

Recommended Training Effectiveness Questions For Postcourse Evaluations

User Guide



**Centers for Disease
Control and Prevention**
Center for Surveillance, Epidemiology,
and Laboratory Services

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SECTION

1

Executive
Summary

Target Audience: This document is intended for anyone interested in designing training course evaluations that can give better predictions about learning outcomes.

What Are the Questions? The table below lists the questions recommended for use immediately after the course ends, and the related construct being measured. [Section 3](#) includes additional questions.

Why Use the Questions? The recommended questions focus on constructs that exhibit strong, consistent relationships with learning and the transfer of learning, are not difficult to measure and can be measured in a variety of training settings (i.e., in-person and web-based settings) with adult professional learners.

Background: For further information on why each question was selected and recommendations for how or when to use each question, see [Section 3](#) of this document.

Recommended Training Effectiveness Questions for Postcourse Evaluations

Construct	Question
Learning	<p>Rate your knowledge of (or skill in) the course topic <u>before</u> the course.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Not at all knowledgeable <input type="checkbox"/> Slightly knowledgeable <input type="checkbox"/> Moderately knowledgeable <input type="checkbox"/> Very knowledgeable <input type="checkbox"/> Extremely knowledgeable
Learning	<p>Rate your knowledge of (or skill in) the course topic <u>now after</u> the course.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Not at all knowledgeable <input type="checkbox"/> Slightly knowledgeable <input type="checkbox"/> Moderately knowledgeable <input type="checkbox"/> Very knowledgeable <input type="checkbox"/> Extremely knowledgeable
Relevance	<p>How relevant is this course to your current work?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Not at all relevant <input type="checkbox"/> Slightly relevant <input type="checkbox"/> Moderately relevant <input type="checkbox"/> Very relevant <input type="checkbox"/> Extremely relevant
Characteristics of training	<p>What is your opinion of the balance of lecture and interactivity in this course?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Too much lecture and not enough interactive learning <input type="checkbox"/> Right amount of both lecture and interactive learning <input type="checkbox"/> Too much interactive learning and not enough lecture
Intent to use or apply	<p>Will you use what you learned in this course in your work?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Definitely not <input type="checkbox"/> Probably not <input type="checkbox"/> Possibly <input type="checkbox"/> Probably yes <input type="checkbox"/> Definitely yes <input type="checkbox"/> Not applicable—I did not learn anything new from this course

Continued

Construct	Question
Suspected Barriers to Use or Application	What factors will keep you from using the content of this course in your work? (Select all that apply) <ul style="list-style-type: none"> <input type="checkbox"/> I need additional training in the subject matter <input type="checkbox"/> I will not have the resources I need <input type="checkbox"/> I will not be provided opportunities to use what I learned <input type="checkbox"/> I will not have the time to use what I learned <input type="checkbox"/> My supervisor will not support me in using what I learned <input type="checkbox"/> My colleagues will not support me in using what I learned <input type="checkbox"/> The course content is not relevant to my current work <input type="checkbox"/> Other (please specify):
Intent to Use or Apply	What, if anything, do you plan to use from this course? (open-ended)
Training Weaknesses	How could this course be improved to make it a more effective learning experience? (open-ended)
Training Strengths	What part of this course was most helpful to your learning? (open-ended)

SECTION

2

Rationale for Development

Guided by the learning research, the goal of these recommended questions is to help you develop training evaluations that reveal insights on training effectiveness. There are many constructs you could target in questions you ask learners. The constructs you choose will determine the information you capture and the conclusions you might draw from the data. Traditionally, training evaluations have focused on the reputation of the training and the satisfaction of the learners. Unfortunately, as research has shown, this focus creates data that is inadequate in determining the effectiveness of training.¹ Therefore, to help guide the design of training evaluations, focus on constructs with the strongest, most consistent relationships with learning and the application of knowledge and skills in the workplace (a concept known as transfer of learning). The recommended questions presented in this document are evidence-based and are meant to help you ask about the elements of training that matter the most.

SECTION

3

Recommended Questions

with Rationale

Recommended Questions for Use Immediately after Training Ends

The recommended questions highlighted below are applicable in most training evaluations. These constructs exhibit strong, consistent relationships with learning and the transfer of learning, are not difficult to measure, and can be measured in different training settings (in-person and web-based settings) with adult professional learners.

Although the recommended questions are better predictors of training effectiveness than many traditional questions found on training evaluations, they should still be coupled with objective measures of learner knowledge, recall, and application when possible.

Construct: Learning

Question	Response Options	Rationale	Caveats and Context
Rate your knowledge of (or skill in) the course topic before the course.	<input type="checkbox"/> Not at all knowledgeable <input type="checkbox"/> Slightly knowledgeable <input type="checkbox"/> Moderately knowledgeable <input type="checkbox"/> Very knowledgeable <input type="checkbox"/> Extremely knowledgeable	<p>If you are limited to self-assessments of learning after a training, respondents can rate their knowledge of (or skill in) the topics before and after the training in a retrospective pre- or postformat (where pre- or postratings are provided at the same time).^{2,3} It is valuable to have items that give respondents the opportunity to express <i>how much</i> they believe they learned as a result of training.</p>	<p>Measuring a learner's perceived understanding or perceived learning is generally not a strong predictor of training effectiveness. The best way to measure understanding or comprehension is with tests of learning, not with self-assessments by learners.^{1,12} Nonetheless, it is still important to measure perceived understanding or learning on posttraining evaluations for two primary reasons:</p> <ol style="list-style-type: none"> 1. As a proxy if you are not adequately measuring understanding or comprehension in objective ways; and 2. For comparability. <p>It is important to understand if our learners' perceived understanding or learning matches objective measures of understanding or learning. Having both self-report and objective measures will allow us to assess the validity of self-report data.</p> <p>To assess learning, this question must be asked together with the next question. This question can be used to assess either general knowledge or skill, depending on what is covered in the training. It can also be adapted to assess accomplishment of specific learning objectives.</p>

Continued

Section 3: Recommended Questions With Rationale

Construct: Learning

Question	Response Options	Rationale	Caveats and Context
Rate your knowledge of (or skill in) the course topic now after the course.	<input type="checkbox"/> Not at all knowledgeable <input type="checkbox"/> Slightly knowledgeable <input type="checkbox"/> Moderately knowledgeable <input type="checkbox"/> Very knowledgeable <input type="checkbox"/> Extremely knowledgeable	If you are limited to self-assessments of learning after a training, respondents can rate their knowledge of (or skill in) the topics before and after the training in a retrospective pre- or postformat (where pre- or postratings are provided at the same time). It is valuable to have items that give respondents the opportunity to express <i>how much</i> they believe they learned as a result of training.	<p>Measuring a learner's perceived understanding or perceived learning is generally not a strong predictor of training effectiveness. The best way to measure understanding or comprehension is with tests of learning, not with self-assessments by learners. Nonetheless, it is still important to measure perceived understanding or learning on posttraining evaluations for two primary reasons:</p> <ol style="list-style-type: none"> 1. As a proxy if you are not adequately measuring understanding or comprehension in objective ways; and 2. For comparability. <p>It is important to understand if our learners' perceived understanding or learning matches objective measures of understanding or learning. Having both self-report and objective measures will allow us to assess the validity of self-report data.</p> <p>To assess learning, this question must be asked together with the previous question. This question can be used to assess either general knowledge or skill, depending on what is covered in the training. It can also be adapted to assess accomplishment of specific learning objectives.</p>

Construct: Relevance

Question	Response Options	Rationale	Caveats and Context
How relevant is this course to your current work?	<input type="checkbox"/> Not at all relevant <input type="checkbox"/> Slightly relevant <input type="checkbox"/> Moderately relevant <input type="checkbox"/> Very relevant <input type="checkbox"/> Extremely relevant	Learner perceptions of utility and relevance are highly linked with learning. ^{5,6,7,8,9,10}	This question would only be appropriate for learners who have already encountered their worksites (e.g., not for individuals going through orientation for a new position). For use with learners who have not yet encountered their worksites, the question can be reworded to: How relevant do you think this session will be to your position?

Construct: Characteristics of training

Question	Response Options	Rationale	Caveats and Context
What is your opinion of the balance of lecture and interactivity in this course?	<input type="checkbox"/> Too much lecture and not enough interactive learning <input type="checkbox"/> Right amount of both lecture and interactive learning <input type="checkbox"/> Too much interactive learning and not enough lecture	When learning is structured so that learners have an opportunity to engage, learners understand and remember training content more effectively. ^{9,10,11,12} Training should expose the learner to content followed by an opportunity for the learner to practice new skills, and reflect on or discuss subject matter.	You might want to ask additional questions about the specific types of practice and engagement offered during your training (e.g. behavioral modeling, error management, or realistic practice). However, because types of practice and engagement may be very specific to the training experience, you may want to create training-specific questions that capture this detail.

Continued

Section 3: Recommended Questions With Rationale

Construct: Intent to Use or Apply

Question	Response Options	Rationale	Caveats and Context
Will you use what you learned in this course in your work?	<input type="checkbox"/> Definitely not [if selected, go to question on barriers] <input type="checkbox"/> Probably not [if selected, go to question on barriers] <input type="checkbox"/> Possibly [if selected, go to question on barriers] <input type="checkbox"/> Probably will <input type="checkbox"/> Definitely will <input type="checkbox"/> Not applicable—I did not learn anything new from this course	Use of training content is an important outcome, but for surveys conducted at the end of a training, you are limited to asking about a learner's intent to use the content. Research suggests that measuring a learner's intent to use or apply what they have learned is an important gauge of whether the training has been effective. ^{9,10}	If a respondent answers this question negatively, they could be asked the following question about barriers they expect to experience on-the-job.

Construct: Suspected Barriers to Use or Application

Question	Response Options	Rationale	Caveats and Context
What factors will keep you from using the content of this course in your work? (Select all that apply)	<input type="checkbox"/> I need additional training in the subject matter <input type="checkbox"/> I will not have the resources I need <input type="checkbox"/> I will not be provided opportunities to use what I learned <input type="checkbox"/> I will not have the time to use what I learned <input type="checkbox"/> My supervisor will not support me in using what I learned <input type="checkbox"/> My colleagues will not support me in using what I learned <input type="checkbox"/> The course content is not relevant to my current work <input type="checkbox"/> Other (please specify):	Research suggests that after-training supports are important for ensuring that learners can successfully apply what they have learned. ^{9,10} This question can be used to obtain additional detail from learners about the barriers they suspect they will encounter when back on-the-job.	<p>If a respondent answers the intent to use or apply question negatively, they could be asked this question. This question helps with understanding where breakdown is occurring (e.g., with the training or training delivery or with the learner's work environment.) While you may not always have the ability to influence the learner's work environment, this question can help you understand whether the training should include additional follow-up support, or if the problem is external to the training. Consider if you will be able to use the information provided by this question, when determining whether to include it on your evaluation.</p> <p>This question would only be appropriate for learners who have already encountered their worksites (e.g., not for individuals going through orientation for a new position.)</p> <p>If you have the opportunity to conduct follow-up surveys, you can ask about actual use of training content. (See: Delayed Evaluation.)</p>

Construct: Intent to Use or Apply

Question	Response Options	Rationale	Caveats and Context
What, if anything, do you plan to use from this course?	Open-ended	Research suggests that prompting a learner to identify how they will use training helps solidify concepts. ¹	Open-ended questions often provide the most useful and specific information for improvements that can be made to a training. However, if there is no capacity to read or analyze the information obtained in these questions, do not include them in your evaluations.

Construct: Training Weaknesses

Question	Response Options	Rationale	Caveats and Context
How could this course be improved to make it a more effective learning experience?	Open-ended	It is best practice to ask open-ended questions about strengths or weaknesses of training. ^{9,10}	If there is no capacity to read or analyze the information obtained in these questions, do not include them in your evaluations.

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Section 3: Recommended Questions With Rationale

Construct: Training Strengths

Question	Response Options	Rationale	Caveats and Context
What part of this course was most helpful to your learning?	Open-ended	It is best practice to ask open-ended questions about strengths or weaknesses of training. ^{9,10}	If there is no capacity to read or analyze the information obtained in these questions, do not include them in your evaluations.

Recommended Questions for Delayed Evaluation

If you only measure immediately at the end of a training, you will not get good information about retention and application. If you only measure after a delay, you will not get good information about immediate learner comprehension. The goal then is to strike a balance by measuring immediately after training *and* after a delay, whenever possible.

A delayed evaluation should include questions that will gauge facilitators and barriers for the learner using training in the workplace. First, you want to understand whether learners are using training content once back on-the-job. If they are not, you can assess barriers they may be experiencing. If they are, you can ask them what factors enabled them to be successful.

Construct: Use or Application

Question	Response Options	Rationale	Caveats and Context
To what extent have you used what you learned in this course in your work?	<input type="checkbox"/> Not applicable—I did not learn anything new from this course <input type="checkbox"/> Not at all [if selected, go to question on barriers] <input type="checkbox"/> Some [if selected, go to question on barriers] <input type="checkbox"/> A lot [if selected go to question on facilitators]	In delayed assessments, you can ask the learner about actual use of training content.	N/A

Construct: Use or Application

Question	Response Options	Rationale	Caveats and Context
What did you use from this course?	Open-ended	In delayed assessments, you can ask the learner about actual use of training content.	Open-ended questions often provide the most useful and specific information for improvements that can be made to a training. However, if there is no capacity to read or analyze the information obtained in these questions, do not include them in your evaluations.

Construct: Facilitators

Question	Response Options	Rationale	Caveats and Context
What factors helped you use the content of this course in your work? (Select all that apply)	<input type="checkbox"/> I had reminders of key learning concepts or skills <input type="checkbox"/> I had the resources I needed <input type="checkbox"/> I had opportunities to use what I learned <input type="checkbox"/> I had time to apply what I learned <input type="checkbox"/> My supervisor supported me in using what I learned <input type="checkbox"/> My colleagues supported me in using what I learned <input type="checkbox"/> Other (please specify):	Research suggests that after-training supports are important for ensuring that learners can successfully apply what they have learned. ^{9,10} This question helps you understand what helped the learner successfully use what they learned.	N/A

Continued

Section 3: **Recommended Questions** With Rationale**Construct: Barriers**

Question	Response Options	Rationale	Caveats and Context
What factors kept you from using the content of this course in your work? (Select all that apply)	<input type="checkbox"/> I need additional training in the subject matter <input type="checkbox"/> I did not remember the course content well enough to use it <input type="checkbox"/> I did not have the resources I needed <input type="checkbox"/> I did not have opportunities to use what I learned <input type="checkbox"/> I did not have the time to use what I learned <input type="checkbox"/> My supervisor did not support me in using what I learned <input type="checkbox"/> My colleagues did not support me in using what I learned <input type="checkbox"/> The course content was not relevant to my work <input type="checkbox"/> Other (please specify):	<p>Research suggests that after-training supports are important for ensuring that learners can successfully apply what they have learned.^{9,10} This question helps with understanding where breakdown is occurring (e.g., with the training and training delivery or with the learner's work environment). Although you may not always have the ability to influence the learner's work environment, this question can help you understand whether the training should include additional follow-up support or if the problem is external to the training.</p>	N/A

SECTION**4****Methods**

Several methods were used to develop the recommended training effectiveness questions for postcourse evaluations, including the following steps.

- A comprehensive search of peer-reviewed journals based on a range of key terms to locate articles that discuss predictors of training effectiveness. This search process uncovered nearly 150 articles.
- Review of article abstracts to identify a subset of primary sources.
- A search of reference lists from the subset of primary sources to locate additional articles of relevance.
- Cognitive interviews with eight individuals to understand how participants interpreted the questions and to resolve differences in opinion on question design.
- Subject matter expert review and feedback on optimal question design. The following subject matter experts contributed to the design.
 - Dr. Will Thalheimer, President, Work-Learning Research
 - Dr. Lori Wingate, Director of Research, The Evaluation Center at Western Michigan University
 - Dr. Jonathan (Brent) Vickers, the National Center for Health Statistics

SECTION

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Additional Training
**Evaluation
Resources**

Consider these additional resources in developing meaningful and evidence-based training evaluations.

- For a summary of predictors of training effectiveness, read the [Training Predictors Factsheet](#).
- For more information on how to measure learner knowledge, skills, and retention objectively, check out the [Learning-Transfer Evaluation Model \(LTEM\)](#).
- For more information on the pitfalls of trainer-centric questions, read this post entitled “[Zero Correlation Between Student Evaluations and Learning](#)” which covers a new study adding to the evidence that student reviews of instructors have limited validity.
- For more information on the pitfalls of self-efficacy (confidence) questions, check out this video entitled “[Why Incompetent People Often Think They’re Actually the Best](#)” that covers content from this more in-depth paper “[Unskilled and Unaware of It: How Difficulties in Recognizing One’s Own Incompetence Lead to Inflated Self-Assessments.](#)”
- For a catalog of work-learning research-to-practice resources, visit Dr. Thalheimer’s [Work-Learning Research](#) website.

SECTION

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[Public Health Education and Training Development Website](#)
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