

Helping Students to

Think Critically

BY HUMBERTO M. RASI

Seventh-day Adventist teachers are well acquainted with Ellen G. White's pointed statement that "the work of true education" is "to train the youth to be thinkers, and not mere reflectors of other men's thought."¹ If this counsel was valid a few generations ago when both public and private education placed great emphasis on memory and rote learning, it is even more relevant today. Three factors have made more challenging the role of teachers in the contemporary classroom: (1) The rapid expansion of knowledge in practically all disciplines; (2) The easy access to information through the media, publications, libraries, and computers; (3) The increasing complexity of the issues—many of them ethical—raised by this new knowledge and the technologies derived from it.

As a result, teachers—particularly at the upper-secondary and university levels—must no longer be viewed as the exclusive providers of knowledge and information, but as experienced guides in the development of students' skills and attitudes required for self-directed inquiry throughout their lives. Young people will need this ability in order to process new information, to solve new problems, and to very likely adjust to career changes later in life.

Critical thinking, then, can be defined as the ability to analyze, systematize, and critique new concepts, moving from concrete to abstract modes of thought. This process usually requires raising relevant questions, formulating valid generalizations, evaluating various possibilities, and making a careful choice among options. It is not restricted to a logical or scientific approach, but also involves personal and ethical factors.

Thoughtful educators have begun voicing the concern that we are not developing these much-needed skills in our students. Consequently, a growing number of publications and workshops are beginning to focus on the subject.² They are based on the premise that these skills do not evolve naturally, but must

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be deliberately fostered by teachers as part of the educational process.

Critical thinking is necessary in all disciplines and can best be learned within the context of each one of them. This means that every teacher, regardless of his or her specialty, should assume the responsibility of helping students develop these skills, especially at the secondary and college levels. It also means that methods for critical thinking will vary from discipline to discipline. Students, therefore, will need to learn the basic concepts and approaches relevant to that discipline before they can develop a framework for critical thinking.

In this article we will provide some practical suggestions to assist teachers in the fundamental task of helping students to think critically.

Fostering Inquisitiveness

Parents and teachers know that normal children are naturally inclined to explore their environment and to ask all kinds of questions. The Creator made our brains capable of storing and processing huge amounts of information. Some scientists believe that a healthy human brain can assimilate 100 trillion bits of information—that is more than 500 times the material contained in a complete set of the *Encyclopaedia Britannica*!

However, by the time they reach secondary school or college, many students have lost much of their natural curiosity as a result of homes or schools that have discouraged them from asking questions. They seem resigned to absorbing uncritically the information provided to them by others. Some psychologists believe that extensive television viewing also promotes mental passivity by emphasizing intake instead of interaction. As John Holt remarked, "We don't have to make human beings smart. They are born smart. All we have

to do is to stop doing things that make them stupid."³

Fortunately God endowed us with a stubborn inclination to analyze and generalize: we are concept-making creatures. Teachers need to be keenly aware of students' natural desire to make sense of the world by raising questions and of their frequently inbred tendency to be passive receivers. Chet Meyers makes an important point when he states: "Students will move beyond their limited, immediate experience and develop new mental structures for critical thinking only when their present structures are insufficient to the task at hand and when an atmosphere of discovery encourages them to explore new modes of thinking."⁴

Some insecure or inexperienced teachers may feel subconsciously inclined to overwhelm their classes with their knowledge or to rigidly control all exchanges in the room. In view of this, all educators would do well to critically evaluate their methods and classroom approaches to determine whether they are reinforcing their students' passive absorption of information instead of encouraging critical inquiry and active involvement.

Teaching the Skills

In addition to the cultural and personal factors listed above, other elements in today's educational environment make it difficult to stimulate critical thinking among students: cramped teaching schedules, large class sizes, voluminous course content, limited class time, and a smorgasbord approach to curriculum.

Some teachers, however, have devised strategies that allow them to effectively teach these basic skills. Their point of departure, before teaching a course, is to ask themselves two basic questions: "What do I want my students to *know* and what do I want them to be able to *do* by the time they complete this course?"

This approach forces teachers to focus on the essentials, both in content and skills.

Originally, colleges in the United States considered that their main task was to develop character as well as habits of thought. Only in recent times have they begun placing as top priority the mastery of academic content. It seems clear that the pendulum needs to swing back to a more intermediate position. Teachers should consciously seek to establish a balance between providing information and developing thinking processes. This, in turn, will lead to a balance between lecture and interaction between student and teacher as well as among students. Lectures, then, will be devoted to providing information not available in texts, to clarifying difficult concepts, to raising relevant questions in issues to be discussed.

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The most important contribution a teacher can make in this regard, both in lectures and in interaction, is to show students how he or she engages in critical thinking. In other words, teachers should make explicit their own analytical framework, their method for collecting, evaluating, organizing, and summarizing data, as well as the way they arrive at carefully considered conclusions. Ideally, they should share with their students samples of their own ongoing research, thus helping young people to see how adults also struggle to understand certain issues and to keep objective and subjective elements in balance.

All teachers face the challenge of moving their students from a self-centered universe, based on limited personal experiences and concrete realities, to a more abstract realm where a variety of visions and values exists. Unfortunately, teaching methods in most courses move students from the abstract to the concrete, which is contrary to the way we develop as human beings. By using this method, we stress the confirmation of

abstractions, not their discovery.

Stimulating Interest

A clear understanding of the objectives of the course to be taught, as indicated above, is an essential requirement for success in the classroom. However, experienced teachers know that mastery of the subject, good organization of the material, and careful lecture preparation do not bring satisfactory results if student interest is lacking. To quote Meyers again:

Our culture does exert pressure on children to remain silent and follow instructions rather than asking questions. Thus, natural inquisitiveness is soon replaced by passivity and a tendency to take cues from others. . . . By the time most students reach college age, the inner-directed child has become the other-directed young adult. Passivity and caution have replaced inquisitiveness and questioning, and taking notes on the thoughts of others has replaced thinking for oneself.⁵

In addition, students frequently bring to the classroom negative preconceptions about particular disciplines, based on less-than-satisfactory previous encounters with the subject matter. This, coupled with the common academic practice of shifting students from class to class every 50 minutes, does little to encourage sustained, reflective thought. In fact, by the time the student's mind is fully engaged, the bell rings, signaling the need to move to another subject.

What can teachers do to surmount these obstacles and to stimulate student attention and involvement? Here are some possibilities:

1. Conduct an anonymous survey at the beginning of the course. Ask students to write down (a) previous course work in the discipline or related fields; (b) areas of personal interest or hobbies connected with the curriculum; (c) individual expectations for the course. Use this information to guide you in selecting additional readings, topics for discussion, areas that need to be covered, and written assignments.

2. Begin each class by orally posing a problem or a challenge relating to the topic of the day. Avoid questions that merely seek factual answers, because they do not encourage student involvement. The topic for discussion may be introduced with an article or a newspaper clipping and one or two thought questions, duplicated and given to students as they come to class. Allow them sufficient time to offer their own hypotheses before presenting your views.

Carefully keep the discussion on track by restating the initial problem or asking additional questions.⁶

3. Select opposing views on a particular issue related to the subject, distribute copies to students at the appropriate time and ask them to discuss the topic in class. This approach helps students to expand their viewpoints and stimulates their interest by presenting contrasting perspectives on real issues.

4. Convince your colleagues and the school administration to combine class periods, so that instead of teaching one 50-minute class four times a week, teachers can offer two consecutive 50-minute periods twice a week. This requires more careful scheduling and preparation but allows for sustained student involvement with the subject and

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for a combination of approaches: film/visuals, discussion, lecture, small group interaction, summary, et cetera.

Creating the Environment

In addition to careful teacher preparation and methodological approach, certain psychological and physical factors can create an environment conducive to the development of critical thinking:

1. Provide a classroom atmosphere that encourages open, courteous expression of diverging ideas. Acknowledge respectfully the contribution of each student. This will help get students involved and encourage them to explore new modes of thinking in a "safe" situation.

2. Once you pose a problem or present a topic for discussion, allow a few minutes of silence so that all students can carefully reflect, write down for themselves a brief outline, and then participate in the exchange of views. Students need time to assimilate and ponder new concepts.

3. Seek a balance between an environment that challenges old modes of thinking and at the same time provides

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support for the development of new ones.

4. Arrange the classroom space to encourage interaction with you, the teacher, and among the students. Place the chairs, desks, or tables in a circle, semicircle, or rectangle, so that everyone will be able to see everyone else. Allow students to ask one another questions dealing with the topic under discussion. Guide the exchanges by clarifying issues, questioning assumptions, and encouraging less-articulate students to participate.

5. On occasion, arrange the desks in clusters and provide opportunity for students to work in small groups to solve specific problems. Then request one spokesperson from each group to present a brief report.

Written Assignments

As important as oral participation is to stimulate student involvement and articulate concepts, it cannot replace writing as a fundamental mode of learning. Writing allows thought to become visible to ourselves and to others, while facilitating the analysis and evaluation of our own ideas. In today's classrooms, however, most tests, reports, term papers, and examinations tend to emphasize information recall rather than critical thinking.

Since critical thinking is a skill that can be developed and mastered through practice, teachers should design writing assignments that will require students to perform tasks of increasing difficulty. This progression will guide them through specific steps: summarizing ideas, outlining basic issues, identifying key concepts, asking appropriate questions, recognizing assumptions and biases, critiquing arguments, proposing theories, and defending conclusions.

When teachers request more short written assignments, rather than fewer, longer ones, they can better guide the students' learning and provide them with immediate feedback. Assignments should focus on real problems and issues; ideally, topics should relate to the student's own experience. It is essential that instruction for the assignments be clearly spelled out, including the sub-

ject, the materials to be read or researched, the overall approach, length, format, and deadline.

Here are some types of written assignments that will progressively foster critical thinking:

1. *Brief summaries.* Have students compile an abstract of a chapter of assigned reading, a lecture, a classroom discussion, a film, or a videotape shown in class. This involves identifying the central concepts and arranging them in order of importance.

2. *Short analytical papers.* Ask students to read one or more essays dealing with a subject, then summarize the authors' respective positions, evaluating their validity.

3. *Critiques.* Provide students with a newspaper editorial or an article written by a columnist and ask them to summarize the position presented, identify the point of view of the author, critique it, and offer a rebuttal.

The evaluation of these assignments must be prompt and explicit. Teachers should clearly indicate by writing on the margins or at the end of the paper the weak and strong points, and suggest specific ways of making improvements in future assignments.

Personal Commitment

Few teaching tasks can be more demanding than helping students develop their critical abilities. In this process, learners usually progress through four steps: (1) *dualism*, a viewpoint that sees the world neatly divided between

right and good versus wrong and bad; (2) *multiplicity*, when students realize that there is uncertainty regarding the specific solution to many problems in all disciplines; (3) *relativism*, a position that acknowledges the existence of many points of view that seem equally valid; (4) *commitment*, when in the face of growing complexity of viewpoints, the student carefully chooses one position on the basis of his or her own personal values and accepts responsibility.

Happy is the teacher who has led his or her students through the process of developing their God-given abilities to think critically and to make conscious ethical choices. Such teachers are invaluable both to their nation and their church. □

FOOTNOTES

¹ Ellen G. White, *Education* (Mountain View, Calif.: Pacific Press Publishing Association, 1903), p. 17.

² Chet Meyers provides a useful review and a bibliography of current approaches and techniques in his book *Teaching Students to Think Critically* (San Francisco: Jossey-Bass, 1986). In this article I will summarize several of his concepts. Available selection of papers, with a wider scope, was recently edited by Arthur L. Costa, *Developing Minds: A Resource Book for Teaching Thinking* (Alexandria, Va.: Association for Supervision and Curriculum Development, 1985).

³ *How Children Fail*, rev. ed. (New York: Dell, 1982), p. 161, quoted by Meyers, p. 9.

⁴ Meyers, p. 39.

⁵ *Ibid.*, p. 42.

⁶ Two helpful books on this subject are Norris Sanders, *Classroom Questions: What Kinds?* (New York: Harper and Row, 1966), and William F. Hill, *Learning Through Discussion* (Beverly Hills, Calif.: Sage, 1969).

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of students (5). This is the *mean*, which gives 6 children per family. Then compute the *average* family size by selecting the number that is the most common, 12, which is the *mode*. Then calculate the average family by selecting the middle score, 3, which is the *median*. At this point you can discuss which measure of "average" best describes the "family size" of the group or the "typical student" in the group and point out that numbers must be interpreted with care.

After the discussion, you can make up examples and let the students develop their critical thinking skills in

deciding what the "average" might or might not mean. For example, you might clip out a newspaper article that says your community has an average of 1.78 children per family and ask where a TV reporter could find an "average" family to interview.

Misleading Graphs

Graphs and charts are good sources of information for teaching critical thinking in social studies classes. *U.S. News and World Report* is an especially good source for such illustrations.

In showing how graphs can mislead,