

Six Levels of Learning

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An Excerpt from Homeschooling in High School for Higher Education by David P. Byers Ph.D.

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There are many skills that students need to be successful in higher education, among which are being able to manage their time effectively to juggle multiple responsibilities and deadlines, as well as being self-motivated and self-disciplined enough to study when faced with the numerous distractions that are often present in college. These and other skills are often described in books and on web sites in order to help teach students how to manage themselves and their lives in the college environment. While all of these skills are important and helpful, they don't get to the heart of the matter—higher education is all about learning and to truly be successful in college, students need to be effective learners!

How can homeschooling parents help their children become effective learners to prepare for college? As I will describe in this article, perhaps the best answer is to provide children with a variety of experiences that are designed to hone their basic learning skills, increase the breadth and depth of their overall knowledge, and develop their conceptual and analytical abilities.

One educational theory that is often used by educators was developed by Benjamin Bloom and his colleagues in 1956; it is often referred to as Bloom's Taxonomy. This taxonomy, or classification system, was created to help educators define the types of behaviors that students should engage in at various stages of learning. In the original taxonomy there were six levels of learning identified that may be useful to homeschoolers: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation.

The first level, Knowledge, usually involves the student engaging in simple levels of thinking such as being able to state, recall, identify, label, or find information. Most textbooks include review questions at the end of chapters or sections that help teachers identify and assess the basic (factual) knowledge that students should have acquired from what they read. Quiz or test booklets that accompany textbooks also focus on building knowledge-level skills. Even though these skills are described as "basic", they are still important skills for students to continue to develop throughout high school because even in college, professors will give students factual-knowledge tests that are based on reading assignments.

The next level, Comprehension, involves students being able to understand ideas or concepts rather than just remembering factual knowledge. For example, rather than having to simply recall information, students may now need to be able to translate, interpret, or explain what they've learned. In some instances, textbooks and tests have comprehension-level questions, but more often than not, knowledge-level questions are used because their answers are easier to include in a teacher's edition of the text or test booklet. The answers to comprehension-level questions provided in teacher's editions usually indicate "answers will vary" because student responses are usually in the form of an essay. Being able to write an effective answer to an essay question will always be an important skill for college students and is something high school students should practice regularly!

As you can see, the first two levels of Bloom's Taxonomy focus on students *obtaining* knowledge and *thinking* about what they've learned. As we progress upward through the levels of the taxonomy, the *thinking* requirement becomes even more important as college students are often required to demonstrate advanced (critical) thinking skills.

In the higher levels of learning, students must not only prove that they've obtained and comprehend basic information, but they must demonstrate an ability to use their knowledge in some fashion, such as in the next level of the taxonomy, Application. College students are usually required to apply their knowledge by engaging in activities that require finding solutions to problems, providing answers to thought-provoking questions, or perhaps even constructing or building something. In mathematics, students have math problems to solve. In science, students may conduct experiments or engage in laboratory work.

Since learning how to apply knowledge is an important skill, many colleges require students to complete one or more science labs during high school. Similarly, many colleges want high school students to "apply" their knowledge of foreign languages through participation in language labs or other activities where they can practice speaking and listening to the language.

Parents may find that it is beneficial, for subjects such as English or social studies, to design their own projects to help their students apply their knowledge; some commonly used approaches are research papers and book reports. While these assignments can be a great way to reinforce certain skills and help students apply knowledge to a degree, hands-on projects that require students to solve problems or design/construct something may be more beneficial because they require students to think more broadly and deeply about what they've learned.

Analysis is the fourth level of the taxonomy. Bloom believed that once students had knowledge of facts, comprehension of concepts, and could apply both to solve problems then they had an ability to examine the components of a problem or to understand a concept in relationship to the whole by engaging in activities such as classifying, categorizing, experimenting, and differentiating. Aside from mathematics and sometimes science, these are not skills commonly addressed in textbooks for most subjects, so parents must find other ways to help their students develop them. Having to complete more complex projects and having to write more in-depth research papers that explore the “why”, “how”, and “what if” of the subject can be extremely beneficial for developing analytical skills. For example, students may write a paper or complete a project that doesn’t simply outline the events of the Civil War, but rather one that examines the root causes of the events that led up to it or that analyzes the impacts of the conflict on our society for a 100-year period following the war.

As we progress to the final levels of the taxonomy, you will see that the focus becomes what the student can or should *do* as a result of being able to *think* about what he/she knows. For example, the fifth level of the taxonomy, Synthesis, involves students demonstrating an ability to create something *new* or to develop an *original* idea about something. At this level, students may invent, compose, write, develop, or create something. For example, students might *compose* a poem for each of the types of poetry presented in a textbook. As a result, students would have to be able to identify the various types of poetry, understand how each type is written, and then be able to pull all of that knowledge together to create poems of their own—that takes some thinking!

The final level of the taxonomy is Evaluation. At this level, students should be able to judge the *value* of something. Activities at this level may include debating, grading, appraising, or critiquing. For example, with the presidential elections quickly approaching, students have a wonderful opportunity to critique the political commercials, speeches, and platforms of the candidates. They can also debate the issues surrounding the elections including appraising how fairly and objectively (or not) the media handles the election.

In summary, high school is a wonderful opportunity for parents to prepare their children for higher education. Textbooks and similar materials can be helpful for developing some of the basic skills students will need in college. Parents can use Bloom’s Taxonomy and the six levels of learning to help increase the breadth and depth of their curricula, which in turn helps their children not only hone basic learning skills, but helps them develop the conceptual and analytical abilities they will need to become effective learners and to be successful in college. Happy learning!

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