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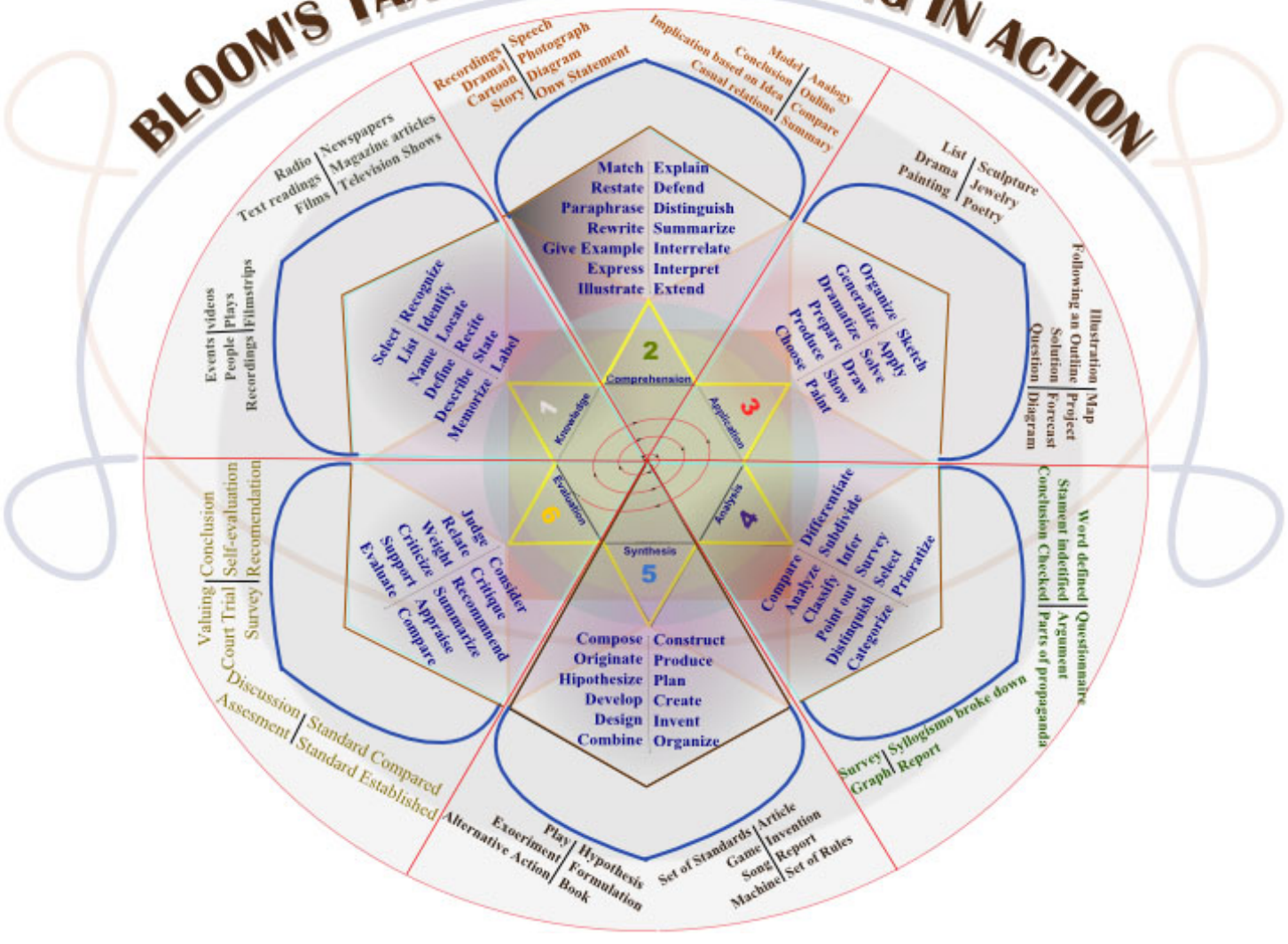
A PRIMER IN EFFECTIVE QUESTIONING STRATEGIES FOR CLASSROOM & ELEARNING



(/wp-content/uploads/2013/04/blooms-lia.jpg)by **Rosa Fattahi**, WizIQ

The Importance of Questioning in the Learning Process

Since the ancient days of philosopher Socrates, asking questions has been a critical part of the teaching and learning process.

The well-known question-and-answer technique that Socrates employed with his pupils demonstrated how well dialogue and discourse work to stimulate students, encourage more complex thinking, and help them learn. For educators, verbal questioning also helps foster a sense of community in the classroom and keeps students engaged in the instructional process. Thus, in order to maintain active classroom dialogue and encourage student involvement, it is important for teachers to understand and employ effective questioning techniques.

Questions are invaluable teaching tools that serve many functions in the teaching and learning processes. Teachers use questions for many reasons, such as to:

- Assess knowledge and learning
- Prompt students to clarify, expand, and support their claims

- Direct students to engage in discussion or debate
- Encourage students to question their own thought process or reasoning
- Apply class concepts to real-world scenarios

Verbal questioning is one of the most common pedagogical tools, second only to perhaps lecturing. However, the art of good questioning practices that facilitate higher order, more complex thinking in students takes time and planning. In addition, for online teachers, effective questioning techniques must be restructured to suit the technological medium of the course.

Effective Questioning Addresses a Range of Cognitive Skills

It is important that traditional and online teachers employ a variety of question types that address a range of intellectual skills.

Questions should not only be used to assess student comprehension of the material, but also to help students extend their thinking and creativity skills by connecting ideas to each other and applying concepts to the real world. For teachers, this means first having a clear understanding of hierarchy of lower order to higher order intellectual skills, and then using questioning techniques in the classroom that address the full range.

Bloom's Taxonomy

Bloom's Taxonomy is the most commonly used framework for understanding the hierarchy of intellectual skills that students demonstrate. For effective questioning in the classroom, teachers should ask questions relating to each category. Following is Bloom's Taxonomy listed from the least to the highest order of thinking skills, and including example verb prompts that might be used to display each skill:

- Knowledge = basic recollection of information or data, with questions often beginning with words such as define, list, or repeat
- Comprehension = displaying a deeper understanding of a concept's meaning, with questions often beginning with words such as describe, explain, or identify

- Application = using a learned concept in solving a problem or situation, with questions beginning with words such as demonstrate, predict, or solve

- Analysis = explaining the component parts of a concept, breaking it down to distinguish between facts and assumptions, with questions beginning with words such as infer, compare/contrast, or relate

- Synthesis = combining the parts of a concept to form an original, creative idea or solve a problem in a new, useful way, with questions beginning with words such as create, devise, or plan

- Evaluation = independently judging the value, usefulness, or strength of learned ideas or concepts, with questions beginning with words such as assess, interpret, or choose

Lower vs. Higher Order Thinking Skills & Convergent vs. Divergent Question Types

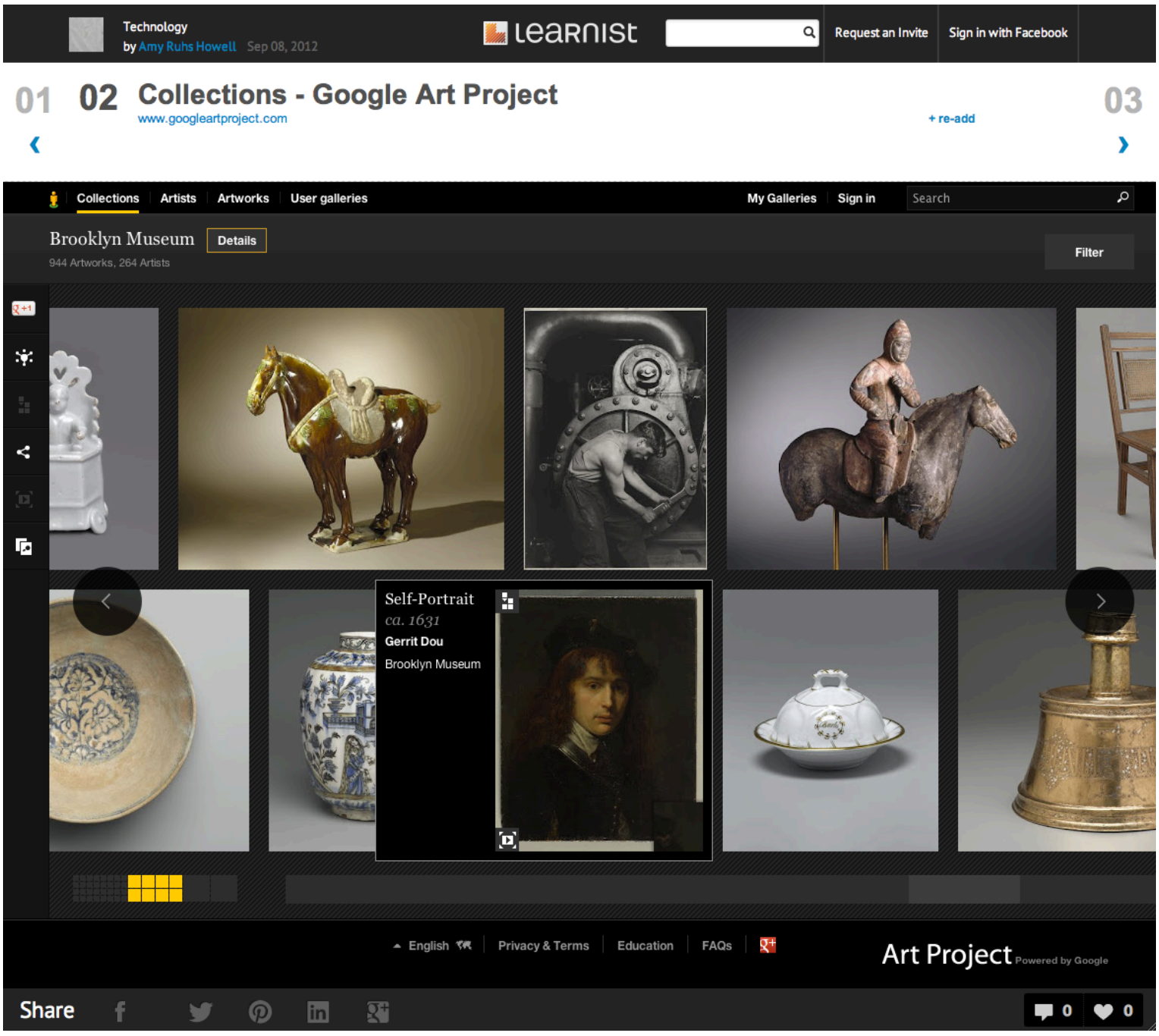
The classification of question types reflected in Bloom's hierarchy has also been simplified into two groups: lower order and higher order cognitive skills.

Lower order cognitive skills are fostered by questions that ask students to display their knowledge and comprehension of concepts. Generally, such lower order intellectual skills can be honed with convergent, or "closed," questions, which have an anticipated response and do not require original thought on the part of the student. Convergent, lower order questions are usually "what" questions that require basic recall and explanation.

On the other hand, higher order cognitive skills are seen in answering questions that require application, analysis, synthesis, and evaluation. These skills are best furthered with divergent, or "open," questions, which have a number of possible responses and demand both reasoning and creative thinking from the students. Divergent, higher order questions often ask students "why" or "how" and force students to think more critically about the subject.

Too often, teacher questions focus on the first or second, lower levels of cognition, asking questions that do not encourage students to think for themselves, apply their newly gained knowledge, or develop original ideas. Instead, teachers must consider their questioning techniques in advance, to ensure that they are using

simple, convergent questions, as well as more complex, divergent questions to address all levels of cognitive skill. Overall, though, the emphasis should be on the asking higher order questions that require more developed thinking skills, which better challenge students and help them to grow intellectually.



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Applying Cognitive Variation to Questioning in the Online Classroom

In the virtual setting of the online classroom, questioning techniques must be restructured to meet the restrictions of the environment. However, verbal questioning strategies will differ among online courses, depending on the type of online platform being used.

For example, many online courses online courses do not have live teacher-student interaction, so students and teachers only interact through digital files and text. In these types of online courses, effective questioning strategies must be employed

through message boards, discussion posts, and course materials. For the teachers of such courses, the challenge comes in wording prompts and planning questioning patterns to ensure that questions address all levels of cognitive skill and difficulty.

In addition to applying cognitive levels to their questioning strategies, teachers of online courses that do have a live, interactive video component may have additional tools that are useful in questioning students. In particular, WizIQ(http://www.wiziq.com)'s online educational platform offers a number of features that can be used to facilitate questioning, both during and after live class sessions:

- WizIQ's full-screen, interactive whiteboard(http://www.wiziq.com/Virtual_Classroom.aspx) allows teachers to write a variety of convergent and divergent questions on a "board" that students can see synchronously, so they can respond immediately during class.

- WizIQ's Breakout Sessions and Recordings(http://www.wiziq.com/features/) feature enables teachers and students to engage in a live chat, or "breakout session," together, during which the teacher or students can pose questions related to class topics and receive spontaneous responses.

- WizIQ's Breakout Sessions and Recordings(http://www.wiziq.com/features/) feature also lets students watch live recordings of past classes. Teachers using effective questioning strategies could have students create both lower order, recall and higher order, discussion questions for the previous class as a homework assignment, which could then be posted to the class message board or used to start the next live class session.

- WizIQ's polling feature(http://www.wiziq.com/features/) allows teachers to create questions in a live class, receive instant responses from students, and display the results graphically. By asking a variety of lower and higher order questions during in-class review, for example, teachers can easily assess student comprehension and see whether students are struggling with facts or application.

- WizIQ's easy and effective texting system(http://www.wiziq.com/features/) facilitates one-on-one as well as group text chats between teachers and

students. Using this, students and teachers can engage in short question-and-answer sessions and group discussions outside of class; teachers can text students with simple questions to assess knowledge, as well as more challenging, divergent questions.

By understanding cognitive levels and the importance of addressing a variety of thinking skills in verbal questioning, traditional and online teachers are better equipped to apply more effective questioning techniques in the classroom. For the online teacher, this knowledge—paired with any specific online educational features they might use to apply it—will make verbal questioning the most useful pedagogical tool in their toolkit.

Rosa Fattahi is a developer with WizIQ

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This pair

poll[Which language did you learn in high school?]
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French