their name tents).
- Show interest in your participants. Talk to them individually as well as in groups.
- Praise good performance and avoid criticizing poor performance.
- Emphasize the importance of what the participants will learn and the benefits of learning the material.

F. Visual Aids Overview

Visual aids (easels, videos, slides, and handouts) can contribute to the success of your presentation

Without visual aids, it is easy to lecture for the entire presentation period. Not only is this boring, but participants will not retain as much material.

Challenge

Use visual aids to enhance your presentation

You are presenting a course module and you want to ensure that your graphics are effective. Do your visual aids clearly and professionally develop your learning points? The topics on the following pages provide suggestions for specific visual aids. The next page lists some general guidelines that apply throughout.



Image Source: FHWA | NHI

Possible Solutions

- Avoid ambiguity in the message of the visual aid. Your audience must be able to focus on key points as you discuss your visuals.
- Prepare visuals that are readable. Ensure that people can see the information. Avoid making the material so complex or the printing so tiny that it is not visible to most of your audience. The visuals must be readable to all the participants in the classroom.
- Prepare visuals that are relevant. The participants must know why you are using the visuals. The visuals must enhance or clarify learning points in your presentation and not be “fillers.”
- Prepare visuals that are interesting. Your visuals should hold participants’ attention.
- Prepare visuals that are simple. Ensure that your participants can relate to them easily. Avoid making the visuals too busy, colorful, or so full of various typefaces that participants have difficulty focusing on them.
- Prepare visuals that are accurate. Check to make sure the visuals clearly present what they are meant to present. Make certain the figures, equations, and formulas are correct.
- Ensure that everyone can see and read the visuals. Avoid obstructing posts or columns that interfere with visibility. Check the visuals while seated in the classroom; the room will probably have a different configuration than what you prepared for before you arrived.

Reference

For more information on how to prepare good visuals, see Robert W. Pike’s *Creative Training Techniques Handbook*.

G. Flip Charts

Flip charts are not the most sophisticated visual aids available

However, they are the visual aids instructors most often use. Why are flip charts so popular?

- Flip charts allow for interactivity and promote audience participation. They are more user-friendly and less intimidating to audiences.
- Flip charts help increase retention. Participants remember concepts, ideas, and key points more easily when they are listed on flip charts.
- Flip charts are versatile, providing ample space to explain complicated concepts.
- Flip charts are presented with the lights on, encouraging participants to stay alert.
- Flip charts can be posted for future reference.

Challenge

Use flip charts to facilitate learning

You are giving a presentation that has a large quantity of detailed and complicated information. Every so often, you ask your audience questions and get limited responses. You ask yourself, “why aren’t they with me?” Use flip charts to facilitate the learning process.

Possible Solutions

- Use flip charts to:
 - Gather information through brainstorming
 - Ask questions
 - Record ideas
 - Make complex ideas simple (graphs, charts, etc.)
 - Prioritize learning points
 - Track the flow of information
 - Summarize learning points
 - Prepare information you plan to present in advance of the training session
 - Capture participants’ comments
 - Keep ideas alive by posting flip chart pages on the wall where they are visible to all participants
 - Keep participants’ attention by using a variety of colored markers (avoid using light colors and pastels, and limit the use of red)
 - Highlight points and make the flip charts more visually appealing by using underlining, arrows, and bullets.

H. Videos

Videos can greatly enhance your presentation

Videos have both motion and sound. They are a common visual aid that participants will readily accept. If you decide to use videos during your presentation, remember that your choice of videos must be relevant and must contribute to achieving the course learning outcomes.

Challenge

Use videos to enhance your presentation

You are teaching a course for the first time. Along with the course material, you have received videos to use during the introduction. Follow these useful tips to make the most of using videos.

Possible Solutions

- Use videos to reinforce previously presented material or to introduce new concepts and ideas.
- Always preview the videos you plan to use. Avoid surprises.
- Introduce all videos; inform participants what they are about to see and why.
- After showing the videos, discuss what the participants saw.
- Use video clips where appropriate. If a three-minute segment will suffice, show just that.
- Never assume that the equipment works, that the sound is at the proper level, and so on. Check all elements.
- Adjust the sound by asking participants to let you know when it is at the proper level.
- Adjust the room lights for proper image contrast.
- If at any time you perceive a technical or context problem, stop the video immediately.
- Try not to show videos immediately following a meal or at other times when participants might be tired.
- Learn how to operate the equipment.
- Make sure the screen is large enough for everyone to see. Check it out in advance from the remotest part of the room.

Reference

For more information on how to effectively use videos, see Tom W. Goad's *The First-Time Learner*.

I. Slides

Instructors are increasingly using slides to enhance course presentations

They have received new life due to the widespread use of computer-generated imagery, including photography digitized by scanners and conversion software. Their quality alone makes them a versatile product. They are the next best thing to color videos and will add variety to your presentation.



Image Source: MPFphotography | Shutterstock.com

Challenge

Use slides effectively in your presentation

Thanks to technology, there are many choices of media to use in delivering training. Slides are one of them. You have used slides on many occasions in your presentations. Often, you ran into problems such as the following:

- improper focus (equipment incompatibility, computer/projector, PowerPoint)
- burnt-out projector bulbs
- light bleed
- lack of remote control

To ensure that you will have fewer mishaps before and/or during your slide presentation, consider the suggestions below.

Possible Solutions

- Know your material and practice beforehand with the equipment.
- Make sure the classroom is dark. Adjust lighting for optimum viewing so the participants can take notes.
- Add sound through audiotape where appropriate.
- Automate the slide show by playing it through a computer program to control the slides. This allows you to use the slides randomly as well as return to a slide to clear up a learning point.
- Make sure that you have a spare bulb on hand for the projector and that you know how to replace it quickly. Do not touch the bulb with your bare hands; use a tissue. The oil from your fingers will cause the bulb to break.
- Use the right screen. Screens made for slides have a matte finish. Movie screens are beaded and do not portray slides as clearly. Sometimes, a clean light-colored or white wall will do. Check with your local coordinator to determine what is available.
- Make sure the screen is the right distance from the projector so that you will get the clearest picture.
- In large rooms, use a special lens that will project the slide images properly from a distance.

J. Questions and Answers

One of the most effective ways to learn and grow is to ask questions

You should be able to ask probing questions that cause participants to open their minds and focus on the topics under discussion. By frequently asking questions, you will be able to determine if learning is taking place.



Image Source: FHWA | NHI

Challenge

Assess participants' retention of lesson information

You finish an introduction to a new lesson and begin asking participants questions on the information you have just presented. The participants do not respond as you had anticipated. You ask yourself what went wrong. To improve interaction, follow the suggestions below.

Possible Solutions

- Consider the way you ask questions. Do not ask questions that require a yes or no answer. Ask open-ended questions that encourage participant feedback.
- Let participants know up front that you will be asking questions, that you expect them to provide answers, and that it is okay if their answers are sometimes incomplete or not on target.
- Ask open-ended and multi-faceted questions, even in the introduction. Participants' responses will help you determine the source of potential learning deficiencies.
- Ask questions frequently during the course to determine if learning is occurring and to help you maintain a good pace.
- Use questions at the end of a section or module to summarize the material and determine if you have met the learning outcomes.
- Address your question to the entire class so that everyone can start thinking of answers. Then, pose the question to a team (if applicable). Finally, if no one answers, select an individual to provide the answer.
 - Count to 10 before asking the question a second time. Silence is okay.
 - Give sufficient time for a response. Avoid answering the question yourself. This may cause the class or person to hesitate, believing that you are going to provide the answer.
 - Give hints. This indicates that you sincerely want the participants to learn and that it is okay if they do not always have the answers.
- Give credit for partial answers.
- Try to find something positive about every answer that is given.

Reference

For more information on how to effectively use questioning techniques, see Tom W. Goad's *The First-Time Learner*.

K. Providing Facilitation/Feedback

It is important to provide feedback during instruction

Feedback can be as simple as smiling and thanking someone for answering a question. After each exercise, tell your participants how well they did. If they did not do well, provide guidance for improvement. Feedback is particularly important to a successful course presentation and is a required element of the NHI Instructor Certification Program. Use it often, and always try to be positive.



Image Source: FHWA | NHI

Challenge

Let participants know how they are doing, and that you care

You are conducting a group exercise, and the participants are working quietly. They could be a very focused group, or they may not have understood the exercise instructions. How can you encourage enthusiasm and participation?

Possible Solutions

- During the activity, walk around the room and comment on what participants are doing. They need to know that you are interested.
- Use body language to show approval (for example, smile or shake your head when someone has responded to a question).
- Encourage applause when a person or group has made a presentation.
- Write notes and comments on written work completed during the session.
- Stop participants as they are leaving or walking down the hall during a break and offer feedback; even a word or two will suffice.
- Do not wait to give feedback. Give it as soon as possible, either during or after a particular event. For example, the representative from Group A has just presented the solution to a problem-solving exercise. You respond by saying, "Outstanding! That was very good! Let's hear it for Mark and Group A." Lead the applause.

L. Working with Groups

Breaking your class into smaller groups will enhance learning

You may set up small-group training exercises such as discussions, case studies, problem solving, or role playing. You can conduct training exercises with the entire class, but we do not recommend it. Group exercises allow participants to teach their peers and demonstrate their various knowledge and abilities to the class.



Image Source: Auttapon Wongtakeaw | Shutterstock.com

Challenge

Establish group discussions to promote interactivity

Your lesson plan calls for a group discussion on monitoring the construction of a highway pavement project. You have a class of 30 participants. How do you get the discussion started? How do you encourage maximum participation?

Possible Solutions

- Divide the class into small groups of five or six participants.
- Provide any necessary supplemental material, such as reference manuals, graphs, or checklists.
- Establish any ground rules you may have for the exercise. Instruct each group to designate a spokesperson who will write the group's methodology on the flip chart. Make sure the spokesperson solicits input from all members.
- Introduce the discussion period and the topic for the exercise. Then, pose the first open-ended question. For example: "Let's take the next 15 minutes and discuss the best way to monitor the construction of highway pavement. The monitoring process can start with a Communication and Planning meeting. What do you think of this approach?"
- Ensure that you and your co-instructor move about the room, answer any questions, and provide a positive presence. You may pose other support questions now.
- At the end of the discussion period, ask the designated group representatives to present their answers on a flip chart. Give them flip chart paper beforehand. This saves time.
- Lead a discussion to summarize all points.

M. Dealing with Difficult People

We have all had participants who either did not really want to be in class or whose attention was focused elsewhere

These types of participants tend to actively or passively disrupt the class. You must deal with them positively, but immediately.

Usually, you can encourage them to become more active, interested participants. If not, it is your responsibility to minimize their negative impact on the rest of the participants in your class.



Image Source: Auttapon Wongtakeaw
Shutterstock.com

Challenge

Deal with difficult people quickly and professionally

After a break, you begin the next lesson in your course. Participants continue to straggle into class for the next 15 minutes. This causes a distraction, and you temporarily lose the tempo of your presentation. Additionally, you discover that several participants are using cell phones in the class. At this point, you realize that you have lost control of your class. How can you prevent this type of situation from occurring?

Possible Solutions

- Establish ground rules with participants at the beginning of the course to minimize disruptive behavior.
- Keep the entire class involved in the learning process.
 - Move among the participants.
 - Make eye contact with participants around the room. Do not focus on one side or a few tables.
 - Promote interactivity through questions and answers, discussion groups, problem solving, and so on. Ask open-ended and multi-faceted questions that build to a conclusion and solicit answers from participants in different areas of the room.
- Use levity and creativity to ease tension in the classroom. Be careful to avoid humor, which may offend some participants. Avoid using ridicule or embarrassment.
- If you are team teaching and are not the instructor leading the discussion, take the initiative to address any participant displaying potentially disruptive behavior.
- If you have a disruptive participant that refuses to cooperate, talk to him/her privately. If that does not work, contact the course coordinator, inform him/her of the situation, and request that he/she talk to the participant and/or remove him/her.

N. Learning Outcome Attainment

Learning outcomes are essential to training

They tell us what we are teaching and how we should expect participants to perform after we have completed the training. During every training event, you should:

- define the learning outcomes
- train to the learning outcomes
- evaluate participants' learning objective attainment

There are various ways to evaluate participants' attainment of the learning outcomes. Use the most appropriate measures as determined by the lesson plan, the training material, your background, and the training event. The basic tools used to measure learning objective attainment are as follows:

- feedback (this should be ongoing throughout the instruction and can be used for any type of material)
- questions and answers (these can readily support learning outcomes)
- tests and quizzes (these are much more formal, requiring attention to detail)
- learning outcomes and specific procedures to ensure validity and proper use



Image Source: FHWA | NHI

Challenge

Measure learning objective attainment in your training courses

You have been designated a member of the technical review panel for a course that is being considered for redesign. Additionally, you are an instructor for the course. During the redesign process, you discover how important learning outcomes are to train, yet you have not thought much about them before. You also learn that instructors are supposed to be evaluating learning objective attainment. How do you go about doing this?

Possible Solutions

- Seek feedback from participants frequently. This will tell you if they understand the material. Some of the techniques you can use are:
- Paraphrasing: is restating in your own words what someone has said and asking for validation.
 - Summarizing is highlighting the main points of what someone has said.
 - Probing is asking non-threatening questions that clarify what someone has said and lead to understanding. (Note: Probing should not put someone on the spot.)
- Ask questions periodically (open-ended, not yes/no). Think about these questions in advance and include them in your lesson plan. Also, tie them to the learning outcomes. The best way to do this is to identify learning outcomes that the questions and answers support.
- Develop written tests and/or quizzes. You can use various types of questions, based on the material that you are presenting. Written tests must be specifically tied to learning outcomes. These tests can strongly reinforce the learning points of the material you are presenting.

O. FHWA/NHI Observers

Periodically, professionals from FHWA and/or NHI may observe your course

This team could include subject matter or technical experts, contractual personnel, and master trainers. While master trainers focus on instructional methods and skills, technical experts analyze the course content, design, and materials. Keep in mind that these observers are there to help improve the course and to assist you in further evolving your skills and becoming a well-rounded instructor across several disciplines.



Image Source:
LOVE YOU | Shutterstock.com

Challenge

Use observer input to improve your instruction

On the first day of class, the FHWA and NHI observers arrive. Even though you knew they were coming, you are a bit nervous. What will they be looking for? Will they like your method of teaching? What kind of report will they submit? How can you make effective use of their presence?

Possible Solutions

- During the introduction, ask the FHWA and NHI observers to introduce themselves and explain their reasons for attending.
- Before beginning instruction, discuss with the observers some of the issues related to your course presentation, such as:
 - quality of the visual aids
 - supporting documentation
 - instructor guide, participant workbook, reference manual
 - backup material you plan to use in case of loss of course material
 - what you are going to do to make the course interactive
- Attempt to gain feedback from the observer(s) immediately after presenting a session.
- The feedback will be more effective then and will allow you to adjust, if necessary.
- Focus on areas that might need improvement.
- Make sure that all your questions are answered.
- Ask for specific examples.

P. Language and Communication in a Multicultural Learning Environment

Because today's workforce is more culturally diverse, people from different cultural backgrounds may not share a common frame of reference and system of values

Communication is even more difficult when participants do not share similar experiences and a familiar environment. To address these issues, not only do you need to become more aware of your communication skills, but you also need to accept the responsibility of working with people who have a different perception of how the world works by their different backgrounds.



Image Source: FHWA | NHI

Challenge

Develop sensitivity to a multicultural learning environment

A question you may hear in class is, "I don't understand. What do you mean by that?" Your participants' English language skills appear to be satisfactory, you know your subject matter, and your presentation skills are excellent. What can you do to make the material more understandable?

Possible Solutions

- Use short words and sentences. As a rule, it is better to use plain English that everyone understands.
- Use active verbs and concrete nouns. Research indicates that approximate 78 percent of the English language as it is used in daily life is composed of sentences in the active voice using concrete nouns.
- Break the material into manageable chunks that participants can process more easily and efficiently.
- If you are a fast speaker, pause at the end of sentences, not in the middle. When you pause at the end of each sentence, participants have more time to consider what you say.
- Illustrate general statements with specific examples related to the participants' specific situations. To accomplish this, you will need to identify the participants' backgrounds as much as possible before the course begins.
- Do not use slang or jargon. Non-native English speakers, as well as trainees from different areas of our own country, very rarely possess an up-to-date knowledge of our local slang or jargon.
- You need to ensure that everyone understands the precise meaning of words used in your message. For instance, the verb "to get" can have at least 5 meanings (buy, borrow, steal, rent, retrieve), and the word "right" has 27 different meanings. The word "should" carries multiple connotations, such as: moral obligation, expectation, social obligation, or advice.

IV. Post-Training Review

The post-training review is an important tool for checking whether the learning outcomes established for the course have been achieved. It completes the circle of learning and should be used to continually analyze all aspects of a training event. The post-training review includes the instructor's self-evaluation, as well as feedback from participants, course coordinators, other instructors, and NHI master trainers.

This section discusses how to perform a post-training review using the following evaluation tools:

- A.** Post-Training Checklist
- B.** Coordination Process Review
- C.** Course Material
- D.** Test Results
- E.** Course Evaluation Form
- F.** Self-Evaluation
- G.** Team Review

Using more than one evaluation tool has many advantages. You will be able to obtain a more accurate evaluation of the training event since you will receive feedback from various sources. Feedback from various sources on your instructional skills will give you valuable information in your continual development as a trainer.

The following pages describe the evaluation tools listed above. Each tool will provide you with practical ideas about how to improve future course presentations.



Image Source: Oxy_gen | Shutterstock.com

A. Post-Training Checklist

Checklists allow you to focus on the logistical aspects of the training event; therefore, you must include them in the post-training review

Reviewing your pre-training checklist, your lesson plan, and your post-training checklist will help you identify items that may require more attention in future presentations. Confirm the validity of all checklists associated with the course, and make necessary changes.



Image Source: FHWA | NHI

Challenge

Develop a post-training checklist that works for you

You completed a training session and noticed that there were some problems with logistics, both before and during the classes. It is now hard to remember exactly what those problems were. Did you use your pre-training checklist for coordination? Did you take notes of problem areas in your lesson plan? Have you developed a comprehensive post-training checklist?

Possible Solutions

- Contact the course coordinator as soon as the course is finished. Together, review your checklists. Discuss necessary improvements for future courses.
- Review the following:
 - your checklists, for comments made
 - the accuracy of statements
 - the time set for completion of the items checked
- Identify the shortcomings of any items you checked on your checklist.
- Define responsibility (i.e., instructor, course coordinator) for each shortcoming and propose solutions.
- Identify any problems that you experienced because of unclear documentation. Work on solving them before the next training event.

B. Coordination Process Review

Many professionals—designers, instructors, coordinators, and training experts—are involved in the development of a training course

It is very important to integrate the contributions of these professionals to ensure that the learning outcomes are achieved. This is particularly pertinent for courses that may have numerous contractors and many instructors. Training designers tend to be the constant thread throughout the development process, and their role continues after the course is ready for delivery. Instructors and training experts contribute to the success of the course by coordinating throughout the review process and the life of the course.



Image Source: FHWA | NHI

Challenge

Tap the collective wisdom of appropriate professionals

As you review your notes and participants' feedback after the training event, you discover that several items in the lesson plan need to be changed or updated. How do you proceed? Who do you contact?

Possible Solutions

- Maintain contact with the following professionals involved in the course:
 - Course Designer
 - Technical Expert
 - Subject Matter Expert
 - Training Program Manager in charge of the course(s)
- Whenever you need to make changes, discuss the issues with the people responsible for designing and/or updating the course:
 - Course Designer
 - Lead Instructor
 - Other instructor(s) (FHWA/Contract)
- ALWAYS contact the Training Program Manager/COR before/whenever you believe any change needs to be made to the permanent course materials, document and coordinate the changes.
- When designing/changing the course materials, and there is more than one instructor involved in the course, ensure that the basic course content remains the same.

C. Course Material

To keep our courses current and meaningful to participants, we must conduct continual course material reviews and updates

Factors that can affect course updates include changes in the technical needs of participants, in the experience of instructors, and in contractors and/or the formatting of material. All of these factors should be taken into account during instruction. The best time to conduct a course material review is within one week of final instruction.

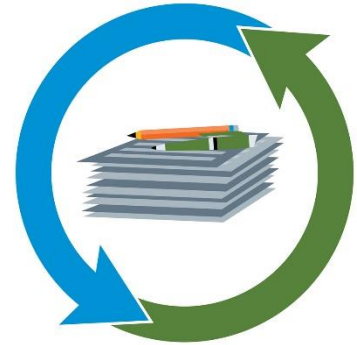


Image Source: FHWA | NHI

Challenge

Continually review the course material. You may ask yourself: how do I continually review my material? Where do I find the time and the expertise? Am I responsible for redeveloping the whole course myself? Course review is a team effort, which involves working together: NHI, Program Office and the contractor team.

Possible Solutions

- Elicit feedback from participants on the course material. Explain what is expected of them and how you are going to use this information. Provide examples.
- Allow participants to make their comments on the training materials while the course is in progress. You can place a flip chart or a sheet of paper on the wall where participants can add comments throughout the training session.
- In addition to asking participants to rate, from one to five, the relevance of the course material, provide them with a list of topics and ask them for comments on each one, such as “too many similar slides,” “we need more examples,” or “video X should be dropped...”
- Discuss with your co-instructor at the end of each training session the relevance of the material used, and make appropriate changes.
- Review and update your lesson plan regularly, and transform your observations into actions.
- Discuss with FHWA technical contact and NHI Training Program Manager to establish whether major update is needed.

D. Test Results

It is important to keep two factors in mind when discussing written tests: reliability and validity

When used under similar conditions, a reliable test presents the same results every time. Reliability has a lot to do with the way the questions are formulated. An unclear question will be understood differently and will elicit different answers from the same group of participants. A test is considered valid when it measures participants' knowledge, skills, and abilities (KSA's).

Challenge

Analyze test results to improve test questions

If you are teaching a course on timber bridge inspection and you need to evaluate the participants' learning and ability to inspect timber bridges. You determine that the best way to evaluate participant learning for this course is through written measurements. Your team decides that the questions must relate specifically to procedures for inspecting timber bridges, rather than how to inspect bridges in general. The best way to validate the content of a test is to align test items and learning outcomes. Additionally, you can use the results from previously administered measurements for the course.

Possible Solutions

- Use the same test as pre-test and post-test to evaluate changes in the participants' performance after training.
- Use a comprehensive examination to determine pass or fail and total learning outcome attainment.
- When using a comprehensive examination, the following are required:
 - question validation
 - determination of a passing or failing level
 - remediation and re-testing procedures
- Time permitting, discuss examination answers in class.
- If the learning outcomes are not met:
 - review the learning outcomes for clarity and appropriateness of the lesson plan.
 - provide follow-up material to participants.
 - find out the specific steps to take next time to ensure that the learning outcomes will be met.
- Contact NHI Master Trainers for assistance.

E. Course Evaluation Form

There are many ways to get feedback from participants during and after training

One of the most common tools is the evaluation form that all participants must complete. The evaluation form helps determine how the participants valued the training and how well they liked the experience. The evaluation form considers key items such as the physical environment, the instructor's competency, the course materials, the course content, the instructional methods, and the available resources.



Image Source: FHWA | NHI

Challenge

Get the most out of the Course Evaluation Form

It is a common practice to provide participants with evaluation forms minutes before the training is over. Often, participants who are anxious to leave do not spend much time filling them out. You probably have faced this situation before. No matter how interesting and meaningful the course may have been, at the end, the participants probably will be thinking of something besides training. Consequently, they will not take the time to carefully analyze each question on the form, or write the appropriate comments and suggestions that will provide you with appropriate feedback.

Possible Solutions

- Provide a Course Evaluation Form to each participant at the beginning of the training session. During a multi-day course, take 15 minutes right after lunch or at the end of each day to review the evaluation form. Encourage participant feedback with questions such as “How are we doing?” “Any problems?” “Need clarification?”
- For a course that lasts just one day, pass out the Course Evaluation Form to participants at the beginning of the training session. Then provide five minutes, twice during the day, to review the evaluation forms, always encouraging participants' feedback.
- Follow up on participants' feedback:
 - immediately
 - after a coffee break, or lunch, if more time is needed to gather appropriate information
 - at the end of the day, or
 - before the start of the next day's presentation

Note: Since time is always of the essence, build as much evaluation into the training as possible, which will make after-the-fact evaluations less important.

F. Self-Evaluation

Self-evaluation is an important way to improve your skills

Self-assessment exercises or making lists of strengths and weaknesses can be very helpful in reviewing your instructional skills. One of the key tools that you should use in conducting your self-evaluation is the NHI core instructor competencies. Your modeling list of skills should include the following six instructional competencies described in the NHI Instructor Certification Program:

- Positive Behavior
- Communication
- Classroom Management
- Facilitation and Trainer Skills
- Application of Adult Learning Theory
- Technical Skills



Image Source: FHWA | NHI

Challenge

Conduct a comprehensive self-evaluation

After you complete your latest course, you think to yourself, I know that I always get limited feedback from participants, and I want more. The problem is, how do I really get a complete and objective evaluation of my performance, especially if I do it myself? I am a great instructor. My participants often tell me so.

Possible Solutions

- Get in the habit of systematically conducting a self-evaluation at the end of every training event.
- Use a questionnaire that lists all aspects related to the instructor's performance.
- Conduct a comprehensive observation of your instructional skills.
- Be open to feedback from others.
- Compare that feedback to your own observations. Be self-aware.
- How well do you encourage or discourage participant Participation? Present content? Interact with participants?
- Identify favorable (smile, praise, extra attention, etc.) and unfavorable (frown, insult, teasing, etc.) consequences that are under your control. Make the favorable one's part of your verbal and nonverbal communication patterns. Avoid the unfavorable ones.
- Use instructional competencies included in the reference material.
- Use feedback to make improvements.

G. Team Review

Co-instruction has many advantages

Among them is the opportunity to count on the help of a peer to evaluate your training techniques. Co-instruction provides an excellent opportunity to perform a team review of the course. It allows co-instructors the opportunity to observe each other and discuss improvements to the course materials.

Challenge

Encourage instructors of the same course to conduct a team review

You may say to yourself; it seems like every time I teach this course, we always run out of time at the end, and everyone, including myself, is in a hurry to leave. But I also know that we, as instructors, need to work together to evaluate our performance—this is over and above participant feedback. How are we going to manage this?



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Possible Solutions

- Use all technical means available to conduct a team review, such as:
 - E-mail
 - Tele-conferencing
 - Live Chat and/or Online Polls
- Always conduct a team review during and immediately after training.
- Conduct a team review on all aspects of the course, such as instruction, to include:
 - methodology
 - logistics
 - applicability of instruction to the job
- Schedule yourself to observe the course two times before you instruct it.

Conclusion

All of us at NHI hope that “The Circle of Learning” will be a valuable tool in your instruction. We look forward to receiving your questions and feedback with your comments to make it even more useful to you. Please contact NHIInstructorLiaison@dot.gov.

Suggested Reading

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