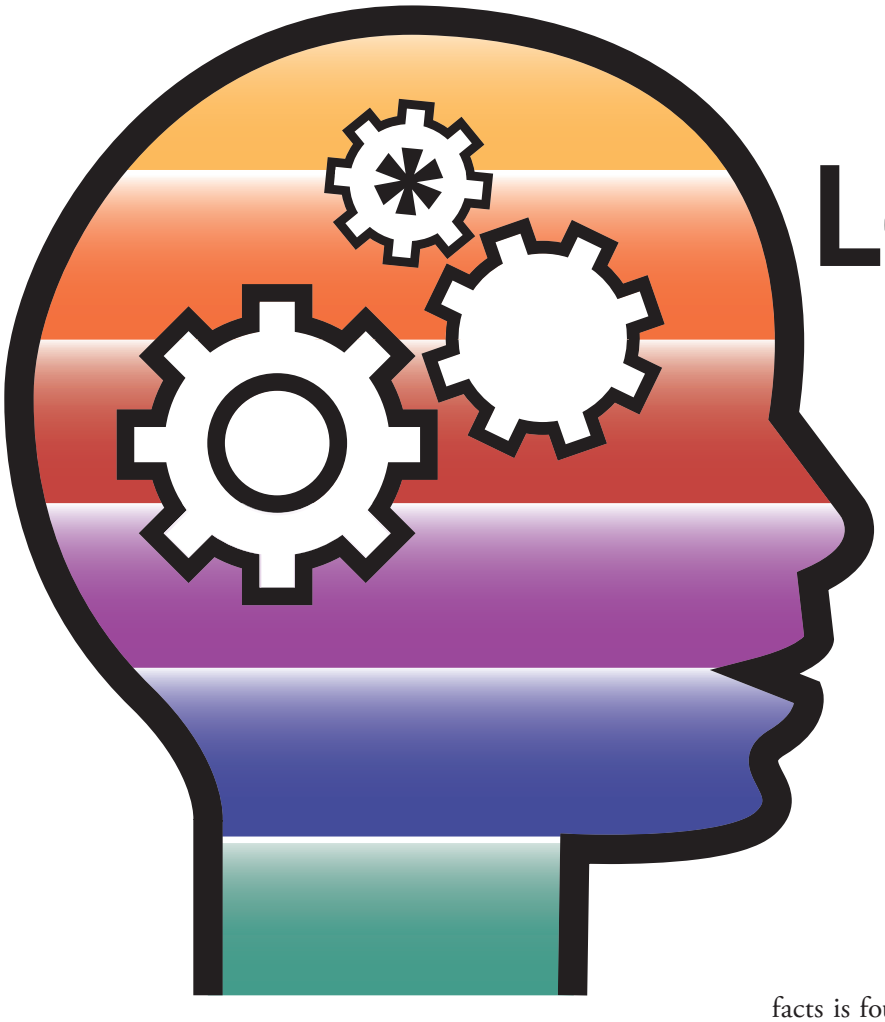


Guiding Learners to Using Higher-Order Thinking Skills

Stephanie Mardigian

What are the names of the Twelve Apostles? When do we celebrate Theophany? What are the sacraments of the Church?

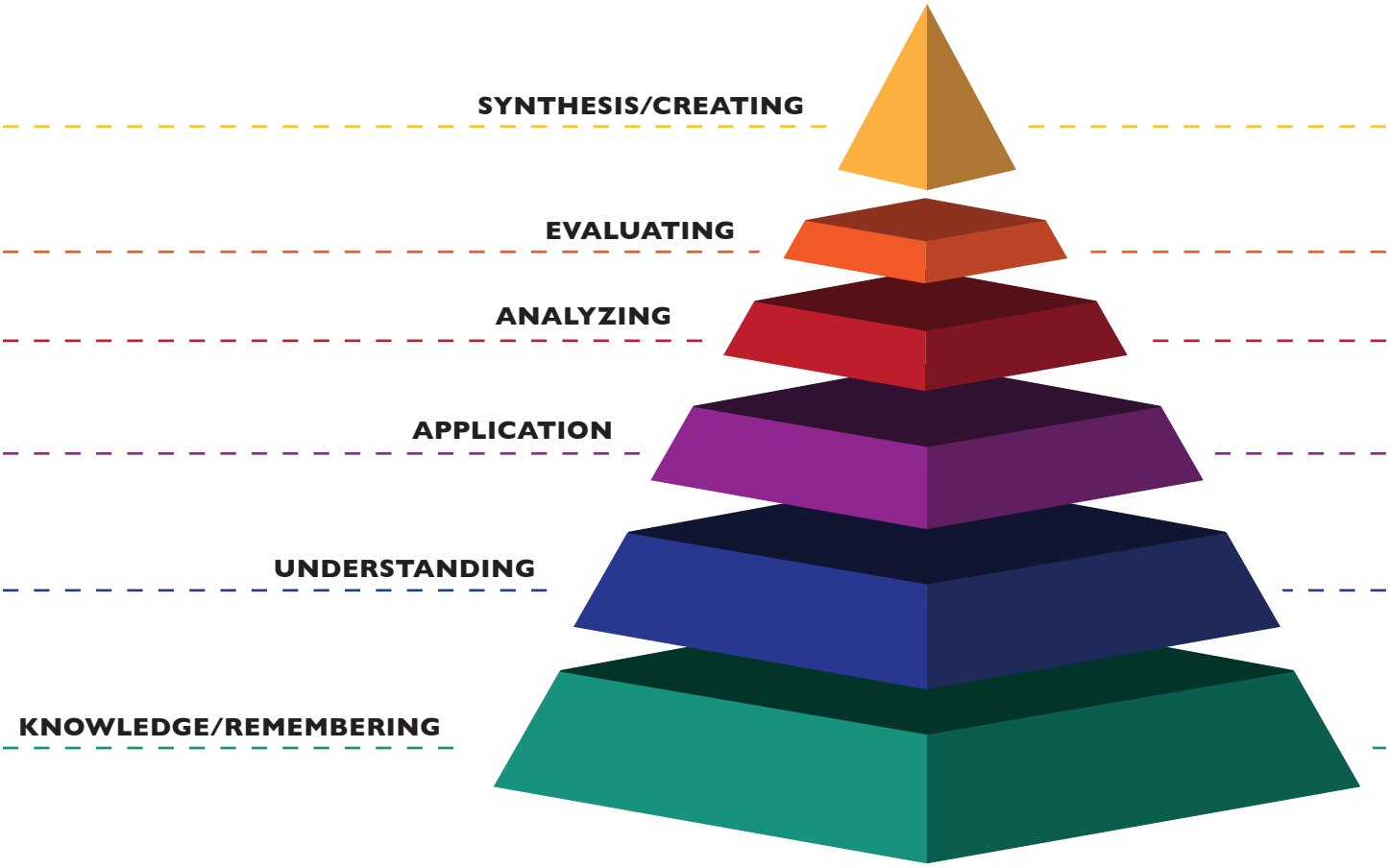
How familiar do these types of questions sound? Questions like these yield concrete answers and do not necessarily allow a learner to showcase their true capacity to learn and their ability to utilize higher-order thinking skills. As an educator, it is important to ask learners, whether children or adults, to use not only lower levels of thinking such as using factual and conceptual knowledge, but also abstract types of thinking that require procedural and metacognitive knowledge. (This is, in essence, thinking about thinking.) Questions and objectives involving simpler types of thinking, such as the ones asked at the beginning of this article, are ones with answers that are generally memorized instead of learned. Although it is appropriate for some pieces of information to be memorized, richer understanding emerges when one can analyze, evaluate and come up with new creation based on those bits of information.

As educators it is easy for us to get into a cycle of asking basic, factual types of questions. Many of us grew up being asked questions and assigned to tasks along the same lines, no matter what subject was being discussed. While acquiring facts is foundational to any kind of studies, facts are just the foundation. They are not necessarily challenging. Engaging in intellectually stimulating activities and asking more thought-provoking questions at appropriate times during a lesson is an art that can be developed by both novice and experienced educators.

A popular framework of how people learn is the Taxonomy of Learning Domains developed by Benjamin Bloom, an American educational psychologist. The three domains in his framework include: 1) cognitive, or the use of mental skills; 2) affective, which pertains to attitudes; and 3) psychomotor, or physical skills. This article will focus primarily on the cognitive domain and how understanding it can be applied in the classroom.

According to Bloom, the development of intellectual skills is movement through a series of levels, from the simplest to the most complex. Learning often progresses upward through the levels, but it may skip around or cycle back—for example, analysis of a moral dilemma may bring up questions requiring additional factual answers before the analysis can proceed.

The following are the six levels of Bloom's Taxonomy for the cognitive domain, along with key words to use in questioning, examples of how questions can be phrased, as well as practical applications.



LEVEL 1: KNOWLEDGE/REMEMBERING

Knowledge/remembering is the initial step of using one's intellectual abilities. It involves the least amount of cognitive stimulation—as the title suggests, the learner is simply committing facts to memory so that they may be recalled later. Questions to be answered from memory can be important at the beginning of a discussion, which can then move on to richer questions. Starting questioning or activities with knowledge/remembering questions can build up students' confidence and motivate them to further their learning by applying the knowledge they have.

Key verbs to use in knowledge/remembering questions may include choose, match, recall, select, define, name, show, tell, list, locate and write. Questions on this level can be are simple and direct, such as, "What is the definition of 'disciple'?" and "Can you describe what happened at the Last Supper?" Potential activities at this level might include making a timeline of events or listing all the particulars in a story.

LEVEL 2: UNDERSTANDING

At this level, individuals use the knowledge they have attained in order to construct meaning. They demonstrate their understanding of the facts learned at the previous level. At this stage a person can restate something in his or her own words instead of giving a textbook definition.

At this level, key words to check for comprehension include classify, explain, compare, summarize, contrast, illustrate, translate, demonstrate and rephrase. A teacher might ask questions or assign tasks such as, "Summarize the story of creation found in Genesis 1" or "Compare and contrast three practices or beliefs of Orthodoxy and Roman Catholicism." Possible activities include role-playing a story or painting a picture of a favorite part of a story.

LEVEL 3: APPLICATION

Once learners have "the facts" and are able to construct their own meanings, they can begin to use their understanding and apply the knowledge they have acquired. They are able to explore and experience the possibilities of using information they now comprehend.

Key words an educator can use in questions and activities at this stage may consist of: apply, develop, build, solve, choose, interview, experiment with and select. An educator can ask questions such as, "How can you apply the parable of the Prodigal Son to your life?" and "What questions would you ask in an interview with an iconographer?" Potential activities at this level include taking photographs to illustrate a concept and making a diorama to illustrate an important event.

LEVEL 4: ANALYZING

The steps of analysis are twofold. First, an individual must break down material that they have learned into basic parts. This can lead to discovering reasons for why something has happened or determining how those basic parts are interrelated.

To get their students analyzing, an educator can use key words such as simplify, discover, take part in, distinguish, examine, describe relationships and categorize. Sample questions include, "What do you think Judas's motives were for betraying Jesus?" or "How is fasting related to a person's spiritual well-being?" For classroom activities, an educator could have students study an icon in terms of its color or make a chart, such as a flow chart or family tree, to show relationships within the material.

LEVEL 5: EVALUATING

After analyzing a topic, a person can develop and defend an opinion, making judgments based on a set of criteria and determining the validity of statements or ideas. Evaluating is essentially answering the question "Why?" Key words to use to activate this type of thinking include evaluate, recommend, defend, assess, determine, justify, opinion, prioritize, perceive, prove, decide and influence. For example, an educator may ask questions such as, "Can you defend your view on abortion?" and "Why might you choose to use the Ten Commandments as your guide to living a more holy lifestyle instead of some other set of rules?" For an activity, organize a debate on a current and controversial issue, assigning one half of the class to each side of the issue. Have the teams prepare their case and then defend their stance. Another activity could be making a list of ratings or priorities.

LEVEL 6: SYNTHESIS/CREATING

The final step in allowing a learner to use higher-order thinking skills is creation. To create means to develop a new idea or model. A creation—of whatever kind—can demonstrate that the learner has a solid, comprehensive grasp of the lower-order thinking skills associated with the topics.

At this level, key verbs to use in questions consist of improve, predict, imagine, build, design, propose, create, maximize, combine, elaborate, construct and minimize. Sample questions can include, "Can you elaborate on the reason why the Orthodox Church feels using each of our five senses during worship is important?" or "If you were an architect, how would you design an Orthodox Church?" Activities might include designing a new cover for a book that is being studied or creating new lyrics for a hymn.

The more often an educator encourages learners to use higher-order thinking skills, the more familiar the habits of thought become, and the more the learners come to expect such questions and activities in class. Asking questions such as these shows learners that the educator believes they have the capability of reaching greater intellectual heights. A teacher must also know his or her students (whether children or adults) well because asking questions that are too complex will set them up for failure. As a reminder to activate every learner's ability to think at higher levels, draw a pyramid with six levels and write the key words mentioned in this article in the appropriate level of the pyramid. Refer to the pyramid during any lesson when necessary.

Stephanie Mardigian will graduate with a Masters in Teaching for Elementary Education in 2011 and hopes to further her studies at Holy Cross. She attends Sts. Constantine & Helen Greek Orthodox Cathedral in Richmond, VA.