

***The Fundamentals of ADDIE for
Instructors
Student Guide***

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Lesson 1: Course Introduction

Course Introduction

Course Overview

Welcome to The Fundamentals of Analysis, Design, Development, Implementation, and Evaluation (ADDIE) for Instructors course. This course will help to develop your knowledge of engaging with the creation and maintenance of training materials wherever in the design process they may reside. During this course, you will have an opportunity to apply what you are learning to complete activities throughout the ADDIE process.

At the completion of this course, you will be able to:

- Summarize the events that occur at the different phases of ADDIE.
- Analyze the phases of ADDIE and their impacts upon each other.

Lesson 2: The ADDIE Model

Introduction

Lesson Overview

This lesson will introduce you to the ADDIE model and describe the benefits and phases of the model. At the conclusion of this lesson, you will be able to define each phase of the ADDIE model and the benefits they provide as well as describe the cyclical relationship of the ADDIE phases.

The ADDIE Model

What is ADDIE?

ADDIE is a model used by training professionals to guide learning product development. The model provides an overarching framework for creating learning content by following a methodology for designing instruction. ADDIE is an acronym. Each letter represents a phase of the five-step process. The phases are

- Analysis
- Design
- Development
- Implementation
- Evaluation

Initially, the model was created for the United States Army in the 1970s and later adopted for use by all branches of the United States Armed Forces. Today, the ADDIE model is a widely used tool across the training industry, and ADDIE is the model of choice for the Department of Defense (DOD). Refer to the DOD Manual (DODM) 3115.11, DOD Intelligence and Security Training Standards, for further information about DOD training standards.

Benefits of ADDIE?

There are many benefits to using the ADDIE model. ADDIE provides a structured and consistent approach to instructional design as well as a proven method for designing effective training. The ADDIE model also supports the development of the learning products by meeting learning gaps and requirements. A learning gap occurs when there is a discrepancy in the desired or required behavior or performance and the actual behavior or performance. It also focuses the learning on critical job and/or function requirements. It identifies specific objectives the learning intends to address as well as alternative learning methods. You can gain efficiencies by providing information that helps to focus resources on critical learning requirements. Lastly, it supports the development of learning by providing assessment and/or evaluation feedback.

Phases of ADDIE

Building a House

ADDIE provides a five-phase systematic process. The first phase is analysis. It is the cornerstone for leaders to identify the why, who, what, where, when, and how of training development. There are a lot of similarities to developing training and building a house so let's look at an analogy. Suppose you wanted to build a house for you or your family. Likely, you wouldn't build a house without doing a little analysis. Questions you may consider when building a house include:

- Why are you building a house? Can you buy an existing house instead of building it from scratch? Do you need more or less room? What is your budget?
- Who needs the house? How many people will be living in the house? What are their living space needs?
- What kind of house do you need? How big should it be? Do you need a garage? What are the building codes, or standards, the house must be built to?
- Where should the house be located? What does the family need to consider when choosing a location?
- When do you need this house? Do you need to move in immediately or do you have time to build one?
- How are you going to build the house? What company should you use?

A similar analysis process takes place for training.

Analysis Phase

Similar to the questions one might ask when building a house, the analysis phase in ADDIE answers questions specific to training such as:

- Why do we need training? In other words, define the problem. Is training the best solution for the problem? Are there other solutions that may fix the problem?
- Who needs the training? What do we know about the learner?
- What are the knowledge and skills that need to be transferred? What are the standards of the training? To what level are we training to? What type of training should we provide? Should it be a full length course or a seminar, or will a job aid suffice?
- Where should we offer the training? Do participants have to travel to a location? Or should it be virtual via a webinar or Web Based Training (WBT)?

- When do we need the training? Does training align with the rollout of a new process or procedure? Is it an immediate or future need?
- How are we going to create the training? Can we do this internally? Do we need external support?

Before building a house, or developing training, you need to do some research to define the who, what, where, when, how, and most importantly why, for the training. Analysis allows you to do just that. All this needs to be defined prior to moving to the next phase in the model – Design.

Design Phase

In the analysis, the focus was on answering the why, who, what, where, when, and how of training development. The design phase determines when, where, and how instruction takes place, while identifying resourcing requirements.

Let's revisit our new house. You know where you want it, how many rooms you need, what type of house meets your needs, and who is going to build it. Is that enough direction for the builder? Probably not. You will need a blueprint. A blueprint provides a detailed work plan that shows how your home will be constructed and the standards that must be met.

Likewise, the design phase in ADDIE has a similar blueprint called a design document. This is one of the main tools used during the design phase that provides specifications for the instruction. Before developing training, you need to put some thought into how the instruction will take place. This needs to be defined in the design phase prior to moving to the next phase in the model - Development.

Development Phase

For a house, once the plans are in place, it's time to build. This includes the foundation as well as the floors, walls, and the ceiling above.

During the development phase in ADDIE, you will create and approve training and education products. Similar to building a house based on the blueprints, you will create and validate the training products based on the direction of the design document. This may include developing an instructor guide, writing job aids, developing assessment questions, and creating the overall content of the training. All the materials need to be ready and approved prior to moving to the next phase in the model – Implementation.

Implementation Phase

Once the house is built, it's time for the family to move in. They are now able to reap the rewards from all the planning that went into building the house.

In ADDIE, implementation is the execution and delivery of the designed course or event. Similarly to moving into a house, it's time to deliver the training and test out the course with a real audience whether it be a course pilot in a classroom, a webinar, or a beta test for a WBT.

Although implementation may seem like you've passed the finish line by being able to deliver the course content, there is still one more phase - Evaluation.

Evaluation Phase

Evaluation is unique because it doesn't just occur after implementation. Evaluation occurs throughout all the phases of the ADDIE model. It provides the necessary feedback to the decision makers to determine how well the training went, how personnel and units perform, and what improvements need to be made to enhance the training.

Throughout the process of designing and building a house there are numerous opportunities to assess at each phase to determine whether changes are needed. Even after moving in the family may make additional changes based on their experience living in the house. Like building a house, evaluation not only occurs once the training has been implemented but throughout all phases of the ADDIE model.

Cyclical Relationship of the Phases

As you likely noticed in the model, ADDIE is cyclical. Each phase is carried out in order starting with analysis; however, the iterative model allows for feedback and changes at each phase of development. There is reflection and feedback at each phase to ensure continuous improvement. This helps ensure the final product meets the desired learning objectives. The outputs from each phase provide the inputs into the next phase.

In the lessons that follow you will learn about the key activities that take place in each of these phases and see firsthand the cyclical nature of the ADDIE model.

Knowledge Check – 1

During which phase will you determine when, where, and how instruction takes place?

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Analysis
- Design
- Development
- Implementation
- Evaluation

During which phase will you identify improvements to training?

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Analysis
- Design
- Development
- Implementation

- Evaluation

During which phase will you identify the who, what, when, where, why, and how of training development?

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Analysis
- Design
- Development
- Implementation
- Evaluation

During which phase will you execute and deliver the designed course/event?

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Analysis
- Design
- Development
- Implementation
- Evaluation

During which phase will you create and validate the training deliverables?

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Analysis
- Design
- Development
- Implementation
- Evaluation

Knowledge Check – 2

Which of the following is NOT true about the ADDIE model?

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Design is the first phase in the cyclical model.
- Each phase is carried out in order.
- Outputs of each phase provide inputs into the next phase.
- The ADDIE model allows for feedback and changes.

Conclusion

Closing

You have completed the ADDIE Model lesson.

Lesson 3: Analysis Phase

Introduction

Lesson Overview

This lesson describes the analysis phase and includes the key activities that occur, common analysis methods, and the outputs of the analysis phase. At the conclusion of this lesson, you will be able to:

- Describe the analysis phase and the key activities that take place during this phase
- Characterize the type of analysis method to use to solve a problem
- Articulate the outputs of the analysis phase and the level of effort

Analysis Phase Overview

Analysis Phase Overview

As you may recall, analysis is the cornerstone for leaders to identify the who, what, when, where, why, and how of training development. The products of this phase are the foundation for all subsequent design and development activities.

Determining Training Need

The analysis phase defines what is to be learned and identifies the problem you need to solve. Overall, it informs whether a program of instruction is needed, and then if so, what outcome should the program produce. During the analysis phase it is important to determine whether the problem can be solved through training or if another organizational intervention will be more effective.

If training is needed, the designer will identify and then define the learning problem, target audience, the goals and high-level objectives including what knowledge and skills need to be transferred, the learner's needs, and training logistics such as when and where training will occur as well as other relevant insight for the training.

Key Activities

One of the key activities during analysis is to define the performance problem. Understanding the problem will help to determine whether the problem can be solved with training or if there is a better solution. If training is needed, the designer also needs to determine who must be trained, what must be trained, when training will occur, where the training will take place, how the training will be delivered, as well as other factors. Select each key factor to learn more about what needs to be determined during analysis.

Who Must Be Trained

During analysis, you need to identify and define the characteristics of the target population. What does the job require them to know or do? What is the current level of knowledge or performance level in the area needing training?

What Must Be Trained

During analysis, you need to determine the scope of the goals and objectives of the instruction as well as the standards of the training and the level you are training to. The objectives developed during this phase may be high-level. However, they will be fleshed out in more detail during the design phase.

When Training Will Occur

During analysis, you need to determine when the training will take place. Are there any constraints? For example, does the training need to be ready to accompany the rollout of a new process or procedure? Or, is there a group of new hires starting on a specific date that will need this training?

Where Training Will Take Place

During analysis, you need to determine where the training will take place. Are there any constraints? For example, if you are conducting a new instructor-led training session, are facilities available?

How Training Will Be Delivered

During analysis, you need to establish criteria for selecting the type of learning solution. Based on this criterion, you will select the appropriate approach, such as instructor-led or web-based training (WBT).

When determining the type of offering, you need to consider the scope of the need (i.e., Will a two week instructor-led training course address the need, or can the training be accomplished in a 10-minute brief?).

Other Considerations

Are there any existing training materials that will meet the identified need? Before developing new training materials from scratch, it's important during this phase to determine whether there are any existing training or instructional materials already available that can be used as is, or leveraged, to address the training need.

How will you evaluate the training? During analysis you will need to implement a plan for how the team will evaluate the training during course design and development. For example, are there subject matter experts (SMEs) that can provide support during the design process and help review the design document? Are there key stakeholders that will review the draft materials?

Analysis Methods

Common Analysis Methods

Fortunately, there are a variety of analysis methods available to help answer key questions during this phase. These include:

- Front-end analysis which answers the question “What is the problem and solution?”
- Needs assessment which answers the question “What are the gaps in existing and desired performance?”
- Needs analysis which answers the question “How do we solve the performance problem?”
- Learner/audience analysis which answers the question “Who is our learner?”
- Task analysis which answers the question “What tasks and subtasks must be accomplished when performing a job or activity?”

The circumstances and the scope of the issue you need to solve will help determine the appropriate analysis method.

Front-end Analysis

A front-end analysis helps to determine the problem and solution. During this analysis you will gather information to identify and define problems and solutions. This analysis helps determine whether there really is a training need, or if the problem is due to other factors including lack of communication, motivation, process, guidance, or something else.

If it is a training need, it also helps define project requirements, describe the ideal performance or instruction to meet the project requirements, and identifies acceptable alternatives for conducting the training.

Depending on the project and the questions to be answered, the remaining four analysis methods addressed in this lesson may be part of the Front-end Analysis.

Needs Assessment

A needs assessment or gap analysis is used to determine organizational or instructional needs. It indicates the difference between the current state and the desired future state for both the task and the learner. During this analysis you will assess the current state, identify the future state, and then define the performance gap.

Needs Analysis

The needs analysis is used to determine the cause of a performance gap. This information is used to determine if training is the best solution or if there are more effective ways to solve the problem.

Learner/Audience Analysis

The Learner or Audience Analysis provides the information needed to tailor an instructional program to a particular audience. It helps to analyze the population of the learners and determine the specific attributes and characteristics of each audience group who will complete the training.

For example, it helps to determine what job positions will need training, how many people will need to be trained, where the learners are located, what languages they speak, what previous training they have on the topic, and their attitudes toward the training.

Analysis may be used to help create learner personas, which are fictional profiles reflecting the characteristics of the target audience. This can provide the training developers with a representation of the key audience segments.

Task Analysis

A task analysis is used to determine the tasks and subtasks that learners need to master when performing a job or activity. During a task analysis you may collect the job description, tasks for each job, subtasks for each task, steps for each sub-task, how often tasks are completed, and difficulty of tasks. Generally, this information is collected from interviews, surveys, or observations of people performing the tasks.

By analyzing the specific steps a person takes to perform a task, you can ensure the learning objectives align with the actual tasks your learners need to perform and the standards that have to be met.

Learning Activity

Now it's time to put on your Training Professional Hat and help determine the best type of analysis method to use for a given problem. Take a moment to review the problem and answer the question.

Problem: There is a new policy being released that will transform how the Federal Government vets individuals for a trusted workforce. All Executive Branch departments and agencies are now required to comply with these requirements. You currently support the training for the Personnel Security discipline and recognize this will impact the current curriculum. You need to determine how the knowledge and skills taught in the current curriculum will need to change to address the new policy and to keep the Personnel Security personnel up-to-date with these new policies.

Which of the following analysis method will best address the problem?

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Needs/Gap assessment
- Needs analysis
- Audience analysis
- Task analysis

Outputs

Front-end Analysis Report

The output of the analysis phase is a front-end analysis report that outlines the verified problems and identified solutions. Depending on the training project and the specific needs of the project, any one of the types of analysis may be part of the front-end analysis report, including:

- Needs assessment/Gap analysis
- Needs analysis
- Learner/audience analysis
- Task analysis

Knowledge Check – 1

During the analysis phase you determined that the performance problem appears to be a training issue. Now that you know training is needed, what are some of the activities that you may need to complete during the analysis phase?

Select all that apply. Check your answer in the Answer Key at the end of this Student Guide.

- Create the prototype template for the training
- Determine scope of the training goals and objectives
- Develop the design document for the training
- Create the training templates for the course
- Identify and define the characteristics of the target population
- Determine the appropriate method of instruction

Knowledge Check – 2

Your organization just introduced a new computer application to track the progress of projects. This new application requires the end user to complete multiple screens and follow a variety of steps to properly use the application. The organization cannot design and develop the training without completing an analysis first. Which type of analysis will best solve this problem?

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Needs analysis
- Task analysis
- Learner/Audience analysis
- Needs assessment/Gap analysis

Knowledge Check – 3

You are currently working on the course design for a new instructor-led training course. Which of the following outputs from the analysis phase can be leveraged during the design phase?

Select all that apply. Check your answer in the Answer Key at the end of this Student Guide.

- A front-end analysis that outlines performance problems and solutions
- A requirements analysis that helps determine the needs for the training program
- A business analysis that helps assess the training culture of the organization
- A needs assessment/gap analysis that identifies gaps in existing and desired performance
- A learner/audience analysis that helps define the learner

Conclusion

Closing

You have completed the Analysis Phase lesson.

Lesson 4: Design Phase

Introduction

Lesson Overview

This lesson describes the design phase, including its key activities and outputs. At the conclusion of this lesson, you will be able to:

- Describe the design phase and the key activities that take place during this phase
- Characterize the instructional strategies that best support the learning objectives
- Articulate the outputs of the design phase and the level of effort

Design Phase Overview

Design Phase

The analysis phase drives the design phase; specifically, the information discovered during the front-end analysis and the resulting training recommendations. The design phase determines when, where, and how instruction takes place, while identifying resourcing requirements. In addition, the design phase ensures the systematic process of specifying learning objectives to guide the development of the training course.

Design Document

One of the key activities that takes place during the design phase is the development of a design document. This is the blueprint for the course. There are two types of design documents: a high level design plan and a detailed design document.

The high level design plan specifies terminal learning objectives for the course and the information that will be conveyed in the course, including knowledge, tasks, topics, and an outline of course content.

The detailed design document, created after the high level design document is approved, conveys a detailed vision of the proposed structure and instructional plan for presenting the approved course content. It outlines the decisions for the course including the purpose, objectives, overview of learners, content sequence, delivery methods, instructional strategies, assessment strategy, and evaluation strategy.

Refer to the Instructor Certification Program Virtual Learning Hub on STEPP for an example of a high-level and detailed design document.

Key Activities

Key activities that take place during the design phase are generally documented in the design document. These include identifying the target audience, writing the learning objectives, and

determining the delivery methods. In addition, other key activities include writing the content outline with instructional strategies, sequencing, and timing. In addition, during this phase you will determine the look and feel of the materials and template or prototype, and determine the assessment and evaluation strategies.

If you are designing for web-based training (WBT), you will also create storyboards during the design phase. A storyboard is a document that designers use to describe the visuals, text and audio elements, interactions, and navigation of the WBT screens. Refer to the Instructor Certification Program Virtual Learning Hub on STEPP to view a sample storyboard.

If the delivery method includes a video, you will write a script describing the visuals and detailing the audio during the design phase.

In this lesson, you will learn more about each of these key activities that take place during this phase.

Audience and Objectives

Identify Target Audience

As stated previously, you will reference the front-end analysis as you work through the design phase. You will leverage it to define your primary and secondary target audience. You will need to keep this group at the forefront as you design the course so you can design a learning solution that reflects an understanding of the diversity of your learners.

Write Learning Objectives

A very critical activity during the design phase is to write the learning objectives. Learning objectives are brief statements that describe what participants will be expected to learn by the end of the course. You will leverage the front-end analysis to formulate the objectives. Generally, the front-end analysis will provide some high-level goals and objectives for the training. During the design phase, these will be fleshed out to provide more detail.

There are four components of an objective: the audience, behavior, condition, and degree.

Component	Example
A - Audience	Describe the audience. The new Security Manager will be able to...
B - Behavior	Describe the behavior learners should be able to demonstrate at the end of the training. The new Security Manager will be able to identify foundational personnel security concepts and principles .
C - Condition	Describe the conditions under which the learners must demonstrate knowledge or skills. Given test questions on the topic , the new Security Manager will be able to identify foundational personnel security concepts and principles.

D - Degree	Describe the measurable standards that you will use to assess the learners' performance. Given test questions on the topic, the new Security Manager will be able to identify foundational personnel security concepts and principles with 80% accuracy .
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Revised Bloom's Taxonomy

Now that you know the four components of a learning objective, let's take a closer look at the behavior component. Action verbs inform the learning intentions, so it is important to identify the correct behavior.

One helpful tool to reference is the Revised Bloom's Taxonomy. The Revised Bloom's Taxonomy classifies learning objectives into levels of complexity from the basic foundational level to more complex learning. Training professionals can use this tool to help identify action verbs that align with each level in the Revised Bloom's Taxonomy.

Levels and sample verbs include:

- Remember: label, recall, define, list, state, repeat, identify
- Understand: describe, recognize, comprehend, interpret, discuss, explain, review, summarize
- Apply: demonstrate, operate, practice, use, implement, solve, sequence
- Analyze: compare, contrast, examine, distinguish, classify, edit, select, organize, outline, integrate
- Evaluate: rank, sort, assess, decide, estimate, reflect, verify, recommend
- Create: plan, draft, design, develop, write, construct, manage, perform

Notice how the verbs get more complex as you move down the list. This allows the learner to build on their prior knowledge.

Objectives

Let's review an example demonstrating how verbs can impact the meaning and complexity of the behavior component of an objective and ultimately the focus of the training.

Scenario: A bicycle shop needs to train new sales associates in their bike shop. The training will look very different depending on the objectives the course designer identifies and what the associates really need to do to perform their job.

For example, do the new sales associates need to:

- Remember – Identify the key components of a bicycle.
- Understand – Describe how the components of the bicycle work.

- Apply – Demonstrate how to repair a bicycle.
- Analyze – Compare the differences between the components on a mountain bike and a road bike.
- Evaluate – Recommend a bicycle for a customer based on the customer’s needs.
- Create – Design and assemble a bicycle.

The objectives drive the direction of the training, and it is important to determine the correct verb/behavior for the intended learner.

Refer to the *Understanding Learning Objectives and Mapping Assessments* course to learn more about course objectives.

Delivery Methods and Instructional Strategies

Determine Delivery Method

Another task to complete during the design phase is to select the delivery method that supports the established learning objectives. Objectives are a key factor in selecting the delivery methods. However, other factors like budget and the needs of the learner may also play a key role in selecting the delivery method.

Refer to the *Training Delivery Methods* course to learn more about selecting the appropriate delivery method.

Common Delivery Methods

Some of the more common delivery methods include instructor-led training (ILT); virtual instructor-led training (VILT); webinars; web-based training; videos; performance support tools; and microlearning.

Blended learning is also available as it combines delivery methods to meet the needs of the learners. For example, learners can take a web-based training to learn the basics of interviewing skills and then take an instructor-led training course to practice these skills and receive feedback.

Listed below are some of the common uses for each delivery method.

Instructor-led Training (ILT)

ILT generally involves an instructor teaching learners in-person, typically in a classroom environment. Let’s look at an example.

A Front-end Analysis for an Interviewing Skills 101 training course revealed the following course objective: Given an applicant to interview, learner will conduct an interview using the five-step process taught in the Interviewing Skills 101 course.

In this case, ILT is an ideal delivery method for this objective. It allows participants to learn and practice interviewing skills in-person and with an instructor who is available to provide immediate feedback.

Listed below are some of the pros and cons of ILTs.

Pros	Cons
<ul style="list-style-type: none"> • Instructor is available to answer questions. • Instructor can monitor progress of learners and adjust training as needed. • Learners experience fewer distractions. • Helpful when face-to-face interaction is important to the learning 	<ul style="list-style-type: none"> • There are extra expenses including travel, catering, facilities, etc. • Learners will have less flexibility (e.g., set day/time out of workday). • Learners cannot learn at their own pace.

Virtual Instructor-led Training (VILT) and Webinar

VILT and webinars generally involve an instructor teaching learners remotely using a computer. A VILT typically provides two-way communication between the instructor and the learners. A webinar may be delivered live in a synchronous manner providing two-way communication with the instructor or asynchronously providing one-way communication, for instance, via a recording of the training. Let's look at an example.

A Front-end Analysis for an Interviewing Skills 101 training course reveals the following course objective: Given a completed job application, learners will review the application using the required company criteria taught in the Interviewing Skills 101 course and determine if the applicant should be invited for an interview.

This content can be taught using VILT as it provides learners an opportunity to ask questions and get answers in real time. It also allows an opportunity for group discussion as they review applications in real time.

Listed below are some of the pros and cons of VILTs and Webinars.

Pros	Cons
<ul style="list-style-type: none"> • Instructor is available to answer questions. • It is more cost effective than ILT (e.g., no travel costs). • It is convenient for learners to access training. 	<ul style="list-style-type: none"> • Learners have less flexibility (e.g., set day/time out of workday). • Learners cannot learn at their own pace. • There may be more distractions than in-person learning. • It is harder for instructor to assess non-verbal cues from learners.

Web-based Training (WBT)

In WBT, learners receive the instruction online. Let's look at an example.

- A Front-end Analysis for an Interviewing Skills 101 training course revealed the following course objective: Given a list of eight types of interview questions, learners will be able to identify when to use each one in an interview with 80% accuracy.

This content lends itself to a WBT. Content is very fact-based, and there is not a strong need for instructor interaction or face-to-face interaction with other learners. WBT can include multiple opportunities for practice, reinforcement, and assessment.

Listed below are some of the pros and cons of WBTs.

Pros	Cons
<ul style="list-style-type: none"> • Learners can take the course at any time. • Learners can progress through training at own pace. • It offers consistent messaging, as the content is taught same way every time. • There is no instructor cost. • The training is available to a large number of learners at the same time. • Ideal for teaching objectives that fall within the foundational levels of Revised Bloom's Taxonomy (e.g., knowledge, comprehension, and application) 	<ul style="list-style-type: none"> • It is more difficult to make a quick update to the programmed content. • Learners cannot get questions answered in real time.

Videos

Video training occurs when instruction is provided via a live or prerecorded video. Video can be a stand-alone training course or part of an ILT, VILT, or WBT. Let's look at an example.

- A Front-end Analysis for an Interviewing Skills 101 training course revealed the following course objective: Given video clips, learners will be able to identify non-verbal cues exhibited by interview applicants with 80% accuracy.

For this objective, video is an effective way to visually demonstrate content.

Listed below are some of the pros and cons of video training.

Pros	Cons
<ul style="list-style-type: none"> • These can be engaging and entertaining. • Learners can view it at any time. • These are generally shorter and can offer bite-size learning. • It provides a consistent message. 	<ul style="list-style-type: none"> • It is more difficult to make a quick update to a video. • Learners are unable to get questions answered in real time. • These can be expensive to create.

Performance Support Tools

Sometimes only performance support tools are needed. Learners may also receive printed or digital materials that supplement other training activities, such as checklists, job aids, or FAQs. Let's look at an example.

- A Front-end Analysis for an Interviewing Skills 101 training course revealed the following course objective: Identify the four required questions recruiters must ask each applicant in an interview.

For this objective, the content can be produced as a job aid that recruiters can post in their office or access on a tablet or computer for easy reference.

Listed below are some of the pros and cons of performance support tools.

Pros	Cons
<ul style="list-style-type: none"> • These provide information in a simplified format for future reference. • They ensure content is available when needed to perform a task. • They reinforce key content from training. 	<ul style="list-style-type: none"> • Learners cannot get questions answered in real time. • They cannot convey a large amount of information and content.

Microlearning

With microlearning, learners receive instruction in small, highly focused chunks of content; it is generally 5-10 minutes long. Examples include quizzes, games, videos, short WBT, and online content. Let's look at an example.

- A Front-end Analysis for an Interviewing Skills 101 training course revealed the following course objective: Identify the four required questions recruiters must ask each applicant in an interview.

A Front-end Analysis for an Interviewing Skills 101 training course revealed the following course objective: Identify the three steps to wrap up an interview.

This content is short and concise and can be easily accessible to review prior to an interview.

Listed below are some of the pros and cons of microlearning.

Pros	Cons
<ul style="list-style-type: none"> • It is quick and easy to consume. • Materials are available when needed to perform a task. • The development time can be short. • It can be budget friendly. 	<ul style="list-style-type: none"> • It is difficult to cover complex subjects. • Learners are unable to get questions answered in real time. • It can be hard for learners to see the big picture for a topic addressed in multiple microlearnings.

Write Content Outline

One of the main activities in the design phase is writing the content outline within the design document.

The format for the design document may vary. However, the content outline includes a detailed outline of what will be presented in the course, the instructional strategies that will be used to present the content, the proposed content sequence, and the estimated timing of the course.

Types of Instructional Strategies

The instructional strategies are detailed in the design document. The instructional strategies are the learning activities used to present and teach the course content. There are a variety of instructional strategies to choose from, including:

- Group discussion
- Role play
- Case study
- Group or individual activity
- Knowledge check questions
- One-on-one instruction
- Simulations
- On-the-job training
- Brainstorming
- Demonstration
- Gaming

Course objectives will guide the selection of instructional strategies. In other words, you want to select activities that will foster learning to meet the objectives.

Here are two examples.

Example – ILT

Let's say you are designing an Interviewing Skills 101 course. The course will be presented as an ILT. The course objective is as follows: "Given an interviewee, the learner will conduct an interview demonstrating the five key techniques of active listening."

To meet this objective, an instructor could either show a video that demonstrates the techniques or conduct a live demonstration for the class. The learners can then pair up and practice conducting an interview and demonstrating active listening techniques in a role play activity.

Each of these strategies could be effective. The critical component is providing an opportunity for learners to conduct an interview role play and use the techniques identified in the objective.

Example – WBT

Let's say you are designing an Interviewing Skills 101 course. The course will be presented as a WBT. The course objective is as follows: "Given a list of interview questions, learners will determine, with 80% accuracy, whether the questions are permissible to ask an applicant."

To meet this objective, learners can review content explaining the types of interview questions that are not permissible to ask in an interview and complete an assessment testing their understanding of the content.

Or, learners can review a video of a sample interview with instructions on appropriate interview questions. This too can be followed by an assessment.

Again, there is not one correct way to teach this objective. However, given the objective, your instructional strategy should at least provide an opportunity for learners to complete an activity to ensure the learner can identify permissible questions to ask in an interview.

Learning Activity – 1

Your organization is implementing a new timesheet application. Approximately 10,000 employees from all over the country need to be trained. The content is stable and considered fairly basic, but it is too complex to train with a single stand-alone job aid. Course objectives are: [1] Identify what's new and improved with the timesheet application. [2] Sign into the timesheet application. [3] Enter hours into the appropriate screen of the timesheet application. What would you recommend as the best method to deliver the training?

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Instructor-led training
- Virtual instructor-led training
- Web-based training
- Microlearning

Learning Activity – 2

Using the same scenario, let's try one more question pertaining to the instructional strategies for this WBT course. You need to determine the instructional strategy for the second training objective: Sign into the timesheet program.

What would you recommend for the instructional strategy for this WBT objective?

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Provide an explanation of the sign in process using text and graphics synced with audio and ask a knowledge check question.
- Show a video demonstration of the sign in process.
- Show a video demonstration of the sign in process and have the learners complete the sign in process using an online simulation that provides feedback.

Determine Look and Feel of Materials

Before developing the training materials, it is important to develop a prototype and get approval on the look and feel of the hardcopy materials and/or the WBT screens. A prototype allows the stakeholders to view a sample of the training materials or WBT screen layouts prior to fully developing the training. It is more efficient to adjust the look and feel of the materials in the design phase rather than having to update all of the materials after development.

Assessment and Evaluation Strategies

Determine the Assessment Strategy

Determining how you will assess the learners also takes place during the design phase. Specifically, you need to determine how you will measure the learning outcomes. To help define the assessment strategy you need to consider how you will measure and evaluate learner progress, whether there are key milestones during the learning that will help track progress, and what types of tests or activities you should use to measure learner progress.

There are two types of assessments you need to consider as you determine your assessment strategy: formative and summative. The purpose of the formative assessment is to monitor the learning and provide ongoing feedback DURING the training. For example, provide a practice activity in an ILT or a knowledge check in a WBT. The purpose of the summative assessment is to evaluate the learning at the END of the training. This may include a capstone activity or a role play in an ILT, or a posttest in a WBT.

Align Assessment Strategy with Objectives

As you just learned, one of the questions to consider when determining your assessment strategy is the type of test or activity you should use to measure learner progress. The type of assessment identified in the assessment strategy needs to align with the learning objectives. Objectives indicate what a learner will be able to do after completing the course. Assessments test that the learners have achieved the objectives.

Let's review an example of aligning the assessment strategy with the objectives. Different assessments are better suited to assess different levels of objectives. For example, if your objective is for the learner to recall information, a multiple-choice test item may be appropriate. However, if you would like to assess whether a learner can demonstrate how to sell a product, a multiple-choice test item may not be the best way to assess the objective. Instead, the assessment may be a role play scenario.

Refer participants to the *Understanding Learning Objectives and Mapping Assessments* course to learn more about aligning course objectives and assessments.

Determine the Evaluation Strategy

While the assessment strategy determines how the learners will be assessed, the evaluation strategy determines how the instruction will be evaluated. For example, learners may complete a course survey at the end of class or WBT to share what they liked and disliked about the training. In addition, learners can complete a post test at the conclusion of the training to measure learning.

We will go into more detail on the evaluation strategy in the Evaluation Phase lesson later in this training. But it is important to know that the evaluation strategy, or how the instruction will be evaluated, is determined in the design phase.

Outputs

Design Outputs

Now that you've learned about the activities that take place during the design phase, let's look at the outputs. The outputs of the design phase include a design document that provides a blueprint for the training whether it be an ILT or a WBT, and storyboards that lay out the screens for a WBT. If a video is part of the training, a video script will be written to outline the visuals and audio for the proposed video.

Knowledge Checks

Knowledge Check – 1

You are assigned to develop a web-based training course on Workplace Ethics. The course includes video showing correct and incorrect behaviors in the workplace. What will you need from the design phase to begin the development process?

Select all that apply. Check your answer in the Answer Key at the end of this Student Guide.

- Approved template for WBT
- Detailed design document
- Assessment questions (posttest)

- Storyboards
- Video script
- Learner guide

Knowledge Check – 2

You are supporting the design of a new virtual instructor-led training course. Which of the following activities need to be complete before training development can begin?

Select all that apply. Check your answer in the Answer Key at the end of this Student Guide.

- Develop job aids
- Write the learning objectives
- Determine how you will assess the learners
- Create the course management guide
- Write the content outline with instructional strategies
- Determine how you will evaluate the instruction

Knowledge Check – 3

You are currently designing a WBT course on email security best practices. One of the objectives is: Given a scenario, determine how to keep your computer and personal information safe by following the three email safety rules. Which of the following is the best instructional strategy to support the learning objective?

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Present the three email security best practices.
- Share example of what could happen if the three email safety rules are not adhered to.
- Present the email security best practices and ask learners to review related scenarios and determine what to do in each of the scenarios.

Conclusion

Closing

You have completed the Design Phase lesson.

Lesson 5: Development Phase

Introduction

Lesson Overview

This lesson describes the development phase including its key activities and outputs. At the conclusion of this lesson, you will be able to:

- Describe the development phase and the key activities that take place during this phase
- Characterize the appropriate test assessment to use for a given learning objective
- Articulate the outputs of the development phase and the level of effort

Development Phase Overview

Development Phase

Now that the design document—the blueprint for the course—is complete, as well as storyboards and video script if applicable for web-based training (WBT), and videos respectively, it's time to move into the development phase.

The development phase builds on the previous two phases to create a complete learning platform with instructional content, activities, associated learning materials, and learner evaluation instruments. In addition, during this phase you will also develop the materials for the train-the-trainer. A train-the-trainer is a training program to help prepare the trainers to teach a course. Train-the-trainer materials may include instructor and participant guides. You will learn more about conducting the train-the-trainer in the next lesson.

Key Activities

Develop Content and Prepare Course Materials

Development is the actual creation or production of the content and learning materials. These materials are based on direction provided from the design phase. For instructor-led training (ILT), this includes developing materials such as:

- Instructor guides and participant guides with all the learner activities
- Job aids or performance aids
- Checklists

For WBT, this includes creating a fully functioning WBT course as well as any accompanying materials. In addition, if there are any videos that are part of an ILT, WBT, or just as a stand-alone training program, they too would be produced and developed during this phase.

Develop Assessment

In addition to the course content, during the development phase, you also need to write the assessments. As you may recall, the training assessment strategy is determined during the design phase. For example, the design document indicates the type of tests or activities that will be used to measure learner progress. However, the assessment instruments are written during the development phase. At this time, you will construct reliable and valid assessments for each learning objective.

It is critical to ensure that the learning objectives and the assessments are in alignment. The learning objectives are clear and measurable statements of the behavior or performance that the learner must master in order to determine that the desired learning has occurred. The assessment will help you determine whether the learner achieved the learning objectives. Therefore, it's important that the assessment created effectively tests the learning objectives.

Align Objectives with Assessment

Let's look at some example objectives and test questions for an Interviewing course.

Objective: Recall the names of the three types of interview questions.

In this objective, the focus is on recalling three different types of interview questions. If you ask which question is best to learn about the interviewee, you are not testing the objective. This does not test whether the learner can recall the types of interview questions. However, a fill-in-the-blank question asking the learner to list the three types of interview questions will determine whether the learners were able to achieve the objective.

Objective: Given a scenario, determine which of the three types of interview questions to use.

For the second objective the goal is to ensure the learners can determine which of three types of interview question to use for a given scenario.

This verb in the objective is asking the learner to apply what they learned. A matching question to define each type of question will not accurately test the learners' knowledge of the objective. However, giving the learners a scenario—such as how the applicant approached challenging situations in previous positions—with options will help determine whether they are able to identify the correct type of interview question to use.

Refer to the *Understanding Learning Objectives and Mapping Assessments* course to learn more about aligning course objectives and assessments.

Learning Activity

Now it's your turn to try. Read the question and select the correct answer.

You are currently developing training on how to respond to weather emergencies in the workplace. One of the objectives for the course is: Given a description of an emergency situation, determine the

appropriate course of action you should take. You need to write assessment questions for the course. Which of the following will best assess this objective?

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- You are in a meeting at work and the fire alarm goes off. How is the fire department notified? (multiple-choice question)
- The response for a fire alarm and hazardous chemical spill are the same. (true or false question)
- Match each type of alarm with the designated response. (matching question)
- You are working in your office and the tornado siren goes off. What should you do? (multiple-choice question)

Outputs

Development Outputs

There are a variety of outputs from the development phase. These are some of the more common outputs, each listed by delivery methods. All of these are inputs into the Implementation phase.

Delivery Methods	Common Outputs
Instructor-led training (ILT) AND Virtual instructor-led training (VILT)	<ul style="list-style-type: none"> • Instructor materials (e.g., instructor guides, answer keys, activity instructions, etc.) • Participant materials (e.g., participant guides, activity sheets, etc.) • Job aids/Performance support tools (as needed) • Tests and surveys • Train-the-trainer (TTT) materials (e.g., Train-the-trainer guide)
Webinars AND Seminars	<ul style="list-style-type: none"> • Instructor materials (e.g., instructor guides, answer keys, activity instructions, etc.) • Participant materials (e.g., participant guides, activity sheets, etc.) • Job aids/Performance support tools (as needed) • Train-the-trainer (TTT) materials (e.g., Train-the-trainer guide)
WBT	<ul style="list-style-type: none"> • A programmed course with assessment (WBT) • Job aids • Student guides (print versions) • Links to resources (e.g., relevant policies)
Video	<ul style="list-style-type: none"> • A produced video • Assessment • Job aids • Student guides (print versions) • Links to resources (e.g., relevant policies)

Knowledge Checks

Knowledge Check – 1

Which of the following are possible outputs, or deliverables, from the development phase?

Select all that apply. Check your answer in the Answer Key at the end of this Student Guide.

- Course assessment
- Programmed course
- Train-the-trainer materials
- Produced video segments
- Front-end analysis
- Printed student guides
- Instructor and participant materials
- Design document

Knowledge Check – 2

You are developing a 2-hour instructor-led course for supervisors on how to provide positive and constructive feedback during performance reviews. What are some of the activities that you may need to complete during the development phase?

Select all that apply. Check your answer in the Answer Key at the end of this Student Guide.

- Create the course objectives
- Create job aids
- Create instructor and participant guides
- Create a programmed course
- Create a role play activity for participants to practice
- Create an assessment to test knowledge gained

Knowledge Check – 3

You are developing a 1-day instructor-led course on interviewing skills. One of the course objectives is the following: Given a scenario, participants will be able to conduct an interview with an applicant using the five-step interviewing process. To assess this objective, what would be the best assessment to use at the conclusion of this training?

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Participants make a short presentation on how to conduct an interview.
- Participants answer a multiple-choice question on the five-step interviewing process.
- Participants conduct a practice interview with a team member with an observer providing feedback.

- Participants complete a fill in the blank question on the five-step interviewing process.

Conclusion

Closing

You have completed the Development Phase lesson.

Lesson 6: Implementation Phase

Introduction

Lesson Overview

This lesson describes the implementation phase, including its key activities and outputs. At the conclusion of this lesson, you will be able to:

- Describe the implementation phase and the key activities that take place during this phase
- Articulate the outputs of the development phase and the level of effort

Implementation Phase Overview

Implementation Phase

Now that the training course and materials are developed, it's time to move into the implementation phase. Implementation is the execution and delivery of the designed course event. The instructional system and materials are presented under standard operating conditions and constraints.

Key Activities

Instructor-led Delivery

The key activities that take place during the implementation phase are different for instructor-led delivery methods like instructor-led training (ILT); virtual ILT (VILT); and webinars; and technology-based delivery methods like web-based training (WBT). We will cover each category separately, starting with instructor-led delivery methods.

Develop Course Management Guide

A course management guide or plan, provides details about the course. It includes an overview of the course including the course purpose, description, target audience, and prerequisites. It also includes information on administering the course, preparing to teach the course, and delivering the course. Sample contents of a course management guide include:

- Course Overview
 - Course purpose
 - Course description
 - Target audience
 - Prerequisites
- Course Administration
 - Points of contact

- Course cancellation
 - Course schedule
- Course Preparation
 - Equipment and supplies needed
- Course Delivery
 - During class
 - After class

Plan for and Conduct Train-the-Trainer

During implementation, you must train instructors and any other staff associated with the delivery of the instruction. The purpose of the Train-the-Trainer is to prepare trainers to effectively present the course, engage with the participants, and successfully implement the course activities and assessment instruments.

There is not one way to conduct a Train-the-Trainer. Some common ways to prepare new instructors.

- Attend a walkthrough of the training materials.
- Observe an experienced trainer teach the course.
- Practice teaching portions of the course while receiving feedback on the delivery.
- Receive certification training to teach the course.
- Co-teach the training with an experienced trainer.

Plan for and Conduct Pilot

A pilot is a trial run of the training. It helps work out any issues so corrections can be made before introducing the training to the masses.

To prepare for the pilot you must identify learners that are representative of the target audience. In addition, you need to schedule classrooms for instruction, as needed, with necessary equipment such as computers for learners and an instructor station. If instruction is outside an agency schoolhouse, you need to secure the instructional venue with the necessary equipment.

When piloting the course, you want to deliver at least one session using the instructional materials and present the course and materials under normal operating conditions and constraints.

Collect and Address Pilot Feedback

During the pilot you will collect extensive feedback from participants including their completed course evaluation forms and the results of the final assessments. In addition to the feedback from learners, you will also collect feedback from other stakeholders including subject matter

experts, customers, supervisors and leadership, and Instructional System Designers (ISDs). All this information will allow the stakeholders to assess the learning outcome and make recommendations for improvement.

Technology-based Delivery

Now, let's look at the key activities that take place for technology-based delivery methods. Although the topics are similar to the instructor-led delivery methods, the activities that take place are a bit different.

Develop Course Management Guide

A course management guide for technology-based delivery is similar to instructor-led delivery; it includes an overview of the course including the course purpose, description, target audience, and prerequisites. It also provides information on the course including administrative details such as how the training will be deployed and the means for administering evaluations and collecting learner feedback. Sample contents of a course management guide include:

- Course Overview
 - Course purpose
 - Course description
 - Target audience
 - Prerequisites
- Course Administration
 - Deployment
 - Administering evaluations
 - Collecting learner feedback

Plan for and Conduct Pilot

A pilot test for a WBT or microlearning is also referred to as a beta test. The beta test provides an opportunity for representatives of the target audience to "test drive" the course prior to releasing the final course for implementation.

To prepare for the pilot, you need to identify representative users to participate in the beta test. Their feedback is critical to collect and address any issues prior to rolling out the course to the general population.

The beta test provides the opportunity for course designers to collect feedback from the target users, including any typographical errors, programming errors, issues with exercises or activities, as well as any usability issues they encountered when completing the course.

Collect and Address Pilot Feedback

During the beta test, you want to assess the course feedback from the learners. This includes reviewing course evaluations to collect the learners' overall feedback on the course. In addition, reviewing the assessment results to gauge whether learning occurred is also important post pilot. Make sure to evaluate the full bank of final exam questions to gather data on how many participants answered each question correctly. This allows you to validate the questions and identify questions that require further consideration and possible revision.

A best practice is to conduct a debrief call with participants to gather further comments, as needed.

Outputs

Implementation Outputs

During this phase, you will analyze the results of the pilot and revise the instructional materials to improve the training for its audience. The outputs of the implementation phase include:

- Feedback from instructors and other stakeholders
- Participant course evaluations
- Post training assessment results

Knowledge Checks

Knowledge Check – 1

All the materials are developed for a new virtual instructor-led training (VILT) course your organization will be offering. What are some of the key activities you will typically need to complete during the implementation phase?

Select all that apply. Check your answer in the Answer Key at the end of this Student Guide.

- Train the trainers who will be teaching the VILT.
- Revise the learning objectives so they better align with the course materials.
- Conduct at least one pilot that includes the target audience.
- Collect and address pilot feedback for future course improvements.
- Write the course assessment that will be used after the course is piloted.

Knowledge Check – 2

You are preparing to beta test a new web-based training course. Which of the following information (outputs), will you be able to collect from the beta test?

Select all that apply. Check your answer in the Answer Key at the end of this Student Guide.

- Learner feedback from the completed course evaluation forms

- Results from the learner assessment form learners completed at the end of the training
- Feedback from the learners' supervisors concerning impact of the training
- Feedback from an interview with learners who participated in the beta test

Conclusion

Closing

You have completed the Implementation Phase lesson.

Lesson 7: Evaluation Phase

Introduction

Lesson Overview

This lesson describes the evaluation phase, including its key activities and outputs. At the conclusion of this lesson, you will be able to:

- Describe the evaluation phase and the key activities that take place during this phase
- Characterize the four levels of evaluation data in the Kirkpatrick Evaluation Model
- Characterize the difference between formative and summative evaluation, and
- Articulate the outputs of the development phase and the level of effort.

Evaluation Phase

As you learned earlier, evaluation occurs throughout all phases of the ADDIE model and provides the necessary feedback to the decision maker to determine what improvements the decision maker needs to make to enhance the training.

Key Activities

Evaluation

Let's start by looking at the key activities that take place during the evaluation phase. Evaluation:

- Links learning objectives to learner outcomes
- Ties learning to organizational activities
- Relates learning to job performance
- Provides quality control and continuous improvement

To facilitate this, before implementation, the developer must write an evaluation plan for measuring learner performance on the achievement of learning objectives and select techniques for evaluating and assessing the instruction and its effectiveness.

Before, during, and after implementation the developer must use the formative and summative evaluation as a guide to revise training programs as needed and review content to correct inaccuracies and weaknesses, while maintaining cutting edge instructional delivery methods with associated technology.

During and after implementation the developer must capture and monitor relevant data about learner performance and take action as required; and lastly, after implementation the developer

must review learning goals, objectives, and content when major revisions to governing doctrine, policies, or procedures occur.

Types of Evaluation

Kirkpatrick Evaluation Model

The Kirkpatrick Evaluation Model is a method used to evaluate the results of the training program. There are four levels within the model.

- Level 1 is “Evaluate Reaction.” Specifically, how did learners feel about the instruction?
- Level 2 is “Evaluate Learning.” What facts, techniques, skills, or attitudes did learners understand and retain?
- Level 3 is “Evaluate Behavior.” Did the instructional product change learners’ behavior in a way that impacts on-the-job performance?
- Level 4 is “Evaluate Results.” Did the program have an impact beyond the individual learner?

Ideally, it is important to have an evaluation strategy to assess each level in the model.

Level 1

Level 1 evaluation focuses on the instructor, course methodology, training facility, and other items the training program is required to assess. For level 1 evaluation, the primary input is from the learner’s reaction to the training program. This provides insight into the learner’s individual perception of the quality and effectiveness of training and other instructional delivery components.

Other aspects on which to collect information include engagement, involvement, and interest in the learning intervention coupled with applicable relevance to the job. This information is usually collected using post training surveys or interviews and is assessed at the conclusion of the training.

Level 2

The focus of Level 2 is what the participants learned because of the training. This can be evaluated using written or computer-based assessments. Examples include multiple-choice, true or false, matching, completion, and labeling questions.

Written assessments are typically used to test recall, understanding, and application. For example, questions can test if the learner can recall key information and understand key content addressed in the training as well as apply the information they learned to a scenario. The assessment questions are directly related to the objectives.

Other types of assessments include oral quizzes, performance exams, case studies, role playing, exercises or activities, and post training observations. This information is usually collected using

pre- and post-assessments or final exams at the conclusion of the training. To determine whether learning occurred, learners are generally assessed before and after instruction.

Level 3

Level 3 is used to measure how effectively the knowledge and skills transferred back to the work environment. This is generally assessed sometime after the completion of training. Assessing training at a later date allows you to measure if the learners are applying what they learned back on their job and if they were impacted by the training.

Level 3 evaluations may be directed at the learner and a supervisor as to how the training impacted performance. Both offer a unique perspective when determining whether the learner was able to apply the knowledge and skills from the training.

Level 4

Level 4 evaluation is used to measure the impact of a given training program on organizational results. The results of Level 4 evaluations are the most useful metrics to assess the value of a given training program.

However, conducting Level 4 evaluations is complex. Although it is highly encouraged that all organizations, where appropriate, attempt to align the most critical, formal training programs to address targeted organizational results within their respective components.

Learning Activity – 1

Time to put on your Training Professional Hat and answer a few questions on the Kirkpatrick Evaluation Model.

Your organization has created a web-based training (WBT), titled “Counterintelligence Concerns for Adjudicators”. This WBT learning topic addresses counterintelligence concerns for Adjudicators and explains concerns that may affect national security determinations.

For each evaluation outcome your organization would like to achieve, determine which level of evaluation data will provide this information.

Evaluation Outcome: Your organization wants to determine whether the learners are now able to identify and explain traits, characteristics, and motivations that may make someone more susceptible to being targeted and even co-opted.

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Level 1: Reaction
- Level 2: Learning
- Level 3: Behavior
- Level 4: Results

Evaluation Outcome: Two months after training, your organization wants to determine whether the learners are doing anything different as a result of the training. You are tasked to survey the learners and their managers to follow up on the learners' job performance.

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Level 1: Reaction
- Level 2: Learning
- Level 3: Behavior
- Level 4: Results

Evaluation Outcome: Six months after training, your organization wants to determine the effect of the training on your organization as a whole. You are tasked to determine which organizational data and other resources may be available to help you answer this question.

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Level 1: Reaction
- Level 2: Learning
- Level 3: Behavior
- Level 4: Results

Evaluation Outcome: Your organization wants to know how the learners felt about the learning experience. For example, did they enjoy the course? Did they find the information useful? Was it too long or too short?

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Level 1: Reaction
- Level 2: Learning
- Level 3: Behavior
- Level 4: Results

Formative and Summative Evaluation

Now let's look at two other types of evaluation strategies: formative and summative evaluation. Formative evaluation takes place during course design and development or during the review process of a new course. Summative evaluation takes place after the final version of the course has been implemented, after the implementation phase.

The purpose of the formative evaluation is to improve the instruction before the final version is implemented. The purpose of the summative evaluation is to measure the effectiveness of the training. This includes determining if the training achieved its intended goals and objectives, and the impact the program had on its intended audience.

The goals of the formative evaluation include improving the program design, enhancing the program implementation, and optimizing the program outcomes. While the goals of summative evaluation

include measuring the program outcomes, assessing the effectiveness of the program, and informing program improvements.

Formative Evaluation – Overview

Formative evaluation includes all of the activities that go into improving the product throughout the process. It primarily occurs during the Design, Development, and Implementation phases. For example:

- During the design phase, Subject Matter Experts (SMEs), can review design documents and provide input.
- During the development phase, stakeholders can review draft storyboards.
- During the implementation phase, training developers can collect and incorporate feedback from the pilot.

As a result of these reviews throughout the design, development and implementation phases, revisions are made to improve the instructional materials prior to finalizing the training.

Formative Evaluation – Feedback

Some of the reviews that may take place during formative evaluations include:

- Reviews by specialists not directly involved in the instructional development project
- One-on-one reviews in which a course designer works with individual learners to obtain data and revise materials
- Small-group evaluations in which a representative sample of the population reviews the materials on their own and provides feedback
- Feedback from a course pilot

Overall formative evaluation feedback can come from learners, instructors, SMEs, stakeholders, and pilot attendees. It can also be compiled from data collected from the pilot. This includes course evaluation forms that participants complete at the end of the training course to provide general feedback on the training and course assessment results indicating how much participants learned from the pilot.

Best Practices

Listed below are best practices to consider when performing formative evaluations.

- Have clearly defined goals and objectives for the evaluation
- Select the appropriate data collection method
- Collect data using clear and concise feedback instruments
- Use a sample size that will provide meaningful data

- Include stakeholders in the evaluation process
- Analyze the results to help make improvements to the training to ensure goals are met

Summative Evaluation – Feedback

Summative evaluation feedback is collected after the final version of the course has been implemented.

Feedback can come from learners, instructors, SMEs, stakeholders, learner observations, and productivity data. In addition, you can glean a lot of information from the course evaluation forms that participants complete at the end of the training course to provide general feedback on the training and the course assessment results indicating how much participants learned from the pilot.

Best Practices

Listed below are best practices to consider when performing summative evaluations.

- Have clearly defined goals and objectives for the evaluation
- Select the appropriate evaluation tools
- Collect data from a variety of sources
- Analyze and interpret the results of the data collected
- Use the results to help inform decisions about future development and implementations

Learning Activity – 2

Read each scenario and identify the type of evaluation you are conducting.

Scenario: Your organization is developing a new web-based training on a new timesheet application that will be available to all employees in your organization. To ensure the course meets the needs of the audience you bring in some members of the target population and SMEs to pilot the course to collect feedback.

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Formative evaluation
- Summative evaluation

Scenario: Your organization developed a new instructor-led course on time management and has been offering this course for a year. You have been tasked to conduct an evaluation of the course to measure the effectiveness of the training.

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Formative evaluation
- Summative evaluation

Outputs

Evaluation Outputs

The goal is to continuously evaluate the course whether it be throughout the design, development, and implementation process or after the training has been fully implemented to ensure that learners achieve the learning outcomes for the training. Outputs of the evaluation phase includes recommendations for course improvements based on the results from:

- Formative evaluations
- Summative evaluations
- Level 1 through 4 evaluations

Evaluation data is only beneficial if it is used. All the data from the evaluations can be used to continuously make improvements to the training to ensure goals are met and to help inform decisions about future development and implementations.

Knowledge Checks

Knowledge Check – 1

In which of the four levels of the Kirkpatrick Evaluation model does each of the following activities take place?

A learner indicates what they liked and didn't like using a course evaluation form.

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Level 1: Reaction
- Level 2: Learning
- Level 3: Behavior
- Level 4: Results

The course designer interviews a learner to see how the training impacted on-the-job performance three months after the training.

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Level 1: Reaction
- Level 2: Learning
- Level 3: Behavior
- Level 4: Results

A course owner reviews productivity data one year after the training to help determine impact of training on the organization.

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Level 1: Reaction
- Level 2: Learning
- Level 3: Behavior
- Level 4: Results

A learner completes a multiple-choice test at the completion of training.

Select the best response. Check your answer in the Answer Key at the end of this Student Guide.

- Level 1: Reaction
- Level 2: Learning
- Level 3: Behavior
- Level 4: Results

Knowledge Check – 2

Which of the following types of activities take place during the evaluation phase?

Select all that apply. Check your answer in the Answer Key at the end of this Student Guide.

- Distribute course evaluation forms for a webinar
- Create a prototype for a WBT
- Develop an evaluation sheet for a role-play activity
- Have participants complete a post test for a WBT course
- Have SMEs review a design document and collect feedback

Knowledge Check – 3

Which of the following are considered outputs from the evaluation phase?

Select all that apply. Check your answer in the Answer Key at the end of this Student Guide.

- Course evaluations collected from participants of a WBT course
- Front-end analysis report that indicates the training problem/solution
- Train-the-trainer guide used to train the trainers
- An evaluation report that summarizes the effectiveness of an existing ILT course
- Post-tests collected from participants of a WBT

Knowledge Check – 4

Which of the following statements are true about formative evaluation?

Select all that apply. Check your answer in the Answer Key at the end of this Student Guide.

- Its main purpose is to measure the effectiveness of training.
- It uses productivity data as part of the feedback process.
- It takes place during the design and development of the course.
- It takes place after the final version of course is implemented.
- Its main purpose is to improve instruction before final version of training is implemented.

Conclusion***Closing***

You have completed the Evaluation Phase lesson.

Lesson 8: Course Conclusion

Conclusion

ADDIE Summary

This course familiarized you with the ADDIE model and demonstrated how the process supports the development of learning products. Each phase is carried out in order; however, the iterative model allows for feedback and changes at each phase of development. The ADDIE model provides a structured and consistent approach in instructional design and a proven method for designing effective training.

Course Summary

Congratulations. You have completed The Fundamentals of ADDIE for Instructors course. You should now be able to:

- Summarize the events that occur at the different phases of ADDIE
- Analyze the phases of ADDIE and their impacts upon each other

To receive course credit, you **MUST** take The Fundamentals of ADDIE for Instructors examination. Please use the STEPP system from the Center for Development of Security Excellence to access the online exam.

Appendix A: Answer Key

Lesson 2 Review Activities

Knowledge Check – 1

During which phase will you determine when, where, and how instruction takes place?

- Analysis
- Design (correct response)
- Development
- Implementation
- Evaluation

Feedback: During the design phase you will determine when, where, and how instruction takes place.

During which phase will you identify improvements to training?

- Analysis
- Design
- Development
- Implementation
- Evaluation (correct response)

Feedback: During the evaluation phase you will identify improvements to training.

During which phase will you identify the who, what, when, where, why, and how of training development?

- Analysis (correct response)
- Design
- Development
- Implementation
- Evaluation

Feedback: During the analysis phase you will identify the who, what, when, where, why, and how of training development.

During which phase will you execute and deliver the designed course/event?

- Analysis
- Design
- Development
- Implementation (correct response)

- Evaluation

Feedback: During the implementation phase you will execute and deliver the designed course/event.

During which phase will you create and validate the training deliverables?

- Analysis
- Design
- Development (correct response)
- Implementation
- Evaluation

Feedback: During the development phase you will create and validate the training deliverables.

Knowledge Check – 2

Which of the following is NOT true about the ADDIE model?

- Design is the first phase in the cyclical model. (correct response)
- Each phase is carried out in order.
- Outputs of each phase provide inputs into the next phase.
- The ADDIE model allows for feedback and changes.

Feedback: ADDIE is a cyclical model. Each phase is carried out in order; the model allows for feedback and changes; and the outputs of each phase provide inputs into the next phase. Analysis, not design, is the first phase in the cyclical model.

Lesson 3 Review Activities

Learning Activity

Problem: There is a new policy being released that will transform how the Federal Government vets individuals for a trusted workforce. All Executive Branch departments and agencies are now required to comply with these requirements. You currently support the training for the Personnel Security discipline and recognize this will impact the current curriculum. You need to determine how the knowledge and skills taught in the current curriculum will need to change to address the new policy and to keep the Personnel Security personnel up-to-date with these new policies.

Which of the following analysis method will best address the problem?

- Needs/Gap assessment (correct response)
- Needs analysis
- Audience analysis
- Task analysis

Feedback: The Needs/Gap assessment will help you determine the gaps between the existing and desired performance.

Knowledge Check – 1

During the analysis phase you determined that the performance problem appears to be a training issue. Now that you know training is needed, what are some of the activities that you may need to complete during the analysis phase?

- Create the prototype template for the training
- Determine scope of the training goals and objectives (correct response)
- Develop the design document for the training
- Create the training templates for the course materials
- Identify and define the characteristics of the target population (correct response)
- Determine the appropriate method of instruction (correct response)

Feedback: *Determining the scope of the training goals and objectives, identifying the target population, and determining the method of instruction are some of the activities you may need to complete during the analysis phase.*

Knowledge Check – 2

Your organization just introduced a new computer application to track the progress of projects. This new application requires the end user to complete multiple screens and follow a variety of steps to properly use the application. The organization cannot design and develop the training without completing an analysis first. Which type of analysis will best solve this problem?

- Needs analysis
- Task analysis (correct response)
- Learner/Audience analysis
- Needs assessment/Gap analysis

Feedback: *Task analysis will help determine the tasks and subtasks that must be followed when using the application as well as the standards that have to be met.*

Knowledge Check – 3

You are currently working on the course design for a new instructor-led training course. Which of the following outputs from the analysis phase can be leveraged during the design phase?

- A front-end analysis that outlines performance problems and solutions (correct response)
- A requirements analysis that helps determine the needs for the training program
- A business analysis that helps assess the training culture of the organization
- A needs assessment/gap analysis that identifies gaps in existing and desired performance (correct response)
- A learner/audience analysis that helps define the learner (correct response)

Feedback: *Front-end analysis, needs/gap analysis, and learner/audience analysis are all outputs from the analysis phase that can be leveraged during the design phase.*

Lesson 4 Review Activities

Learning Activity – 1

Your organization is implementing a new timesheet application. Approximately 10,000 employees from all over the country need to be trained. The content is stable and considered fairly basic, but it is too complex to train with a single stand-alone job aid. Course objectives are: [1] Identify what's new and improved with the timesheet application. [2] Sign into the timesheet application. [3] Enter hours into the appropriate screen of the timesheet application.

What would you recommend as the best method to deliver the training?

- Instructor-led training
- Virtual instructor-led training
- Web-based training (correct response)
- Microlearning

Feedback: *Given that there is a large audience for this training who are located all over the country, WBT seems to be a good option. In addition, the objectives are at the lower levels of Bloom's taxonomy and lend themselves well to WBT.*

Learning Activity – 2

Using the same scenario, let's try one more question pertaining to the instructional strategies for this WBT course. You need to determine the instructional strategy for the second training objective: Sign into the timesheet program.

What would you recommend for the instructional strategy for this WBT objective?

- Provide an explanation of the sign in process using text and graphics synced with audio and ask a knowledge check question.
- Show a video demonstration of the sign in process.
- Show a video demonstration of the sign in process and have the learners complete the sign in process using an online simulation that provides feedback. (correct response)

Feedback: *Since the objective is asking the learner to "apply" the knowledge by signing into the timesheet program, a demonstration followed by practice simulation and feedback is ideal.*

Knowledge Check – 1

You are assigned to develop a web-based training course on Workplace Ethics. The course includes video showing correct and incorrect behaviors in the workplace. What will you need from the design phase to begin the development process?

- Approved template for WBT (correct response)

- Detailed design document (correct response)
- Assessment questions (posttest)
- Storyboards (correct response)
- Video script (correct response)
- Learner guide

Feedback: You will need the detailed design document, storyboards, video script, and the approved template for the WBT.

Knowledge Check – 2

You are supporting the design of a new virtual instructor-led training course. Which of the following activities need to be complete before training development can begin?

- Develop job aids
- Write the learning objectives (correct response)
- Determine how you will assess the learners (correct response)
- Create the course management guide
- Write the content outline with instructional strategies (correct response)
- Determine how you will evaluate the instruction (correct response)

Feedback: Writing the learning objectives, writing the content outline with instructional strategies, and determining how you will assess the learners and evaluate the instruction are just some of the many activities that need to be complete before training development can begin.

Knowledge Check – 3

You are currently designing a WBT course on email security best practices. One of the objectives is: Given a scenario, determine how to keep your computer and personal information safe by following the three email safety rules. Which of the following is the best instructional strategy to support the learning objective?

- Present the three email security best practices.
- Share example of what could happen if the three email safety rules are not adhered to.
- Present the email security best practices and ask learners to review related scenarios and determine what to do in each of the scenarios. (correct response)

Feedback: Presenting the content and allowing the learners to practice applying the three email safety rules aligns with the course objective.

Lesson 5 Review Activities

Learning Activity

You are currently developing training on how to respond to weather emergencies in the workplace. One of the objectives for the course is: Given a description of an emergency situation, determine the appropriate course of action you should take. You need to write assessment questions for the course. Which of the following will best assess this objective?

- You are in a meeting at work and the fire alarm goes off. How is the fire department notified? (multiple-choice question)
- The response for a fire alarm and hazardous chemical spill are the same. (true or false question)
- Match each type of alarm with the designated response. (matching question)
- You are working in your office and the tornado siren goes off. What should you do? (multiple-choice question) (correct response)

Feedback: *The objective specifies the learner needs to determine the appropriate course of action to take. Asking the learner what to do if a siren goes off allows them to apply the knowledge given a specific scenario.*

Knowledge Check – 1

Which of the following are possible outputs, or deliverables, from the development phase?

- Course assessment (correct response)
- Programmed course (correct response)
- Train-the-trainer materials (correct response)
- Produced video segments (correct response)
- Front-end analysis
- Printed student guides (correct response)
- Instructor and participant materials (correct response)
- Design document

Feedback: *Depending on the instructional method, possible outputs from the development phase include course assessments, a programmed course, train-the-trainer materials, produced video segments, printed student guides, and instructor and participant materials.*

Knowledge Check – 2

You are developing a 2-hour instructor-led course for supervisors on how to provide positive and constructive feedback during performance reviews. What are some of the activities that you may need to complete during the development phase?

- Create the course objectives

- Create job aids (correct response)
- Create instructor and participant guides (correct response)
- Create a programmed course
- Create a role play activity for participants to practice (correct response)
- Create an assessment to test knowledge gained (correct response)

Feedback: *Creating instructor and participant guides, job aids, role play activities, and an assessment are some of the activities you may need to complete during the development phase.*

Knowledge Check – 3

You are developing a 1-day instructor-led course on interviewing skills. One of the course objectives is the following: Given a scenario, participants will be able to conduct an interview with an applicant using the five-step interviewing process. To assess this objective, what would be the best assessment to use at the conclusion of this training?

- Participants make a short presentation on how to conduct an interview.
- Participants answer a multiple-choice question on the five-step interviewing process.
- Participants conduct a practice interview with a team member with an observer providing feedback. (correct response)
- Participants complete a fill in the blank question on the five-step interviewing process.

Feedback: *Having participants conduct a practice interview and receive feedback is the best assessment to use at the conclusion of this training.*

Lesson 6 Review Activities

Knowledge Check – 1

All the materials are developed for a new virtual instructor-led training (VILT) course your organization will be offering. What are some of the key activities you will typically need to complete during the implementation phase?

- Train the trainers who will be teaching the VILT. (correct response)
- Revise the learning objectives so they better align with the course materials.
- Conduct at least one pilot that includes the target audience. (correct response)
- Collect and address pilot feedback for future course improvements. (correct response)
- Write the course assessment that will be used after the course is piloted.

Feedback: *During the implementation phase for a VILT you will train the trainers, conduct a pilot, and collect and address feedback for future course improvements.*

Knowledge Check – 2

You are preparing to beta test a new web-based training course. Which of the following information (outputs), will you be able to collect from the beta test?

- Learner feedback from the completed course evaluation forms (correct response)
- Results from the learner assessment form learners completed at the end of the training (correct response)
- Feedback from the learners' supervisors concerning impact of the training
- Feedback from an interview with learners who participated in the beta test (correct response)

Feedback: From the learners, you can collect course evaluations and the results of the learner assessments. You can also interview and collect feedback from the learners who participated in the beta test.

Lesson 7 Review Activities

Learning Activity – 1

Your organization has created a web-based training (WBT), titled “Counterintelligence Concerns for Adjudicators”. This WBT learning topic addresses counterintelligence concerns for Adjudicators and explains concerns that may affect national security determinations.

For each evaluation outcome your organization would like to achieve, determine which level of evaluation data will provide this information.

Evaluation Outcome: Your organization wants to determine whether the learners are now able to identify and explain traits, characteristics, and motivations that may make someone more susceptible to being targeted and even co-opted.

- Level 1: Reaction
- Level 2: Learning (correct response)
- Level 3: Behavior
- Level 4: Results

Feedback: Level 2 evaluation is used to determine whether learning occurred.

Evaluation Outcome: Two months after training, your organization wants to determine whether the learners are doing anything different as a result of the training. You are tasked to survey the learners and their managers to follow up on the learners' job performance.

- Level 1: Reaction
- Level 2: Learning
- Level 3: Behavior (correct response)
- Level 4: Results

Feedback: Level 3 evaluation will help the organization determine whether the training changed learners' behavior in a way that impacts on-the-job performance.

Evaluation Outcome: Six months after training, your organization wants to determine the effect of the training on your organization as a whole. You are tasked to determine which organizational data and other resources may be available to help you answer this question.

- Level 1: Reaction
- Level 2: Learning
- Level 3: Behavior
- Level 4: Results (correct response)

Feedback: Level 4 evaluation will help the organization determine whether the training program had an impact on the organization.

Evaluation Outcome: Your organization wants to know how the learners felt about the learning experience. For example, did they enjoy the course? Did they find the information useful? Was it too long or too short?

- Level 1: Reaction (correct response)
- Level 2: Learning
- Level 3: Behavior
- Level 4: Results

Feedback: Level 1 evaluation will help the organization determine how the learners felt about the training.

Learning Activity – 2

Read each scenario and identify the type of evaluation you are conducting.

Scenario: Your organization is developing a new web-based training on a new timesheet application that will be available to all employees in your organization. To ensure the course meets the needs of the audience you bring in some members of the target population and SMEs to pilot the course to collect feedback.

- Formative evaluation (correct response)
- Summative evaluation

Feedback: Formative evaluation occurs during course design and development or during the review process of a new course.

Scenario: Your organization developed a new instructor-led course on time management and has been offering this course for a year. You have been tasked to conduct an evaluation of the course to measure the effectiveness of the training.

- Formative evaluation
- Summative evaluation (correct response)

Feedback: Summative evaluation occurs after the final version of the course has been implemented.

Knowledge Check – 1

In which of the four levels of the Kirkpatrick Evaluation model does each of the following activities take place?

A learner indicates what they liked and didn't like using a course evaluation form.

- Level 1: Reaction (correct response)
- Level 2: Learning
- Level 3: Behavior
- Level 4: Results

Feedback: Course evaluations can be used to gauge the learners' positive and negative reactions to the course.

The course designer interviews a learner to see how the training impacted on-the-job performance three months after the training.

- Level 1: Reaction
- Level 2: Learning
- Level 3: Behavior (correct response)
- Level 4: Results

Feedback: Collecting feedback from learners some time after the training can be used to measure behavior changes due to the training.

A course owner reviews productivity data one year after the training to help determine impact of training on the organization.

- Level 1: Reaction
- Level 2: Learning
- Level 3: Behavior
- Level 4: Results (correct response)

Feedback: Productivity data collected some time after the training can be used to measure the organizational results of the training.

A learner completes a multiple-choice test at the completion of training.

- Level 1: Reaction
- Level 2: Learning (correct response)
- Level 3: Behavior
- Level 4: Results

Feedback: Post-test results can be used to measure the learners' knowledge gained in a course.

Knowledge Check – 2

Which of the following types of activities take place during the evaluation phase?

- Distribute course evaluation forms for a webinar (correct response)
- Create a prototype for a WBT
- Develop an evaluation sheet for a role-play activity
- Have participants complete a post test for a WBT course (correct response)
- Have SMEs review a design document and collect feedback (correct response)

Feedback: *Using course evaluations, having participants complete a post test for a course, and having SMEs review and provide feedback to a course being developed are all evaluation activities.*

Knowledge Check – 3

Which of the following are considered outputs from the evaluation phase?

- Course evaluations collected from participants of a WBT course (correct response)
- Front-end analysis report that indicates the training problem/solution
- Train-the-trainer guide used to train the trainers
- An evaluation report that summarizes the effectiveness of an existing ILT course (correct response)
- Post-tests collected from participants of a WBT (correct response)

Feedback: *Course evaluation forms, post-tests, and an evaluation report that summarizes the effectiveness of training are all outputs from the evaluation phase.*

Knowledge Check – 4

Which of the following statements are true about formative evaluation?

- Its main purpose is to measure the effectiveness of training.
- It uses productivity data as part of the feedback process.
- It takes place during the design and development of the course. (correct response)
- It takes place after the final version of course is implemented.
- Its main purpose is to improve instruction before final version of training is implemented. (correct response)

Feedback: *Formative evaluation takes place during the design and development of the course, and its main purpose is to improve instruction before the final version of training is implemented.*