

# **Real Thinking:** **More than Getting the Right Answers**





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With the current emphasis on performance-based education (motivated in large part by the No Child Left Behind initiative), it is important that Christian educators maintain a balanced approach to the distinctiveness of Christian education. We are distinguished from secular educationalists not only because we teach with a distinctively Christian philosophy but also because we teach the whole child: both performance and discernment are educational goals. Both goals rely on successfully teaching critical-thinking skills from a biblical perspective.

## What is “critical thinking”?

Nearly everyone in educational circles uses the term “critical thinking”—in fact, it is so commonly used that it has become almost meaningless. Imperative to teaching critical thinking is knowing what it is—and what it is not.

Let’s start with what it is not. Although many educators use test scores, grades, and fact-recall activities as evidence of educational excellence, none of these reflect critical-thinking skills. All education consists of communicating two essential elements: subject matter of course content (“what to think”) and the correct way to understand and evaluate the subject matter (“how to think”). Memorization is key to the first element. Critical thinking is key to the second.

In short, critical thinking is the art of analyzing and evaluating thinking with the goal of improving it. According to the Foundation for Critical Thinking (found at [www.criticalthinking.org](http://www.criticalthinking.org)), it is “that mode of thinking—about any subject, content, or problem—in which the thinker improves the quality of his or her thinking by skillfully analyzing, assessing, and reconstructing it.”

In other words, it is evaluative thinking. It means making reasoned judgments. It is using criteria to judge the quality of something. And its ultimate goal is further improvement of the ability to think critically.

But this definition comes from a secular source, so . . .

## Can critical thinking be Christian thinking?

Simply put, yes.

The God of the Bible is a God of reason and order. God asks us to know truth (“Be still, and know that I am God”—Ps. 46:10), but He also wants us to understand truth (“Then opened he their understanding, that they might understand the scriptures”—Luke 24:45). He distinguishes the wise from the foolish on the basis of both knowledge and understanding: “O Lord, how great are thy works! And thy thoughts are very deep. A brutish man knoweth not; neither doth a fool understand this” (Ps. 92:5–6).

Both knowing and understanding are key. But beyond both knowledge and understanding, is the quality of discernment (judgment or evaluation) that distinguishes the godly from the ungodly: “But the natural man receiveth not the things of the Spirit of God: for they are foolishness unto him: neither can he know them, because they are spiritually discerned. But he that is spiritual judgeth [or discerneth] all things” (1 Cor. 2:14–15).

So, if critical thinking is self-actualized evaluative thinking, it is consistent with biblical principle.

## Bloom’s Taxonomy

Benjamin Bloom developed a classification of levels of intellectual behavior in learning within three overlapping domains—the cognitive, psychomotor, and affective—that have become known as Bloom’s Taxonomy. Within the cognitive domain, he identified six levels that have become the basis for identifying—and teaching—critical-thinking skills. These six levels—knowledge, comprehension, application, analysis, synthesis, and evaluation—define thinking from its lowest to highest levels of development.

1. **Knowledge**—dates, events, places, vocabulary, key ideas, labeling parts of a diagram
2. **Comprehension**—find meaning, interpret facts, infer cause and consequences, provide examples
3. **Application**—use information in new situations, solve problems

4. **Analysis**—recognize and explain patterns and meaning
5. **Synthesis**—discuss situations, create new ideas, predict and draw conclusions
6. **Evaluation**—make recommendations, assess value and make choices, critique ideas

When we speak of “higher-order thinking skills,” or “critical thinking,” we generally mean the last three levels of Bloom’s Taxonomy: analysis, synthesis, and evaluation.

## Creative Thinking

According to the definitions above, including Bloom’s Taxonomy, critical thinking is, in reality, creative thinking. An effective thinker must be willing to think and have the skills to think. The ideal thinker, therefore, is inquisitive, flexible, reasonable, well-informed, fair-minded, honest, prudent, orderly, and diligent.

These traits also characterize creative thinking—the ability to elaborate on ideas, refine ideas, and compose. Creative thinkers are curious and original; they have the imagination to visualize, clarify, and provide details.

Critical thinking and creative thinking go hand in hand. Sound thinking requires both the intellectual discipline to assess and evaluate and the originality and productivity to create.

## Biblical Thinking

The foundation for Christian thinking is, of course, the foundation of truth, found in the Word of God and a personal relationship with Incarnate Truth, Jesus Christ. Christian thinking requires being “transformed by the renewing of your mind, that ye may prove what is that good, and acceptable, and perfect, will of God” (Rom. 12:2). Therefore, teaching critical thinking must begin with teaching the standard of truth—God Himself and His principles. Integrating Scripture and Scriptural principles in every area of study is essential. If critical thinking is evaluative thinking, then there must be a clear standard for the evaluative process.

But critical thinking goes beyond merely knowing the truth; it is the ability to apply the truth, to analyze meaning truthfully, to synthesize conclusions using the truth, to create in a manner consistent to truth, and to evaluate ideas according to the standard of truth.

## How to Teach Critical Thinking

Teaching critical thinking is a developmental process. There is a progression to the levels of thinking defined by Benjamin Bloom. But too many classrooms get bogged down in the rudimentary “knowledge” level of thinking. Knowing the facts and mastering the subject matter become the sole focus of classroom activities. Yet, even in the earliest years of elementary education, critical thinking should play an important role.

An important strategy for such developmental learning is interactive teaching, that promotes inductive reasoning and problem solving. Jim Davis defines such teaching as “a system of asking questions that range from the literal, critical, and interpretive to the appreciative level. The goal is not just to seek specific answers to questions but also to develop reasoning that is in line with biblical principles.”<sup>1</sup>

Such teaching involves planned discussions that will direct the child to discover an idea or principle for himself, to use the principle in application to similar problems or situations, to draw conclusions based on the principle discovered, and to assess its value and critique related ideas. Teacher/student interaction should contribute to developing solid decision-making skills and encourage reflective analysis and creativity.

Since critical thinking and creative thinking work hand-in-hand, giving the child creative outlets for expressing knowledge, comprehension, and application is essential. Therefore, writing across the curriculum is a valuable tool. The nature of composing requires higher-order thinking skills. To write in all subject areas of learning inherently involves critical thinking in those subjects.

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<sup>1</sup>For more specific detail, see Jim Davis’s article “Performance vs. Thinking” reprinted from *Balance* <http://www.bjupress.com/resources/articles/t2t/performance-vs-thinking.php>

## The Role of the Textbook

Certainly the textbook provides the factual knowledge base for studying the subject. However, the philosophical basis, the pedagogical design, depth of content, and literary quality of the text should promote critical and creative thinking that is foundationally biblical.

Textbook content clearly plays an important role in what the teacher teaches in the classroom, but the teacher's edition of the textbook should help the teacher promote critical-thinking skills. The teacher's edition should provide key questions for planned classroom discussion, discovery activities that complement the teacher's unique teaching style, and suggestions for writing (and other creative outlets) for implementing critical-thinking skills.

## Critical Thinking in the Subject Area<sup>2</sup>

**Bible**—Comprehending spiritual truth requires a regenerated mind. As Paul explains, “the natural man receiveth not the things of the Spirit of God: for they are foolishness unto him: neither can he know them, because they are spiritually discerned” (1 Cor. 2:14). Spiritual discernment is the goal of Christian education and a direct product of biblically critical thinking within the “renewed mind” of the redeemed Christian student. Teaching the Bible must be deliberately systematic and factual. However, it must also assist students in thinking through biblical truths and applying them to their lives. Facts alone do not change conduct; students must synthesize the facts into principles and apply those principles to their own situations. A truly Christian education will require more than parroting Bible truths; students must appropriate those truths and commit to them. Thus, biblical thinking forms the foundation for all thinking through the various fields of study.

The sixth grade Bible Truths textbook asks students to explain why Solomon's temple was important to the people of Israel. This and other questions throughout the course encourage students to go beyond a surface understanding

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<sup>2</sup> For a detailed analysis of each subject area, see *Christian Education: Its Mandate and Mission* (Greenville, SC: Bob Jones University Press, 1992).

of events, assess the factors and consequences involved, and draw conclusions.

**English**—By definition, English studies focus on the process and product of communication in the English language. Verbal communication, as an attribute of God and His primary means of nurturing His children, provides the basis of biblical thinking. Learning to understand, appreciate, and create written communication requires the development of critical-thinking skills. It includes the methods, conventions, and ethics of discovering, analyzing, and reporting information. English education from the earliest elementary years involves reading, composition, speaking, listening, grammar, persuasion, literature, and the full complement of library skills—all of which essentially define the nature of critical and creative thinking. A phonics approach to reading in the formative years—in combination with an emphasis on comprehension, listening, speaking, and writing—forms a solid foundation for developing critical thinking skills.

The Teacher’s Edition for third grade reading labels the different kinds of comprehension questions, including literal, interpretative, and critical. A literal question for one story asks “What is written on the scrap of yellowed paper?” This question requires a very simple answer that can be found in the text of the story. The critical question for the same section asks, “What does Isobel’s praying instead of worrying show about her?” This question requires the student to think about the story on a deeper level. It prompts him to compare Isobel’s choices (praying or worrying) and to draw a conclusion about her character based on her decision.

The Teacher’s Edition for fifth grade reading uses the same labels for each comprehension question. A critical question for one story reads, “Do you think Timothy did the right thing by starting a fight with Mike?” This question encourages the student to think for himself about the characters’ decisions and their consequences and then make a judgment regarding the morality of Timothy’s actions.

**Heritage Studies**—The study of man, from creation to the present day, also involves the related disciplines of politics, economics, and geography. From kindergarten onward,

the study of history should focus on the study of human heritage and its influence on culture. It also includes studies in citizenship, law, political functions, economic principles, and social relationships. All of these studies inherently require the critical-thinking skills of analysis, synthesis, and evaluation steeped in the standard of Scripture.

BJU Press's *World History* textbook asks questions such as "Of the individuals discussed in this section, which do you think was the most influential in bringing about the greatest freedom of self-government for the English people? Why?" This question prompts the student to compare and contrast historical figures and make a judgment regarding the implications of their actions.

Another question in the same textbook asks students to explain how imperialism aided the spread of the gospel. In this case, students have to understand imperialism and the traits that facilitated gospel expansion under this form of government.

**Math**—Mathematics is a deductive science, focusing on both computational skills and understanding the way the computed quantities relate to each other. Inherently rational, the study of math promotes the essence of critical thinking—it requires not only memorization of math facts and processes but also the creativity of applying the logical development of those processes to practical situations. God, as Creator, has given man the rational capacity to explore and formulate quantitative relationships and consequences that both explain and predict solutions. Math education, from the earliest years, should promote Christian thinking skills.

BJU Press math textbooks often include historical facts, intended to broaden the student's view of math's applications. *The Fundamentals of the Math Teacher's Edition* explains that the Babylonians were the first to use the concept of a degree in measuring angles. Later in the student text, the student is asked to find the combined volume of the columns in the Lincoln Memorial. A photo and an interesting fact about the building keep the student engaged while demonstrating one of the many ways math skills can be used.

**Science**—The systematic study of nature, based on observation, epitomizes critical thinking. The scientific method of drawing conclusions from factual observation requires the progression from knowledge to evaluation through the skills of application, analysis, and synthesis. Laboratory experience is essential to developing these inductive reasoning skills. From the first grade, students should enter the path of scientific inquiry through first-hand experience. They should learn to measure, record observations, draw conclusions, and evaluate. Furthermore, the Christian studying science must also be able to comprehend nature within the framework of a biblical understanding of human origins and defend his beliefs to an unregenerate world with a consistent commitment to the scientific method of observation (as opposed to the human speculation on which evolutionary and humanistic beliefs are based).

BJU Press’s *Life Science* textbook asks, “Explain how a hazardous substance dumped on the ground could contaminate fish for sale at your local grocery store.” This question prompts students to apply the ecological principles they have read about to their lives in a very personal way. Another question, “What would happen to an insect if it lost its ability to molt?” puts the student’s mind to work as he imagines the results of such a condition.

## Teaching to Think

A Christian approach to education, therefore, must integrate distinctively Christian thinking into the curriculum. Without that distinctive, our teaching differs little from the performance-based education of the secularists. Our goal is to reach the whole child, from heart to head, to prepare him to serve the Lord not in “the spirit of fear, but of power, and of love, and a sound mind” (2 Tim. 1:7).

Rhonda Galloway, professor of English at Bob Jones University, holds a doctorate in Education from BJU. Her dissertation, *Home Schooled and Conventionally Educated High School Graduates: a Comparison of Aptitude For and Achievement in College English*, inspired a follow-up study of BJU students regarding all areas of college success.





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