**CASE STUDY 2: Creating Learning Objectives**

**Section 1: Introduction**

In the last case study we examined how the analysis phase of the ADDIE process laid the foundational base for the development phase of the ADDIE process. As you recall, the needs analysis identified four areas relative to contracts where proficiency gaps existed:

* + Contract overview
  + Contract planning
  + Contract formation
  + Contract management

. Candace worked with Victor and members of the FIPT to conduct a job task analysis in the area of Contract Planning. They worked closely with Lilly, a SME in the FIPT, who has expertise in contract planning, and collected documentation from the Federal Acquisition Regulation (Parts 1-53) and the Defense Federal Acquisition Regulation Supplement (DFARS). After researching all areas of contract planning, Victor was able to complete the job task analysis.

From this analysis, Victor identified five desired performance competencies:

* **Understand the policies pertaining to types of contracts that may be used in acquisition.**
* **Understand the policies pertaining to selecting contract types.**
* **Understand policies pertaining to fixed-price contracts**
* **Understand policies pertaining to cost reimbursement contracts**
* **Understand procedures for selecting contract types**

You will also remember that Victor completed the audience analysis and determined that the learners were educationally and experientially diverse and they did not have common prerequisite coursework or work experience. Thus, Candace and the curriculum design team will need to design the learning asset in a manner that accommodates all new hires; they must assume that the learners have no foundational knowledge/skill-sets in the area of contract planning.

Having completed the task analysis and being informed by the outcomes of the needs and audience analyses, Candace and the other members of the curriculum development team are now ready to move into the design phase of the ADDIE model. They move forward armed with an understanding of the instructional goals and observed performance gap that they are expected to address (needs analysis) in the learning asset; a list of desired performance competencies for the intended audience (job task analysis) that will guide the content of the learning asset; and a knowledge of the audience characteristics (audience analysis) that informs them of the learner’s needs as they develop the learning asset.

* The next step in the ADDIE process is the Design phase which includes:
* Creating measurable objectives that will delineate what the learner will know or be able to do at the end of instruction
* Determining and developing appropriate means of assessing the learner to validate that the learner has achieved the learning objectives
* Developing an instructional strategy that aligns with and supports the learning objectives and the means for assessing those objectives

**Section 2: THE CASE: Developing Objectives**

* Victor, the Performance Learning Director (PLD), meets with Candace the lead ISD and Lilly the contract SME of the Functional Integrated Process Team (FIPT) to begin the Design phase of the ADDIE process. The first phase of the design process involves creating **observable and measurable** objectives that will delineate what the learner will know or be able to do at the end of the instruction. Victor, with the assistance of Candace and Lilly will develop the objectives for the learning asset.
* Candace is working on the objectives for Contract Planning. As you will recall from Case Study 1, Victor and Candace with the help of Lilly, a SME on the FITP, identified the following desired competencies for Contract Planning that are consistent with the FPD200 competencies :
* **Understand the policies pertaining to types of contracts that may be used in acquisition.**
* **Understand the policies pertaining to selecting contract types.**
* **Understand policies pertaining to fixed-price contracts**
* **Understand policies pertaining to cost reimbursement contracts**
* **Understand procedures for selecting contract types**
* Candace can now begin to write the learning objectives based on the desired performance competencies from the job task analysis. The objectives Candace will now develop will qualify as Terminal Learning Objectives (TLOs) since they will be statements that describe what learners will know or be expected to do upon completing a full unit or lesson within the learning asset.
* Lilly works with Candace in identifying broad areas of content they need to include in the learning asset to ensure the learner can achieve the desired performance competencies. They began by addressing the first desired performance outcome [**Understand the policies pertaining to types of contracts that may be used in acquisition.**]which supports the organization’s learning goal [**Contract planning**].
* Included in Lilly’s list of necessary broad content is:
* **contracting policies**
* **contracting and non-contracting methods for satisfying FAR requirements**
* **acquisition methods and appropriate applications**
* Keeping in mind that that a learning objective is a single statement describing what learners will know, understand, or be expected to do as a direct result of a learning asset’s intervention, and that the objective must be both observable and measurable, Candace composed the following objectives using the standard **[The subject] will be able to [verb] the [object]** format.

**The learner will be able to explain contracting policies that pertain to Federal Acquisition Regulations.**

**The learner will be able to summarize methods that satisfy FAR requirements relative to contracting and non contracting methods.**

**The learner will be able to complete a graphical representation off appropriate acquisition procedures including non-contraction alternatives.**

* Now that she has the terminal objectives written, Candace considers where each objective lies on the Knowledge Dimension/Cognitive Process Dimension Table. (table 2.2.1)
* The verbs used in the four terminal objectives are: ***“explain” “summarize”, “complete”,*** All of these verbs are consonant with Bloom’s second level of cognition which is *Understanding*. The first two competencies focus on policies and their underlying concepts, which requires the learner to be engaged in thoughtful, reflective learning that creates a web of information from discrete pieces of information; thus, all three of these objectives can be classified on the table below as being conceptual knowledge at the understanding level (cell B2). The third objective, however, asks the learner to complete a graphical representation that visually represents procedures. This requires that the learner understand the procedures and be able to demonstrate knowledge of how to perform these procedures according to a set of rules; thus the third objective would be classified as procedural knowledge at an understanding level (cell C2). However, Candace knows from the learner analysis that she cannot assume that the targeted audience has relevant factual knowledge, and she makes a note that she will have to accommodate this when developing her enabling objectives (ELO) which are statements that that describe what learners must know or be able to do to achieve a terminal learning objective (TLO). But, since the target cognitive process dimension is at a level 2, the lowest level learners can be accommodated easily by including enabling learning objectives at the first levels of the cognitive process dimensions (B1 & C1).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Knowledge Dimension** | **Cognitive Process Dimension** | | | | | |
|  | *Remember* | *Understand* | *Apply* | *Analyze* | *Evaluate* | *Create* |
| *Factual Knowledge* | A1 | A2 | A3 | A4 | A5 | A6 |
| *Conceptual Knowledge* | B1 | B2 | B3 | B4 | B5 | B6 |
| *Procedural Knowledge* | C1 | C2 | C3 | C4 | C5 | C6 |
| *Metacognitive Knowledge* | D1 | D2 | D3 | D4 | D5 | D6 |

Table 2.2.1

* Candace now consults Victor and the FIPT to validate the objectives she has written. During the validation process, the objectives are judged against the criteria in Table 2.2.2. Comparing Candace’s objectives to the criteria, the FIPT and Victor approve the terminal objectives.

|  |  |
| --- | --- |
| **Criteria for Validating a Learning Objective** | **Yes or No** |
| The objective states or reasonably implies the target audience. | yes |
| The objective identifies an action for the audience to demonstrate. | yes |
| The objective describes an object of the action that learners will be expected to demonstrate. | yes |
| The action identified in the objective is one that an instructor can observe and measure in an assessment. | yes |
| The cognitive process involved in demonstrating the learning objective is appropriate for the target audience. | yes |
| The object of the learning objective adequately reflects the knowledge dimension of the task. | yes |

Table 2.2.2

* Later in the design phase Candace will develop the content and the enabling objectives that will support each terminal objective, but she must first move on to the assessment phase of the design process, which we will discuss in the next lesson.
* **This phase in the ADDIE process guides the development of the learning asset.** (see fig. 2.2.1)

Fig. 2.2.1

**Needs Analysis**: Identifies instructional goals of the organization

e.g. **[*Contract Planning*]**

**Job Task Analysis**: Identifies ***performance competencies*** that support the instructional goals of the organization.

e.g.***[Understanding poli*cies pertaining to *selecting contract types]***

Informs

Supports

**Terminal Learning Objective (TLO)**: is a statement that describes what learners will know or be expected to do upon completing a learning asset or after completing a full unit or lesson within the learning asset.

e.g. ***[The learner will be able to explain contracting policies that pertain to Federal Acquisition Regulations.]***

**]**

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Informs

Supports

**Enabling Objective (EO):** is a statement that describes what learners must know or be able to do in order to achieve a TLO.

e.g.:

***The learner will recognize the policy governing a fixed price contract and a cost reimbursement contract.***

***The learner will list the characteristics of a fixed price contract and a cost reimbursement contract.***

***The learner will recall the definitions of a fixed price contract and of a cost reimbursement contract.***

***The learner will name the two broad categories of contracts that may be used in acquisitions.***

Supports

Informs

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Supports

**Section 3: Focus of analysis: Explain how each step in the process of developing objectives is informed by the step before and is supportive of the step before.**

* **Analysis Prompts**
  + How does the analysis phase inform the development of terminal objectives?
  + How do terminal objectives support the analysis phase and inform enabling objectives?
  + How do enabling objectives support terminal objectives?

**ANALYSIS GUIDE**

**Prompt**

* **How does the analysis phase inform the development of terminal objectives?**

The analysis phase of the ADDIE process produced three critical analyses:

* **The needs analysis** identified performance gaps that formed the basis for the learning goal of the organization. Everything that comes after this must support this goal.
* **The job task analysis** identified desired performance competencies that were developed from the information gleaned in the needs analysis. Each performance competency supports the organizational learning goal.
* The outcome of the needs analysis is hierarchically superordinate to every other aspect of the ADDIE process and it directly drives the task analysis which is hierarchically below the needs assessment. Information from the task analysis then drives the formation of terminal objectives.
* **The learner analysis** identified learner characteristics that affect learning. These data provide information about the appropriate cognitive levels the objectives must be written.

**Prompt**

* **How do terminal objectives support the analysis phase and inform enabling objectives?**

Terminal objectives are derived directly from the desired performance competencies identified in the job task analysis. Think of working from the apex of a triangle downward. The desired performance competencies are above the terminal objectives, so the terminal objectives must act to support the desired performance competencies. Terminal objectives can do this easily because they take the information directly from the desired performance competencies and break that information into more defined parts. Once the terminal objectives have been developed they then inform the enabling objectives below them in the triangle.

goals

Desired

performance competencies

Terminal Objectives

Enabling Objectives

Support

Inform

**Prompt**

* **How do enabling objectives support terminal objectives?**

Terminal objectives describe what learners will know or be expected to do upon completing a learning asset, or after completing a full unit or lesson within the learning asset. Enabling objectives support the terminal objectives by specifying what the learner must know or be able to do to achieve the terminal objective.

**It is important to note that the components of the analysis phase and the development of objectives are interlocked in a pattern of informing and supporting;**

* **failure of a superordinate part to inform the subordinate part results in failure of the learning asset**
* **failure of the subordinate part to support the superordinate part results in failure of the learning asset.**