**CASE STUDY 3: Developing Assessments**

**Section 1: Introduction**

In the last case study, we examined the process for developing learning objectives and discriminated between terminal learning objectives (TLO) and enabling learning objectives (ELO). We discussed how the development of objectives is a direct result of the analysis phase of the ADDIE Model. Integral to the ADDIE process is the interlocking of phases; that is after the organizational learning goal has been established, everything after is informed by what came before it and is designed to support what came before it. It is somewhat like building a house from the roof down.

Candace, created objectives based on the findings of the task analysis outcomes. During the task analysis, Victor identified desired performance competencies that would support the elimination of the observed performance gap that was found in the needs analysis:

* + **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**
* Lilly and Candace examined each of the desired performance outcomes that emanated from the task analysis to identify broad content that would support the desired performance outcomes. Included in the identified broad content for the first desired performance competency [**Understand the policies pertaining to types of contracts that may be used in acquisition.**]which supports the organization’s learning goal [**Contract planning]** were the following:
* **contracting policies**
* **contracting and non-contracting methods for satisfying FAR requirements**
* **acquisition methods and appropriate applications**
* From this list of broad content, Candace developed the following TOs:
  + **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.**
* Victor and the FIPT validated the objectives and now Candace is ready to move on to the assessment piece in the design phase. While Candace is working on the assessment phase, the FIPT is continuing to expand the content that will be included in the learning asset and develop the enabling learning objectives. Not sure if this goes here or in the last chapter…I’ve seen it done both ways, and I couldn’t find the documentation that gave me a clear answer☹

While logic would suggest that the next step would be to develop the content of the learning asset that supports the terminal learning objectives, that isn’t the case. Why? Because a cardinal rule of instruction is that assessment drives instruction; you need to know where you are going from the start.

Aligning your assessments to your desired learning outcomes **before** you develop your content allows you to build a framework of assessment that is focused on and intentionally developed to prepare the learner to achieve the desired performance competencies. Content can then be worked into this framework in a manner that aligns with the terminal objectives of the learning asset.

**Section 2: THE CASE: Assessment**

* Candace as the ISD lead works with the Victor who is the PLD and FIPT to determine the most efficient methods for adequately measuring learners’ mastery of the learning objectives they defined To do this they turn to the TLOs they developed earlier. They will produce a general statement describing the methods that will be employed to assess learners’ performance within the learning asset, as well as how that performance will be measured.
* Candace and Victor know that the learning objectives for the learning asset will form the foundation for assessment, and that learning objectives and assessments must be completely aligned. At this point they look at the TLOs they developed and refer to the table that they highlighted, which reflects the alignment between the cognitive and knowledge dimensions for specific learning objectives.

* + **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.**

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| **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 |

This table helps them get a good sense of the specific types of performance that will be expected of learners in demonstrating mastery of all or part of a learning asset. This understanding provides insight that will help them develop assessment strategies appropriate for the learning asset.

* Candace now reviews five things they must consider before selecting an assessment strategy:
  + The cognitive dimensions and knowledge dimensions of the respective objectives covered by all or part of a learning asset
  + The various assessment method categories
  + The most effective and efficient method for assessing the knowledge and thinking involved in performing a learning objective
  + Logistical and resource constraints that assessment methods must conform to
  + The ability of the methods selected to fully assess all of the objectives defined for a learning asset
* Given that the cognitive dimensions of the objectives are at the lower level of Bloom’s taxonomy falling into the Understanding level, and that the objectives address conceptual and procedural knowledge, Candace and Victor agree that the types of assessment that would best match the TLOs are objective written items or subjective written items. They disregarded the idea of using simple case studies based on resource constraints; and disregarded practical exercises and simulations based on logistic constraints.
* The next step is writing the assessment strategy. Victor reminds Candace of that DAU assessment strategies must include:
* Identification of all the methods of assessment for a learning asset
* A brief description of each of the specific methods of assessment
* An explanation of how the assessment methods correlate to the module or lesson structure of the course

They developed the following assessment strategy:

Students will be evaluated individually using objective quizzes that, subjective quizzes and examinations, and practical exercises. Each lesson of the course will include a 20 question quiz on the lesson’s readings of which at least 5 questions will require generative responses. Each module will include a practical exercise in which learners produce one part of a reference guide for assessment.

**Section 3: Focus of analysis: How does the assessment strategy evolve from the learning objectives?**

* **Analysis Prompts**
  + How do the learning objectives inform the development of an assessment strategy?
  + How do you align the assessment to the learning objectives?

**ANALYSIS GUIDE**

**Prompt**

* **How do the learning objectives inform the development of an assessment strategy?**

The first thing to remember is that assessment drives instruction. That is, we must make sure that we are assessing learners in a manner that will measure appropriate knowledge/skills as they move through the learning asset. If we are not measuring the correct knowledge and/or skills, the learner will not be prepared to meet the desired performance competencies upon completing the learning asset. For instance, if you were in a history class where the desired performance competency was **“understand battle strategies”,** yet the formative assessments (i.e. those assessments you took along the way) only tested you on the names of generals and the dates and places of the battles, then the formative assessments did not prepare you to meet the desired performance competency.

Remember also that the desired performance competencies were developed during the task analysis which informed the terminal objectives. The objectives translated the desired performance competencies into observable, measurable behaviors. So in our history example the objective may read “**The student will be able to compare and contrast battle strategies of the north and south in the battle of the Wilderness”.**

Once we have our objective it is easy to see that quizzing learners on names and dates may help them on Jeopardy, but will not help them meet the desired performance competencies. In this way, if we look to the objectives, we can appropriately align our assessments.

**Prompt**

* **How do you align the assessment to the learning objectives?**

Once you know what your objectives are you can place them on a knowledge dimension/cognitive process dimension matrix. This will tell you at what the level of Bloom’s your objectives are and what type of knowledge they address. This will give you the cognitive level at which you should be assessing and also the type of knowledge you are assessing. You now have two dimensions to which you can align your assessments.

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| --- | --- | --- | --- | --- | --- | --- |
| **Knowledge Dimension** | **Cognitive Process Dimension** | | | | | |
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* You must now consider the additional variables when considering your assessment strategy:
  + The cognitive dimensions and knowledge dimensions of the respective objectives covered by all or part of a learning asset
  + The various assessment method categories
  + The most effective and efficient method for assessing the knowledge and thinking involved in performing a learning objective
  + Logistical and resource constraints that assessment methods must conform to
  + The ability of the methods selected to fully assess all of the objectives defined for a learning asset
* After picking the most appropriate assessment strategy for your learning asset you must write an assessment strategy that is consistent with DAU guidelines:
* Identification of all the methods of assessment for a learning asset
* A brief description of each of the specific methods of assessment
* An explanation of how the assessment methods correlate to the module or lesson structure of the course