Building the Learning Foundation: Goals, Objectives, and Topics

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Objectives:

1. Using student handouts, define the foundational items of an educational activity.

2. Based on a unit defined educational need, develop the foundation of an educational activity in accordance with the GOT Performance Evaluation Sheet.

3. Using student handouts, discuss the relationships between the foundational items of an educational activity.

The aim of all education is, or should be, to teach people to educate themselves.
Arnold J. Toynbee (1971)

INTRODUCTION

When embarking on any new project, the first action taken is to develop a plan! "What will my project look like when it is complete?" Once we have a vision of what the project will look like, we begin to arrange the sections of the project necessary for completion. Of course, each section will have multiple pieces. Each of these pieces combines to complete the sections, to complete the project. Once the project is complete, we must evaluate the project to see if it met our vision of what the completed project should look like.

If any of the pieces do not fit with the other pieces, or the sections do not fit with other sections, the project will not meet our vision. Nor will our project be a safe, secure, and stable design. The same holds true for the foundation of any educational program. Each component of the foundation must fit with the other components. If they do not fit properly, your vision of the completed project will not be what you envisioned.

LEARNING GAP

A learning gap is the difference between the individual's current level of performance and the organizational standard. A learning gap can be determined through testing an individual's knowledge, observing their performance, or through quality improvement data. Once you find an individual is unable to meet minimum standard, you must determine if this is an educational or leadership issue. An individual may not meet minimum standard; but this may be due to faulty equipment (leadership issue), refusal to follow the organization's policy or procedure (leadership issue), or they do not have the necessary knowledge or skills to perform the procedure (educational issue).

In the event this is a leadership issue, forward the data to the individual's supervisor for further review. However, if this is an educational issue you will need to design an educational program, which will assist the individual to obtain, and consequently retain, the necessary knowledge or skills to perform to an acceptable level. A learning gap is not limited to one individual. You may find that a number of staff members

have a learning gap. Whether it is an individual or a group, you must design a learning activity, which will "bridge" the gap between the current level of knowledge or skill and the desired acceptable level.

"Instructional System Development…is a systems approach to analyzing, designing, developing, implementing, and evaluating any instructional experience" (ASTD, 2005, p. 3). This is the key to the design of any educational activity. If you approach each design process in a systematic way, you will ensure your elements build towards you eventual outcome. As you work through your process, there will be four elements to build the foundation of your learning activity. These are…

GOAL

OBJECTIVE

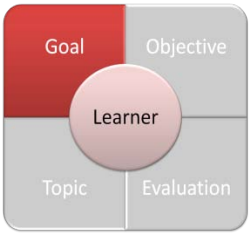
TOPIC

EVALUATION

We can now look at each of these items separately and see how they work, and how they fit with each other.

GOAL

A goal describes what YOU want the learner to achieve. What is the eventual outcome YOU would like to see as a result of this learning activity? Although you design a goal to assist the learner, it is the change YOU expect at the end of the activity. Based on the literature, you have your choice of the goal being measurable, or not. "A goal is an end product to achieve overall and is not measurable" (NNSDO, 2009, p. 211). "The overall goal or purpose is stated in such a way that it is a guide for measuring outcomes of the program" (Keating, 2006, p. 165).



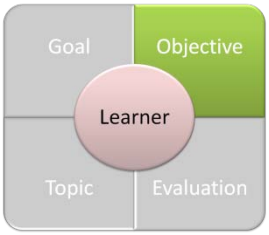
For our purposes, we want the goal to have a sense of measurement. How else will we be able to determine if our educational activity has had an effect? Besides being measurable, we must also relate our educational goal to a unit, department, or organizational goal. If our goal is to reduce the number of patient falls, then we can directly relate this to the organizational goal of Patient and Family Centered Care.

A goal should also be clearly written and achievable. We cannot reach a goal we cannot understand. It would also

be very difficult to develop objectives for a goal that is not clear to us. We also want progress to be achievable and believable. This does not mean that we must "make it easy" so that we obtain the goal. However, we want to make the goal a vision of where we really want to be. Are we satisfied with being among the top 25%? Do we really want to reduce falls by only 10%? On the other hand, do we really want to push ourselves and aim for a much higher level of practice? Employees need to believe the goal can be obtained, they will also realize the goal may not be achieved in a day.

To review:

- A goal is the change you want to make
- A goal has a sense of measurement
- A goal relates to organizational initiatives
- A goal is clearly written
- A goal is achievable



OBJECTIVE

"Clearly stated, specific, measurable objectives describe what the learner will do at the conclusion of training to demonstrate mastery" (Di Leonardi, 2008, p. 37). Notice that Di Leonardi refers to what the LEARNER will do. The LEARNER is the focus of the objective. The objective provides the LEARNER with the conditions under which (s)he will be assessed, what behaviors (s)he will need to show mastery, and the minimum acceptable standard. Where the goal is what YOU expect to have change, the objective is what the LEARNER will do.

The condition is what the learner will have, or not have, during the assessment. "When I determine if the learner meets standards, under what conditions will (s)he operate?" What am I going to provide, or take away from, the learner when mastery is assessed? The condition sets the stage for the learner, letting them know how they will operate.

The behavior is what the learner will gain from this activity. Will the learner gain new knowledge, new skills, or new attitudes at the end of this activity? "What will I be able to do at the end of this activity?"

The standard sets the limits on what is acceptable. Will an individual complete the assessment in ten minutes, or will

(s)he have to obtain 80% correct. Will there be an expectation that the individual will perform in accordance with (IAW) a set policy or competency? The standard provides the learner with the minimum criteria (s)he must meet in order to show they have obtained the necessary knowledge, skill, or attitude.

When you design your objectives, you will first provide the condition. Then, as you describe the behavior you will start with an action verb (levels and domains will be discussed latter in the presentation). An action verb allows the statement to be both measurable and observable.

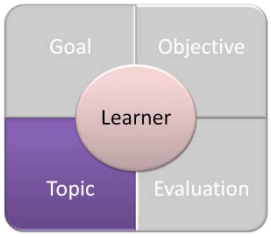
We must remember there are two types of objectives, terminal and enabling. A terminal objective is the result the learner should be able to perform. An enabling objective is one that supplements the terminal objective. As an example; "given a foley catheter kit, catheterize a patient in accordance with hospital policy" is a terminal objective. It is the result of training. An example of enabling objectives for this terminal objective might be, "given student handouts, identify genital-urinary anatomy to a minimum accuracy of 85%." Another example would be, "given a simulated situation, demonstrate aseptic technique in accordance with hospital policy."

You can see that both of the enabling objectives we used (and there would be many more) supplement the learners ability to perform the terminal objective. If the learner does not know human anatomy, (s)he may not place the catheter in the proper place! If (s)he does not practice proper aseptic technique, the foley catheter may be placed properly, but your infections rates will rise dramatically!

To review:

- An objective is what the learner will be able to accomplish at the end of the activity
- An objective contains a condition, behavior, and standard
- An objective is clear, measurable, and observable
- An objective contains action verbs
- An objective has only one behavior

TOPICS



If our vision of the expected change is our learning goal, and the objectives are what the learner must do to help make the change, then the topics are the elements of knowledge, skill, or attitude you provide the learner so (s)he can meet standards. As an example; if we continue to use our foley catheterization scenario, our goal might be:

Exceed the NDNQI standards for foley catheter related infection rates.

Based on this goal, our objectives might be:

Given learner handouts, identify urinary anatomy to a minimum accuracy of 80%.

Given a simulated scenario, demonstrate aseptic technique in accordance with the Foley Catheter Performance Evaluation.

Given a simulated scenario, demonstrate foley catheter insertion in accordance with the Foley Catheter Performance Evaluation.

Given a patient, demonstrate foley catheter insertion in accordance with the Foley Catheter Performance Evaluation.

As you may have noted, our goal states what we want to change, has a sense of measurement, is clearly written, and is achievable. Our objectives have conditions, behaviors, and standards; along with being measurable and observable. However, how does the learner gain the knowledge or skills necessary to meet the objectives?

If we take the first objective (urinary anatomy), what would be some of the main topics, or knowledge, the learner would need to pass an exam with a minimum of 80%? Might we cover:

1. Male genitalia
2. Female genitalia
3. Urinary tract
4. Bladder

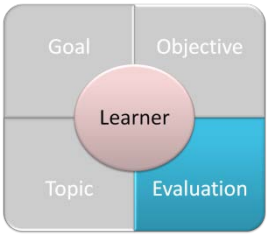
These would be the four main topics of urinary anatomy. With information on these four topics, we would expect the learner to be able to select the proper answers on a quiz, and be prepared to move to the next objective of demonstrating how to insert a foley catheter. Therefore, the topics support the objectives.

There is no limit on how many topics are required. You must determine what are the main points, to ensure the learner has the tools to gain mastery. Another key piece to topics (and to the Learning Foundation) is the method in which you teach the topic. Again, this is a complete college program you can obtain. However, for our purposes we must ensure the method we are using to teach the topic is congruent with the objective and method of evaluation.

To review:

- A topic is what you present
- A topic is a piece of knowledge, skill, or attitude the learner needs to develop mastery
- A topic supports the objective
- There is no limit on topics
- The teaching method is congruent with the objective and the evaluation

EVALUATION



Evaluation is the process of determining, has the learner met minimum standards? There are many ways of accomplishing this. For individuals who enjoy evaluation design there are college level programs for how to design and administer evaluations. This activity will not cover that information in the time we have.

However, one key point we will discuss is keeping the evaluation in conjunction with the objective. If you have an objective, which the learner must demonstrate, perform, assess an item; you will net evaluate learner mastery by providing a written exam. Nor would you allow the learner to verbalize what (s)he would do in a performance evaluation. If your objective relates to knowledge, you would evaluate using a quiz, test, verbal exam, etc. If your objective relates to psychomotor skills, you would evaluate the learner through a real or simulated situation. In this situation, the learner would actually complete the skill.

It is very important that you evaluate the learner, to the same domain and level that you told them you would in your objective.

DOMAINS AND LEVELS

In 1956, Benjamin S. Bloom published a document which was titled *Taxonomy of Educational Objectives: The Classification of Educational Goals* as part of a committee project and study. In this book, he describes the "Cognitive Domain." The book goes on to describe the levels of "knowledge structures" an individual can achieve in learning. Many years later, Anderson and Krathwohl (2001) made significant modifications to Bloom's Taxonomy. Anderson and Krathwohl changed the wording to a more action oriented and learner focused taxonomy. However, the essence of what Bloom suggested remained.

Various individuals suggested the "Psychomotor Domain." It appears E. J. Simpson made the first recommendation of a "Psychomotor Domain" in 1966 with recommended changes in 1972. R.H. Dave made recommendations in 1967 and 1970. A. J. Harrow also made further recommendations in 1972.

It was not until 1964 that Dr. Bloom published his findings with recommendations of the "Affective Domain." Each of these domains has a specific area of development to focus on. Each domain should also have a specific focus during instruction and evaluation.

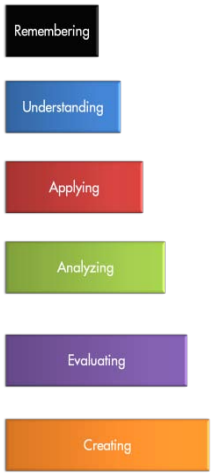
Cognitive Domain = knowledge, thinking

Psychomotor Domain = performance, doing

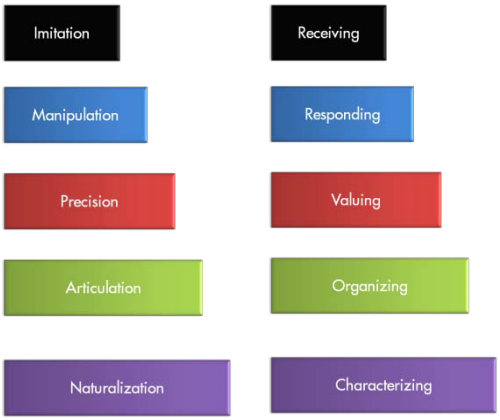
Affective Domain = behavior, feeling

Within each domain are levels of attainment. These describe the expected ability of the learner at a certain point. Using the Cognitive Domain, we see that there are six levels in Bloom's Taxonomy which include Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. As the learner enters into a new learning area they begin by memorizing what is said (Knowledge Level). As they progress in their learning they can repeat the information in their own words (Comprehension Level); which will turn into their being able to

apply (Application Level) the information you have provided in a problem or situation. They will begin to search for a problem as they begin the Analysis Level and improving on what information you have provided when they reach the Synthesis Level. The eventual ending of the Cognitive Domain is in the Evaluation Level. In Evaluation the learner begins to make decisions on "which is best," or "which one should we chose."



Anderson and Krathwohl's levels are similar in their essential information, however the titles are more action oriented, and learner focused. They use Remembering, Understanding, Applying, Analyzing, Evaluating, and Creating. Similarly, the Psychomotor Domain and the Affective Domain have levels to point to the expected level of ability for the learner (review the Action Verbs list in Appendix A for further information).



The key to using the domains and levels in any learning activity is to ensure you maintain the domain and level throughout the foundation of the program. You would not want to begin a program with an objective that uses a Psychomotor Domain action verb in the Precision Level, yet teach at the Imitation Level. On the other hand, you would not want to teach at the Imitation Level and evaluate at the Precision Level. The key to a solid foundation is to ensure you maintain the same domain and level throughout the program.

SUMMARY

Any educational activity requires a systematic approach to the design and development process. You need a vision of what will change (Goal). To help build that vision you need to know the areas of importance (Objectives) and the parts which will help put those areas in place (Topics). Once the vision is complete, how will you test the end product to ensure it meets your view of the vision (Evaluation)? Each piece of this puzzle must be in the right area and built to the same specifications if they are to all work together.

So, any time you begin the process of building a learning activity, take a few moments to plan. This will make the design process easier for you, while also helping your learner to gain and retain the information you provide.

COGNITIVE VERBS

Knowledge (Remembering)		Comprehension (Understanding)		Application (Applying)		Analysis (Analysing)		Synthesis (Evaluating)		Evaluate (Creating)	
memorizes your words	define list recall select identify find name match recite state quote reproduce	*repeats information in their own words*	discuss describe explain determine state translate interpret select summarize substitute give examples restate	*applies information to a given situation*	apply use demonstrate operate compute perform prepare predict present relate utilize employ solve	*searches for the problem*	analyze criticize contrast compare inspect solve distinguish determine outline differentiate examine diagram separate	*improves the plan or design*	plan design formulate develop organize modify compile propose produce integrate weigh create project	*makes a decision on which is best*	evaluate measure judge critique assess validate contrast compare appraise deduce conclude

Cognitive verbs are associated with the mental processes that occur with learning. When designing a cognitive objective, remember the **level of abilities** you expect must match the **level of verb use**. You would not expect the learner to be able to analyze a problem with a non-functioning defibrillator when your objective reads:

"Given a LifePak 2000, list the steps taken when an alarm sounds with 90% accuracy."

Listing the steps is only asking them to remember the steps to take when an alarm sounds, when I want the individual to provide hands-on analysis of a problem. A more level appropriate cognitive verb would be:

"Given a LifePak 2000, determine the cause of a system alarm with 90% accuracy."

PSYCHOMOTOR VERBS

Imitation		Manipulation		Precision		Articulation		Naturalization	
follows directions of what is seen	recognize acknowledge accept watch pay attention read directions examine observe copy	*follows written instructions*	follow directions perform hesitantly initiate begin react respond show start	*performs with a degree of skill*	assemble build construct fasten mend demonstrate repeat *(level of skill determines level of objective)*	*performs with minimal errors*	assemble build construct fasten mend demonstrate repeat *(level of skill determines level of objective)*	*performs efficiently*	assemble build construct fasten mend demonstrate repeat *(level of skill determines level of objective)*

Psychomotor verbs are associated with the physical processes that occur with learning. When designing psychomotor objectives, remember the **level of abilities** you expect must match the **level of verb use**. You would not expect the learner to be able to initiate CPR when your objective reads:

"Given a simulated situation, observe the code team functions IAW Code Team Checklist A."

Observation is only asking them to see what occurs, when I want the individual to provide hands-on application of his or her skills. A more level appropriate psychomotor verb would be:

"Given a simulated situation, initiate Code Blue actions IAW Code Team Performance Evaluation Sheet."

AFFECTIVE VERBS

Receiving		Responding		Valuing		Organization		Characterization	
listens to the information	listen control share combine tolerate attend acknowledge	*questions the information*	report select verbalize perform reply volunteer practice	*accepts the information*	explain initiate justify select debate examine support	*internalizes the information*	adhere defend debate integrate organize revise form judgments	*information is part of individuals personality*	practice use solve manage require stand for

Affective verbs are associated with the behavioral (attitude) processes that occur with learning. When designing an affective objective, remember the **level of abilities** you expect must match the **level of verb use**. You would not expect the learner to be able to defend their views on a belief when your objective reads:

"Given a five minute time period, select a belief system with 90% accuracy."

Selection is only asking them to make a choice from those beliefs available, when I want the individual to logically defend their particular beliefs about a subject. A more level appropriate affective verb would be:

"Given a five minute time period, defend your belief system with IAW the Belief System Performance Evaluation Sheet."

NURSING PERFORMANCE EVALUATION INSTRUCTIONS

PERFORMANCE TITLE	DEPARTMENT
Goals, Objectives, and Test	OPN
COURSE	DEVELOPMENT/REVIEW DATE
OPN_103	July 2010

EVALUATION CRITERIA *(Sequential elements of tasks and/or tasks and factors to be evaluated)*	PRACTICED	PERFORMED
OBJECTIVE: Based on a unit defined educational need, develop the foundation of an educational activity in accordance with the GOT Performance Evaluation Sheet REFERENCE MATERIALS: Goals, Objectives, and Test Learner Handouts Lesson Planning Matrix Verbs List INSTRUCTIONS: Each learner will develop the foundation of an educational activity using the Lesson Planning Matrix. Learners will be provided three minutes to think about a learning gap in their unit. Using this information, and with instructor assistance, the learner will complete the Lesson Planning Matrix. 1. Learners will define a learning need for their unit. The learner will list the need on the Lesson Planning Matrix in the Learning Need section. a. The learning need will state the difference between learner performance and organizational standards. b. The learning need will state quantitative requirements for the learning activity. 2. Learners will define the goal for their unit. The goal must: a. Have a sense of measurement b. Relate to a unit, department, or organizational initiative c. Be clearly written d. Be achievable 3. Learners will design two objectives, based on their unit goal. a. Each objective contains a condition, behavior, and standard b. Each objective is clear, measurable, and observable c. Each objective contains action verbs d. Each objective contains only one behavior		

EVALUATION CRITERIA (CON'T)	Practiced	Performed
4. Learners will list at least two topics related to each objective. a. Each topic will relate to the objective b. Each topic will be placed in a logical order c. Each topic will have a related method of instruction 5. Learners will select an evaluation method. a. Each evaluation method will relate to the corresponding objective b. Each evaluation method will be within the same domain and level as the objective Upon completion of this activity each learner will self-correct his or her Lesson Planning Matrix. Evaluation is based on form completion and participation in the discussion. <u>TIME LIMIT:</u> 30 minutes		

LESSON PLANNING MATRIX
LEARNING NEED
GOAL

OBJECTIVE	DOMAIN	LEVEL	OBJECTIVE	DOMAIN	LEVEL
TOPICS	METHODS		TOPICS	METHODS	
EVALUATION			EVALUATION		

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