

Crafting the “Right” Online Discussion Questions Using the Revised Bloom’s Taxonomy as a Framework

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There are many different ways in which an instructor might organize an online discussion depending on the course goals, objectives, and time frame for a discussion. For instance, an online discussion might be instructor-led, student-led, guest-led, or a combination of any of these approaches. The discussion might last a few days, a week, several weeks, months, and so on. However an online discussion is organized, *someone* must locate (e.g., use questions from a text) or develop the questions from scratch for the online discussion whether it is the instructor, students, or a guest facilitator. Yet, selecting or crafting the “right” questions for an online discussion is not an easy task! Of course many might debate what a “right” question is in the first place! The term “right” is used to differentiate it from a “good” question since good questions may not be the “right” ones to meet one’s goals and objectives, apply in an online environment, use with one’s target audience, and/or address the content.

According to Berge and Muilenburg (2002), “The right questions depend greatly on what the instructional goals and objectives are for the training, development, or

education that is to take place. The right questions are those that foster learner engagement in the learning process” (p. 184). Yet, how is this accomplished? Berge and Muilenburg recommend using Bloom’s Taxonomy for developing questions that incorporate the higher levels of Bloom’s taxonomy since these tend to foster higher order thinking. However, Bloom’s Taxonomy has since been revised (see Anderson et al., 2001). Although other frameworks exist for developing effective online discussion questions such as the CREST+ model (Akin & Neal, 2007), this article shares a brief description of the original (Bloom, 1956) and revised Bloom’s Taxonomy (Anderson et al., 2001) and suggestions as to how one might use this framework for crafting the “right” online discussion questions to foster student engagement and higher order thinking.

WHAT IS BLOOM’S TAXONOMY? WHAT IS THE REVISED BLOOM’S TAXONOMY?

The original Bloom’s Taxonomy (Bloom, 1956) was developed by a group of higher education examiners to “establish a stan-

dard vocabulary for indicating what an item [such as a multiple choice question on an exam] was intended to measure" (Anderson et al., 2001, p. xxvii). Bloom's Taxonomy is a classification system of cognition that identifies a continuum of six different levels. The levels, from lowest to highest, are: knowledge, understanding, application, analysis, synthesis, and evaluation. It is most often used for developing cognitive instructional objectives.

The revised Bloom's Taxonomy was developed by a group of cognitive psychologists, curriculum theorists and instructional researchers, and teaching and assessment specialists in response to findings from more current research about our understanding of learning "emphasizing what learners know (knowledge) and how they think (cognitive processes)" (Anderson et al., 2001, p. 38). The revised Bloom's Taxonomy is a two-dimensional framework consisting of the "knowledge dimension" and the "cognitive process dimension."

The knowledge dimension consists of four different types of knowledge: (1) factual, (2) conceptual, (3) procedural, and (4) metacognitive. *Factual knowledge* describes the basic and essential elements a person must know (e.g, key vocabulary). *Conceptual knowledge* refers to knowledge of the relationship between classifications and categories. *Procedural knowledge* is knowledge about how to do something, and *metacognitive knowledge* is knowledge about one's own cognition (Anderson et al., 2001).

The cognitive process dimension includes six process categories: (1) remember, (2) understand, (3) apply, (4) analyze, (5) evaluate, and (6) create. Although more or less self-explanatory, these dimensions also have various verbs associated with them to describe them further (e.g., the verbs associate with "analyze" are "differentiating," "organizing," and "attributing").

Table 1 illustrates this two-dimensional framework. Similar to the original Bloom's Taxonomy, the revised Bloom's Taxonomy also has a continuum of different levels from lowest to highest, as the arrows in the table show.

CRAFTING ONLINE DISCUSSION QUESTIONS USING THE REVISED BLOOM'S TAXONOMY

To create the "right" online discussion questions using the revised Bloom's Taxonomy first requires thorough comprehension of this framework. After one has a solid understanding, one should create questions that might fall into the different knowledge and cognitive processing dimensions, based on one's and/or a course's goals and objectives. Once questions are developed, then one can use Table 1 to see where the questions fall into the two-dimensional framework. After revision and renewed analyses of where the questions fit, then one should select how many and which of these questions to use for the discussion, since it is unlikely all of the questions developed will be used.

Below are some examples of questions that might be used for a discussion on the principles of graphic design. Table 2 shows in which area of the revised Bloom's Taxonomy the question might be categorized.

1. What are the four principles of graphic design? (Factual, Remember)
2. What are some examples of websites that demonstrate good implementation of the principles of graphic design? (Conceptual, Understand)
3. Evaluate how well you applied the principles of graphic design in your website. Which were integrated well? Which were incorporated poorly? Explain your answers with concrete examples. (Metacognitive, Evaluate)

Table 1. The Revised Bloom's Taxonomy Table

Knowledge Dimension	Cognitive Process Dimension					
	Remember	Understand	Apply	Analyze	Evaluate	Create
Factual						
Conceptual						
Procedural						
Metacognitive						

Source: Anderson et al. (2001, p. 28).

Table 2. Sample Discussion Questions

Knowledge Dimension	Cognitive Process Dimension					
	Remember	Understand	Apply	Analyze	Evaluate	Create
Factual	#1					
Conceptual		#2				
Procedural						#4
Metacognitive					#3	

4. Create a simple website that applies the principles of graphic design. How did you do this? (Procedural, Create)

It is important to plan the "right" questions for online discussions. Advanced planning and attention will most likely result in a lively and engaging discussion. The application of the revised Bloom's Taxonomy for crafting online discussion questions "can serve as a catalyst for increased adult learner understanding and meeting the instructional goals in both workplace training and higher education" (Berge & Muilenburg, 2002, p. 189), as well as fostering engagement and higher order thinking skills.

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