

LEARNING OBJECTIVE IN BIOLOGY INSTRUCTION

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A learning objective is an outcome statement that captures specifically what knowledge, skills, attitudes *learners* should be able to exhibit following instruction. Creating clear learning objectives during the planning process of a unit/week/individual session serves the following purposes: 1) Helps unit planners integrate across a day/week/unit of learning, 2) Serves to connect content and assessment around learning, 3) Guides selection of teaching/learning activities that will best achieve objectives, 4) Gives learners a clear picture of what to expect and what's expected of them, 5) Forms the basis for evaluating teacher, learner, and curriculum effectiveness

The key components of a learning is learning objectives should be “**SMART**”(Specific, **M**asurable/Observable, **A**ttainable for target audience within scheduled time and specified conditions, **R**elevant and results-oriented **T**argeted to the learner and to the desired level of learning. Learning objectives statements may be considered to be exit behaviors, therefore learning objectives statements should reflect characteristics as follows:

- reflect broad conceptual knowledge and adaptive vocational and generic skills
- reflect essential knowledge, skills or attitudes;
- focus on results of the learning experiences;
- reflect the desired end of the learning experience, not the means or the process;
- represent the minimum performances that must be achieved to successfully complete a course or program;
- answer the question, "Why should a student take this course anyway?"

REFERENCES:

1. http://www.e-learningguru.com/articles/art3_4.htm
2. <http://www.nwlink.com/~donclark/hrd/bloom.html>.
3. <http://www.nwlink.com/~donclark/hrd/templates/objectivetool.html>

4. <http://www.tss.uoguelph.ca/resources/idres/learningobjectives1.pdf>

TASK

Go to <http://www.nwlink.com/~donclark/hrd/bloom.html>. Make Objective statement which covers cognitive aspect, affective and psychomotor minimum three objectives statement for each aspect.

QUIZ

1. Which is the following statements that reflect good objective statement.
 - a. After completing this course student should understand plant cell wall
 - b. After completing this course student should comprehend animal cell wall
 - c. After completing this course student should explain animal cell and plant cell
 - d. After discuss the cell, student should be able to identify the difference between animal call and plant cell
2. After taking experiment, student should be able to mix the acid liquid in a proper procedure. This objective is categorized in:
 - a. Cognitive aspect
 - b. Psychomotor aspect
 - c. Affective aspect
 - d. None true
3. After taking the experiment of photosynthesis, student should be able to conclude the external factors affecting the rate of photosynthesis. Behavior of this objective statement is:
 - a. Student
 - b. Taking experiment of photosynthesis
 - c. Conclude external factors affecting photosynthesis
 - d. A, b, and c true
4. After discussion student should be able to design the procedure of experiment to observe bacteria. Based on Bloom taxonomy, this objective statement is in a level of:
 - a. C1 of cognitive process dimension
 - b. C4 of cognitive process dimension
 - c. C5 of cognitive process dimension
 - d. C6 of cognitive process dimension

5. Which is the following statement that in C4 (analyze) based on taxonomy bloom cognitive process dimension.
- a. Student explain membrane cell
 - b. Student observe process of photosynthesis
 - c. Student differentiate monocot and dicot plants from type vinery
 - d. Student identify structure of bacterial cell wall