



INTERNATIONAL
TRAINING &
EDUCATION
CENTER ON HIV

Instructional Design and Materials Evaluation Guidelines

Note: These guidelines were developed to evaluate HIV training courses (see the logo) but most will apply to any training. They also address changes in participants' attitudes or feelings in addition to changes in skills and knowledge. Most training courses don't try to change attitudes or feelings but concentrate on skills and knowledge.

I. INSTRUCTIONAL DESIGN ELEMENTS

A. Criteria for **Trainer or Facilitator Manual**:

1. Does the manual include **planning forms** and **checklists** that help the trainer prepare for instruction? These may include (but are not limited to):
 - a. Lists or checklists of materials and supplies needed to support instruction.
 - b. Lesson plan forms or templates to help the trainer organize training sessions.
2. Does the manual include **materials for gathering needs assessment data**?
Tools for:
 - a. Helping a trainer or planner to determine what participants want to learn and what skills they wish to develop.
 - b. Acquainting a trainer with trainees.
 - c. Guiding the development of learning objectives.
 - d. Deciding what content would be best to cover in a training.
 - e. Needs assessment materials may include:
 - Questionnaires to be collected at the beginning of a training session.
 - Suggested questions that trainers can ask in order to elicit information about participants;
 - Exercises to help participants think about their own objectives for learning;
 - Pre-tests to determine what participants already know; or
 - Activities designed to determine what participants already know or what they want to learn.
 - f. If these materials are included, how effective are they for determining the needs of participants?
3. Does the manual provide **guidance on approaches to teaching and principles of adult learning**? In other words, does the manual:
 - a. Discuss effective ways of teaching?
 - b. Provide specific teaching tips?
 - c. Discuss how people learn?
 - d. Provide specific tips to improve learning?
4. Does the manual provide a **summary of key messages** for the overall curriculum? In other words, are the most important issues or messages for the curriculum and/or lesson plan clear?

B. Criteria of a **Structured Curriculum/Manual**:

1. Is a sample course outline or **agenda** with timeframe provided? In other words:
 - a. Is there an overview of what the training session(s) will cover, and in what sequence?
 - b. Does the curriculum provide a clear and organized breakdown of what will be covered in each session?
 - c. If yes, does the outline provide an estimate of how much time to allow for each part of the session?
 - d. If yes, is the sequence logical and easy to understand?
2. Are **measurable learning objectives** stated for each activity, lesson plan, or unit?
 - a. Learning objectives:
 - Explain what participants are intended to know, feel or do as a result of exposure to the training content or learning activity.
 - Indicate the expected outcomes of training and establish accountability between the trainer and the participants.
 - b. Criteria for developing effective learning objectives:
 - Objectives should be specific, should state specific knowledge, attitudes, or skills that a participant or a group of learners should be able to demonstrate following completion of a training (i.e., workshop) or learning activity (i.e., case study). Examples of learning objectives:

"Upon completion of the module, a learner will demonstrate increased knowledge of the opportunistic infections and co-infections associated with HIV infection by improved scores from pre-test to post-test of at least X points or %."

"When presented with a patient case, the learner will analyze options for treatment and select a single, correct course of action from among alternatives."
 - Objectives should be measurable. It should be possible by observation, testing, problem-solving exercises, or some other means of evaluation to determine whether participants have achieved the anticipated learning objectives. Examples of measurable objectives:

"By the end of this training, the participant will be able to correctly identify three strategies to promote adherence to ARVs in reaction to presentation of a specific patient case study."

"At least 90% of participants will correctly select five side effects and drug interactions for each key antiretroviral drug."
 - Learning objectives describe expectations of knowledge, attitude, or behavior change for the participants. Examples of weak objectives:

"The trainer will provide a lecture series on the spread of HIV among transportation workers." (This objective describes a teaching strategy, but does not address the learning outcome for participants.)

"The participant will learn about the spread of HIV." (The verb used in this statement is not measurable or specific.)

- Objectives should be achievable and realistic given the conditions for instruction (e.g, the time and size of the group).
- 3. If learning objectives are stated, do they include a **combination of didactic, affective, and psychomotor domain objectives**?
 - a. Do they describe a combination of the following: Increased knowledge, understanding, or ability to analyze or solve problems (didactic learning objectives)? Examples:

“...participants will identify barriers to adherence with universal precautions and suggest solutions for addressing the most common challenges to adherence.”

“...participants will quantify the level of risk associated with perinatal transmission of HIV infection in specific risk conditions.”

“...learners will critically analyze the treatment guidelines recommended by the Ministry of Health.”

- b. Do they describe changes in participants’ attitudes, values, or ability to identify and manage emotions (affective learning objectives)? Examples:

“...participants will be able to explain the value and outcomes of effective patient-provider communication related to palliative care.”

“...learners will reflect upon their own biases and speculate how those might affect their interactions with patients.”

“Following observation of a videotaped provider-patient interview, learner will be able to identify at least 6 skills or actions of the provider that facilitated effective communication and learning with a patient and his/her family.”

- c. Do learning objectives describe development of skills and/or the ability to apply knowledge to behavior (psychomotor learning objectives)? Examples:

“Measured through observation, a provider will successfully initiate a conversation about risk factors associated with HIV with a young adult.”

“Case reviews by an objective panel of reviewers will indicate effective treatment decisions in at least % of specific cases sampled.”

- 4. Are **teaching methods appropriate to the stated objectives**? In other words, is it possible to achieve the learning objectives using the teaching methods specified in the curriculum?
 - a. Didactic learning objectives are usually supported by teaching methods suited to transfer of knowledge. These typically include lecture, lecture with discussion or demonstration (i.e., photographs), case or paper presentations, and panels.
 - b. Affective learning objectives are usually supported by teaching methods that allow and encourage exploration of feelings, opinions, perceptions, attitudes, and values. Methods can include values

- clarification and voting exercises, opinion continuums, discussion groups, and reflection.
- c. Psychomotor learning objectives are usually supported by teaching methods that promote “practice to mastery” of new skills and behaviors. These methods can include role play, demonstration with observation with feedback, and guided practice.
5. Are **teaching notes** provided for each session? These are notes about how to provide instruction. If yes:
 - a. Do the teaching notes include important teaching points for the trainer to introduce, discuss, or address?
 - b. Do the teaching notes contain useful suggestions about how to present the material?
 - c. Are the teaching notes easy to understand and clear?
 6. Does the curriculum provide **teaching aids and handouts**?
 - a. Teaching aids could include:
 - Overheads, slide presentations, case study slides, and other visual aids;
 - Videos, tape recordings, and other electronic media;
 - Worksheets for participants, assignment sheets, and other handouts.
 - b. Criteria for selecting teaching aids: If teaching aids are included in the curriculum:
 - Are they appropriate to the reading level of the audience? If in print format, is it appropriate for the literacy level of trainees?
 - Are they appropriately formatted? Do visual aids help to clarify or enhance the content of the curriculum?
 - Are they free of visual clutter?
 - Are the key points evident in the visual layout?
 - Would a participant be able to absorb all the information on the teaching aid, or is too much information provided?
 - Is the information or material sequenced and presented logically?
 - Is the visibility of the teaching aids adequate for the teaching environment? For example, if the curriculum includes overhead transparencies or projected slides, can a participant be expected to read the material easily from any point in the training room? Is the lettering size or image size large enough?
 - Are the images clear? Are the images understandable in the cultural context of your classroom? If video or other electronic media are used, are they of sufficient visual and audio quality?
 7. Does the curriculum include **active learning exercises**?
 - a. Active learning exercises allow participants to engage actively in the learning process. They provide opportunities to clarify, question, apply, and consolidate new knowledge.
 - b. The benefits of using active learning exercises are many. They include improved critical thinking skills, increased retention and transfer of new information, increased motivation, and improved interpersonal skills.
 - c. Examples of active learning exercises:

Role play: participants practice new behavior by assuming a character or role, personality or attitude other than their own.

Group discussions: participants discuss issues together and present ideas and opinions to others.

Case studies: participants work individually or in groups to analyze and discuss a real or fictional situation with critical decision points.

Interactive storytelling: participants listen to a story and make appropriate decisions about what should happen at decision points.

Task groups: participants work together to complete a task.

Brainstorming: participants quickly contribute ideas for solving a problem, discuss the ideas together, and eventually revisit the list to refine it by selecting the strongest ideas for continued focus of discussion. Step one in brainstorming occurs for the purpose of generating options (quantity); step two identifies the best ideas from among them (quality).

Skills practice: participants work in small groups to practice new skills.

- d. If active learning exercises are included:
 - Do they reflect and support the learning objectives?
 - Is the main purpose of the exercise clearly identified in the teaching notes?
 - Do they include opportunities for discussion, reflection, and debriefing so that participants can easily understand what they were intended to learn from the exercises?
 - Are they sequenced late enough in the group's development or day's agenda so that participants feel comfortable sharing their personal reflections or emotional reactions with one another?
- 8. Does the manual provide **directions for facilitating active learning exercises**? In other words, are clear instructions given to help trainers effectively lead these sometimes-challenging exercises?
 - a. Is a timeframe given for each exercise to indicate how much time is needed for achieving the learning objectives associated with the exercise? (Active learning exercises generally take longer to implement than didactic teaching methods.)
 - b. Are the learning exercises clearly explained and easy to follow?
 - c. Are suggestions about the facilitation of adult learning provided in order to help trainers lead these exercises with sensitivity and skill?
- 9. Are **additional resources and reference materials** (or a list of such resources) provided? These might include reading suggestions, photocopied material, website addresses, and contact information for organizations. If they are included, are they appropriate and relevant to the curriculum content?

II. CONTENT REVIEW

- A. Is the content of the curriculum **accurate**? Is the information it contains based upon the best evidence available?

- B. Is the content **timely**? In other words, does it reflect current thinking/research/policy in the content area? Does the content correspond with **current HIV/AIDS guidelines**?
- C. Can the information contained in the content be **referenced**? That is, has the information been previously published by a credible source? Is it based on research findings or current policy? Is the information well-established within the field?
- D. Is the content **appropriate for the local context**?
 - 1. If specific practices or actions are promoted in the curriculum, are they appropriate given the resources available and cultural norms of the local context?
 - 2. Do visual images reflect local realities?
 - 3. Is the content reflective of, sensitive to, and respectful of local cultures?
 - 4. Are the practices and behaviors promoted in the curriculum acceptable within the local culture and community?
 - 5. Is the information conveyed in a culturally appropriate manner? In other words, is the use of language and expression acceptable and understandable to the people who live in this area?
- E. Is the content presented in a way that **sequences information from basic to specialized and from simple to complex**? That is, does the curriculum begin by presenting the most basic information or concepts first, then progress to increasingly complex information and ideas? Does the sequencing of content enable participants to build upon what they've previously learned?

III. EVALUATION METHODOLOGY

- A. Criteria for **Evaluation Guidelines**: Does the curriculum include guidelines for the trainer that explain why and how to conduct evaluation? If yes, do the guidelines include different levels of evaluation? All training curricula should include guidelines and tools for evaluation levels 1 and 2. Ideally, curricula will include some guidelines for level 3 evaluation activities. Guidelines for evaluation level 4 are rarely included in curricula. Evaluation levels are described below.
 - 1. Do evaluation guidelines require measuring participant **reaction** (Level 1): Did participants enjoy the training?
 - a. This level of evaluation helps a trainer gain immediate feedback about participants' experience of being in the course or workshop. This level has little to do with whether the training was successful in educating participants. However, it can provide the trainer with some insight about why participants may have had difficulty understanding some of the content area of the training.
 - b. This kind of evaluation is usually administered immediately following a training session, but for longer sessions it may be administered at strategic points during the session as well.
 - 2. Do evaluation guidelines require **measuring learning** (level 2): Did participants learn something from the training?
 - a. This level of evaluation focuses on immediate changes in knowledge, skills, or attitude behavior based upon exposure to the training session or course.
 - b. Like level 1, this evaluation is usually done at the end of a session via

- administering questionnaire. In some instances this may involve asking participants to respond to a questionnaire about what they think they've learned (perceived learning).
- c. Other methods of level 2 evaluation can require participants to demonstrate what they've learned, for example, using pre-and post knowledge tests, interviews with students, observations of student participation in class.
3. Do evaluation guidelines require **measuring behavior or outcome** (level 3): How has the training affected the way participants perform on the job?
 - a. This level includes participants demonstrating what they learned in the session in a real-life context.
 - b. Interviews with participants can be effective here, although this still relies on participants' perceptions and memories. Keeping journals, interviewing those who know of the participants' behavior, and post training questionnaires can provide some reliable data at this level. In some situations, direct observation of participants in their work environment may be possible.
 4. Do evaluation guidelines require **measuring results or impact** (level 4): How did the training impact the organization or how did the training lead to improved care and support for PLWAs?
 - a. Level 4 evaluation measures the longer-term outcomes or impact of a training or intervention.
 - b. Most health care training curriculum will not include this level of evaluation because of the time and costs associated with it. Because service delivery is so multi-faceted, it is often hard to attribute organizational change to a single training intervention.
- B. Criteria for **Evaluation Instruments**: Does the curriculum include evaluation instruments? Do the evaluation instruments relate to the learning objectives and reflect the content of the course material?
1. Does the curriculum include evaluation **instruments to measure participant reaction** (level 1)?
 - a. Participant reaction instruments may gather such information as:
 - Participant perceptions of the content (e.g., how relevant or useful the content was for the work they perform, the quality of the content, etc.)
 - Trainer/instructor performance (Was trainer knowledgeable of material, responsive to questions, etc.)
 - Satisfaction with handouts, room arrangement, workshop registration, etc.
 - Appropriateness of the level of instruction, pace, etc.
 - What they liked best about the training
 - b. Level 1 evaluation instruments may be formatted as:
 - training questionnaires
 - comment or reaction sheets
 - interview materials (e.g., interview guides and/or questions)
 - notes from a third-party observer
 - self-reflection on trainee participation
 - a combination of the above
 2. Does the curriculum include evaluation instruments to **measure participant learning** (level 2)?
 - a. Learning evaluation instruments often focus on what participants think

they've learned and are usually given at the end of a session by administering a questionnaire. A questionnaire on perceived learning might include questions like:

- What have you learned in the training that you didn't know when you walked in the door?
- What have you learned that is new?
- What is the most valuable thing that you have learned?
- Will you use the information you learned in this training to implement changes in your clinic? If yes, what changes will you implement?

- b. Other types of questionnaires can measure demonstrated learning. The most common technique is a pre-post training questionnaire that poses knowledge or attitude questions about material covered in the training. When this method is used, the same data collection instrument should be used before and after the training. Questions should be brief and no more than 10-12 in number. Sample questions might be:
 - Please describe in one paragraph the treatment options for patients diagnosed with Hepatitis C.
 - Please describe how to treat the likely side-effects of X regimen of ARVs.
- c. Learning evaluations can also be conducted through interviews, course projects, or classroom exercises carried out at the beginning and end of a class in order to determine whether participants have learned key points.

3. Does the curriculum include evaluation instruments to **measure participant behavior** (level 3)? (Note: Short-term training sessions typically do not predict or attempt to measure impact, although it is possible to measure impact in some cases.)

- a. Examples of behavior evaluation instruments:
 - Guidelines for conducting follow-up phone call interviews to determine how participants are using the information they learned.
 - Instruments to measure the application of new diagnostic techniques after a laboratory technician training.
 - Procedures for doing site visits to organizations as a way of measuring implementation of new policies and practices learned in a management course
- b. If these instruments are included, are they appropriate for measuring the reaction, learning, and/or behavior? Are items on the instrument linked to specific learning objectives? Do the instruments provide information from participants that would be useful for improving the trainings or assessing the quality?

C. Criteria for **grading or scoring assignments**: Does the curriculum include marking criteria for grading or scoring assignments or exams? If so:

- a. Are the criteria easy for trainers to understand?
- b. Do the criteria allow for a level of consistency in grading?
- c. Do the marking criteria provide accurate assessments of participants' understanding of the material?
- d. Does the marking provide any feedback for participants so that they can determine how well they reached the objectives for learning? For example, if the marking consists of a numerical score, is there

any additional information provided so that participants can understand why they were given that score?