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What is higher-order thinking? Why is it important?

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Higher-order thinking, or critical thinking, goes far beyond simple rote memorization and regurgitation of facts. In today's 21st century classrooms, students must learn to evaluate information and be creative and innovative in their problem solving. Learning the process of higher-order thinking is an important, yet attainable, goal in all classrooms, in all grade levels, in every subject. With a little creativity, critical thinking/higher-order thinking skills are easy to tackle, but teachers must guide and teach the thinking process explicitly, beginning as early as kindergarten.

Bloom's Taxonomy of Thinking Skills is important in helping teachers help students develop higher order thinking. Using Bloom's Taxonomy can help teachers move students from lower-order thinking (memorizing and recalling facts) to higher-order thinking (producing new or original work).

Students progress...

- from remembering (gathering information)
- to understanding (confirming information)
- to applying (making use of knowledge)
- to analyzing (taking information apart)
- to evaluating (judging the outcome)
- to creating in order to generate new ideas and solve problems (putting information together)

However, this process is not set in stone. Students can move forward or back and even skip steps in this process. If students use higher-order thinking skills and practice problem solving regularly, then thinking will become a habit!

"Critical thinking is self-directed, self-disciplined, self-monitored, and self-corrective thinking."

– The Critical Thinking Community (2015)

Based on Bloom's Taxonomy, the following types of activities promote higher-order thinking. Teachers must consider their students' abilities when adapting activities like these for use in the classroom by choosing topics that are familiar, interesting, and age-appropriate.



- **Interpret/Inquire** – Choose something students see or do every day that may hold a more profound meaning, but the students never pay the item/activity much attention. Have students analyze the item/activity more deeply (i.e., if your class says the Pledge of Allegiance each morning, have students spend time learning what every line of the pledge means and conclude why we recite it at school and at many other public gatherings).



- **Compare/contrast** – Choose two things that are very similar, yet very different (i.e., shovel/trowel), or similar concepts (i.e., believe/know). Have students compare and contrast the two by listing how they are alike and different. Can the students pinpoint the **one** major difference between the two?





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(cont.)



• **Eliminate multiple choices** – Make it tough for students to answer questions by taking away the option of selecting an answer from a list of pre-determined choices. Students will then have to inquire, infer, and evaluate the information before forming answers on their own.



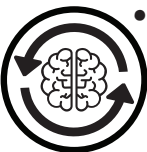
• **Evaluate** – Give students a concept (i.e., School Uniforms – Yes or No?) and allow them to evaluate it and support their *reasons* why they think the concept is a good or bad one. This can also be a group activity if it is too difficult for students to come up with several reasons on their own.



• **Synthesize** – Present older students two or more articles about one specific topic. Have students *summarize* the information into one essay by combining the different ideas, elements, and opinions (pros and cons). Students can eliminate unnecessary details to streamline their essay.



• **Critique** – Assign older students an essay in which they must write an argument *for* a particular position on an age-appropriate issue (older students can choose their own topic). Have each student present his/her essay and position to the class. Then, have the rest of the audience evaluate this student's position and review his/her weak points.



• **Paraphrase** – Give students a passage from a book or article. Rather than memorizing the passage and reciting it, have students rewrite and explain the meaning of the passage in their own words. Passages and quotes from A.A. Milne's "Winnie-the-Pooh" are simple in words but profound enough to make students, young and old, think deeply about their meaning.



• **Debate** – Give students a topic (The High Consumption of Energy Drinks by Today's Youth – Harmless or Harmful?) Have small groups research and collect information in order to debate their side of the argument. Make sure there are strict guidelines in place before any debate begins in order to avoid any heated exchanges, as students can be very passionate about their opinions!



• **Application** – Give students a worksheet with directions on how to complete a task. Make sure the directions are clear, concise, and in correct sequence. Then, have students actually complete the task and demonstrate how the steps they followed resulted in a finished product.



• **Higher-order comparison** – Have students complete a task similar to the "compare and contrast" activity. This time, they must evaluate and support why one object or concept is *better* than another. Sometimes this is harder than proving something is *not* as good.



Using higher-order thinking in all subject areas in the classroom or at home for your students' age and skill level will result in students becoming more creative thinkers and better problem solvers. For examples of questions that foster higher-order thinking skills, go to <http://medicine.wright.edu/sites/medicine.wright.edu/files/page/attachments/QuestionTemplates.pdf>.

Resources:

- Brookhart, Susan M. 2017. How to Assess Higher-Order Thinking Skills in Your Classroom. Retrieved August 2017 from <http://www.ascd.org/publications/books/109111/chapters/Introduction.aspx>.
- Tankersley, Karen. 2017. Literacy Strategies for Grades 4 – 12. Chapter 5. Higher-Order Thinking. Retrieved August 2017 from http://www.ascd.org/publications/books/104428/chapters/Higher-Order_Thinking.aspx.
- The University of North Carolina at Charlotte. 2017. Examples of Activities that Promote Higher Order Thinking. Retrieved August 2017 from <http://teaching.uncc.edu/instructional-methods/promote-higher-thinking>

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