Lesson Plans and Learning Domains

by

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First review basic information about **LESSON PLANS**.

For the EVOC 518 (**WR7 Collected Lesson Plans**) assignment, you are required to prepare a number of lesson plans that you actually use or could use for a course you are teaching or could teach. As you know from EVOC 501, good lesson plans are a critical component of being prepared to teach. There are a variety of different types of lesson plans. **If the school at which you teach requires lesson plans to be in a specific format, please use that format.** If not, please use either the EVOC 501 Lesson Plan Format or the EVOC 518 Lesson Plan Format.

Many times teachers think of lessons as dictated by the bell schedule - one period equals one lesson. As we become more comfortable and proficient in lesson planning, we soon realize that **a lesson is as long as it takes**. So, a lesson may take 5 minutes or 5 hours. However, it is almost always best to have short lessons that focus on a single specific task. A good lesson is designed to provide the instruction in a time conducive to learning. When you are designing your lessons, think about the following:

- Have I developed a student performance objective that clearly states what students should be able to do as the result of instruction (**condition, person, performance and criteria**) ?
- Have I decided on a way to introduce the lesson that will stimulate student interest and motivation (**anticipatory set**) ?
- Have I determined the most effective methods for the delivery of instruction (**lecture, demonstration, directed discovery**) ?
- Have I considered specific questions I can ask verbally to determine if students understand my instruction (**checking for understanding**) ?
- Have I designed activities which will give students the opportunity to practice what they have learned under instructor guidance and ultimately without supervision? (**guided and independent practice.**) ?

- Have I developed a way to review the lesson that had been given so that students will be reminded of what they have learned and why that is important (**closure**) ?

- Have I designed a written test question or performance check list that will measure the degree to which the student has met the specific student performance objective for the lesson (**evaluation**) ?

The most important part of any lesson plan is the student performance objective.

As you learned in EVOC 501, objectives should be a clear and specific statement of what a student will be able to do by the end of the lesson. Good objectives must include verbs that indicate specific student performance that can be observed or measured.

Under no circumstances should verbs like "understand," "know," "learn," or "appreciate" be used in student performance objectives.

Such vague terms may be used to describe general goals, but not specific objectives, because objectives must be observable and measurable. Consider an example, from the Peanuts cartoon series, where Peppermint Patty and Marcy attend a concert. If the conductor had written an "objective" that the audience would "appreciate" Mozart, he may or may not be able to measure that by observing Patty and Marcy - both might have their eyes closed, but Marcy would be experiencing the beauty of the music while Peppermint Patty would be asleep! An "objective" must be **measurable**! Thus words like "use," "demonstrate," "explain," "produce," "pass," "construct" all describe an activity that is observable and can be measured to some standard.

Remember the following abbreviation when I am developing lesson plans: **BEOLSWBAT** which means -

- **By** the **End Of** the **Lesson** the **Student Will Be Able To:**

To further illustrate the point, the abbreviated objectives below have first been written in red to illustrate the WRONG way, and then rewritten (immediately following) in green, to illustrate the RIGHT way:

- **WRONG** - By the end of the lesson the student will be able to understand how to use a band saw safely.
- **RIGHT** - By the end of the lesson the student will be able to list the four most common safety hazards associated with a band saw.

- **WRONG** - By the end of the lesson the student will be able to know and appreciate web page design.
- **RIGHT** - By the end of the lesson the student will be able to demonstrate the first three steps associated web page design.

- **WRONG** - By the end of the lesson the student will be able to learn about the components of a home computer.
- **RIGHT** - By the end of the lesson the student will be able to list and explain the six basic components of a home computer.

- **WRONG** - By the end of the lesson the student will be able to pass a test on materials needed to build a doghouse with 100% accuracy.
- **RIGHT** - By the end of the lesson the student will be able to list the materials needed to build a 16 sq. ft. doghouse.

So as you develop your lesson plans, pay careful attention to how you write your objectives. The major mistake made by most teachers is to make their objectives too all encompassing. Think about breaking down the various things you want students to be able to do (such as "build a 16 sq. ft. doghouse"), into more specific sub-tasks (such as "list the materials needed to build a 16 sq. ft. doghouse.") Also, it is never appropriate to have an objective that says a student should "pass a test." Good objectives should address each item on that test, with one objective for each item and the objective indicating the specific knowledge or skill that the student should "identify" (if it's a multiple choice test), "name" (if it's a fill in the blank test) or "describe" (if it's an essay test). Whenever writing an objective, think in terms of how the student will be tested to determine if he/she has met that specific objective. It's also helpful to think in terms of shorter, more specific lessons.

Now let's move on to a review of **LEARNING DOMAINS**

As we know from *Bloom's Taxonomy*, there are three of them:

COGNITIVE

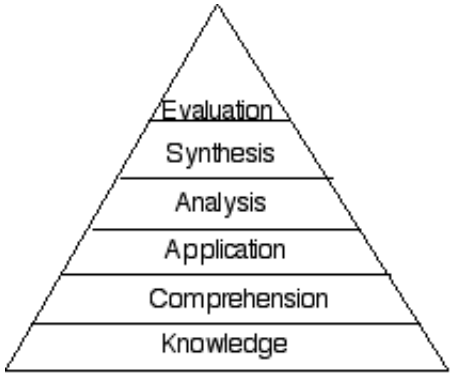
PSYCHOMOTOR

AFFECTIVE

The COGNITIVE DOMAIN involves knowledge of information, facts and concepts, and the ability to apply, analyze, synthesize and evaluate.

It is the area that is most focused on in these days of basic skills, proficiency testing and exit exams. This COGNITIVE DOMAIN focuses primarily on learned knowledge. It involves such intellectually based skills as reading instructions, solving mathematical problems and a variety of other tasks that involve recalling and processing verbal information.

In most instances when you see or hear about "higher level thinking skills," those references are reflections of the six levels of within the COGNITIVE DOMAIN:



Think about designing lessons that progressively force students higher and higher up this pyramid. It would be entirely possible (for example) to teach U.S. History solely in the lower two layers without ever reaching "application." That wouldn't be a very good teaching, but it is possible! Vocational instructors, however, must always get at least to the third level. "Knowledge" and "comprehension" in vocational areas are useless unless they can be "applied" - so we are already half way up the hierarchy by our very nature.

Some useful verbs associated with each area (from lowest to highest) are as follows:

Level 1: Knowledge - name, list, repeat.
Level 2: Comprehension - identify, locate, describe.
Level 3: Application - translate, demonstrate, illustrate.
Level 4: Analysis - calculate, compare, contrast.
Level 5: Synthesis - design, organize, prepare.
Level 6: Evaluation - estimate, value, appraise.

The PSYCHOMOTOR DOMAIN involves muscle action, skill and dexterity.

It involves such physically based skills as typing, object assembly and exercise routines. Skills in the psychomotor domain may range from very simple to very complex, but all psychomotor skills are based upon some type of physical activity. Most vocational instructors are familiar with the psychomotor domain because most of what they do involves students with actually doing something! four levels of psychomotor skill have been identified.

Some useful verbs associated with each level (from lowest to highest) are as follows:

Level 1: Observation - find, locate, sort.
Level 2: Imitation - measure, build, operate.
Level 3: Practice - measure, build, operate.
Level 4: Adaptation - plan, regulate, mend.

Note that the same verbs are listed at both Level 2 and Level 3. The main difference between imitation and practice is that imitation is spontaneous and requires no previous knowledge or ability, while practice is patterned and does require students to recall some aspects of whatever it is that they are practicing from memory. Ideally the more a student practices the more he/she will be able to recall form memory. In this case the memory is physical and is established through physical activity. A guitarist, for example, will practice finger positions until he/she can form those positions on demand without having to think about which finger goes where.

The AFFECTIVE DOMAIN involves interests, attitudes, opinions, appreciations, values, and emotional sets.

Basically it has to do with emotions. It involves such emotionally based skills as conscientiously wearing safety glasses or consistently acting in a safe and courteous manner. It is difficult (but not impossible) to write good student performance objectives,

and devise effective evaluation instruments, in the AFFECTIVE DOMAIN. Perhaps for that reason it is largely ignored in education these days in favor of emphasizing the cognitive, and psychomotor areas.

(John's editorial opinion - I am not sure if students are under more pressure today than in previous generations but I suspect they are. I wonder if ignoring this AFFECTIVE DOMAIN is in our best interest. Perhaps if we had some focus on the affective side of the student, school shootings and other outbursts of pent-up stress might be reduced. Who knows but it is just a thought.)

Link to more information about the **AFFECTIVE DOMAIN**

The following publication (retrieved from http://chiron.valdosta.edu/whuitt/col/cogsys/bloom.html) provides additional insight and links to recent current educational research.

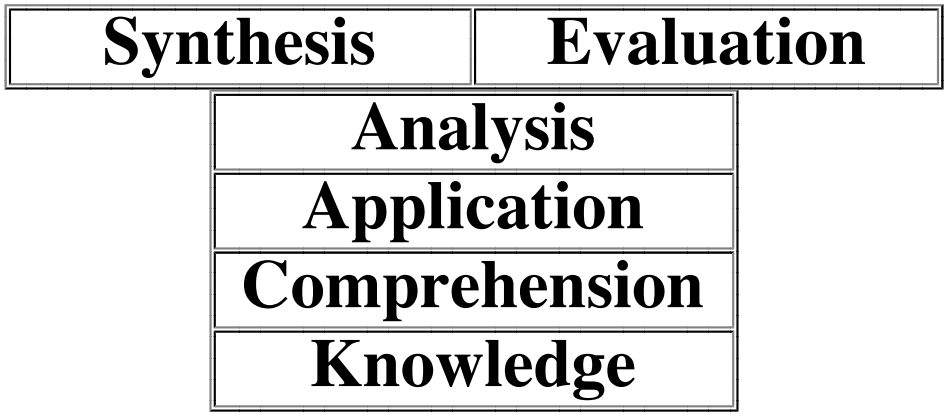
Beginning in 1948, a group of educators undertook the task of classifying education goals and objectives. The intent was to develop a classification system for three domains: the cognitive, the affective, and the psychomotor. Work on the cognitive domain was completed in 1956 and is commonly referred to as *Bloom's Taxonomy of the Cognitive Domain (*Bloom et al., 1956). Others have developed taxonomies for the affective and psychomotor domains.

The major idea of the taxonomy is that what educators want students to know (encompassed in statements of educational objectives) can be arranged in a hierarchy from less to more complex. The taxonomy is presented below with sample verbs and a sample behavior statement for each level.

LEVEL	DEFINITION	SAMPLE VERBS	SAMPLE BEHAVIORS
KNOWLEDGE	**Student recalls or recognizes information, ideas, and principles in the approximate form in which they were learned.**	**Write List Label Name State Define**	**The student will define the 6 levels of Bloom's taxonomy of the cognitive domain.**
COMPREHENSION	**Student translates, comprehends, or interprets information based on prior learning.**	**Explain Summarize Paraphrase Describe Illustrate**	**The student will explain the purpose of Bloom's taxonomy of the cognitive domain.**

APPLICATION	**Student selects, trans-fers, and uses data and principles to complete a problem or task with a mini-mum of direction.**	**Use Compute Solve Demonstrate Apply Construct**	**The student will write an instructional objective for each level of Bloom's taxonomy.**
ANALYSIS	**Student distinguishes, classifies, and relates the assumptions, hypotheses, evidence, or structure of a statement or question.**	**Analyze Categorize Compare Contrast Separate**	**The student will compare and contrast the cognitive and affective domains.**
SYNTHESIS	**Student originates, integrates, and combines ideas into a product, plan or proposal that is new to him or her.**	**Create Design Hypothesize Invent Develop**	**The student will design a classification scheme for writing educational objectives that combines the cognitive, affective, and psychomotor domains.**
EVALUATION	**Student appraises, assesses, or critiques on a basis of specific standards and criteria.**	**Judge Recommend Critique Justify**	**The student will judge the effective-ness of writing objectives using Bloom's taxonomy.**

In general, research over the last 40 years has confirmed the taxonomy as a hierarchy with the exception of the last two levels. It is uncertain at this time whether synthesis and evaluation should be reversed (i.e., evaluation is less difficult to accomplish than synthesis) or whether synthesis and evaluation are at the same level of difficulty but use different cognitive processes. Anderson and Krathwohl (2001) revised Bloom's taxonomy and placed evaluating prior to creating. In my opinion, it is more likely that synthesis/creating and evaluation/evaluating are at the same level. Both depend on analysis as a foundational process. However, synthesis or creating requires rearranging the parts in a new, original way whereas evaluation or evaluating requires a comparison to a standard with a judgment as to good, better or best. This is similar to the distinction between creative thinking and critical thinking. Both are valuable while neither is superior. In fact, when either is omitted during the problem solving process, effectiveness declines (Huitt, 1992).



In any case it is clear that students can "know" about a topic or subject at different levels. While most teacher-made tests still test at the lower levels of the taxonomy, research has shown that students remember more when they have learned to handle the topic at the higher levels of the taxonomy. This is because more elaboration is required, a principle of learning based on finding from the information processing approach to learning.

References

- Anderson, L.W., & Krathwohl (Eds.). (2001). *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. New York: Longman.
- Bloom, B., Englehart, M. Furst, E., Hill, W., & Krathwohl, D. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain*. New York, Toronto: Longmans, Green.
- Huitt, W. (1992). Problem solving and decision making: Consideration of individual differences using the Myers-Briggs Type Indicator. *Journal of Psychological Type, 24*, 33-44.

Finally, the link just below leads to an excellent and highly recommended article on contemporary LEARNING THEORY by Mark K. Smith in *the encyclopedia of informal education* -

http://www.infed.org/biblio/b-learn.htm

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