GREAT TEACHING
Must Inspire Great Thinking

By H. Ward Hill

Every school administrator and teacher I know perceives himself or herself as favoring great teaching. To be worthy of its name, great teaching must lead students to think.

The time-honored statement that both inspires and haunts Seventh-day Adventist educators describes the work of "true education" as training youth to be "thinkers, and not mere reflectors of other men's thought."[1] Secular perspectives sound remarkably similar.[2] This article will attempt to address some of the perennial issues that arise when schools attempt to teach students to think.

What Keeps Students From Learning to Think?

Young people entering college today appear not to feel as concerned about critical thinking as were students a few years ago. A decade ago an estimated 70 percent felt that the purpose of education was to give them the proper philosophical underpinnings for living. The figure today is 44 percent.[3] However, a rapidly changing world demands of its citizens the type of universal wisdom and intellectual fortitude that facilitates adaptability. For as the saying goes, if all we have is a hammer, the only thing we may look for in this world is a nail.

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College teachers often feel pressured to stay at level one of Bloom's taxonomy.[4] Their students must pass standardized tests to acquire the credentials of the establishment. Is the task of the teacher simply to get the material so engraved on each student's brain that accurate recall cracks the door to a professional career? Of course not. But the practical necessity of helping students acquire a certain level of acquired knowledge may at times push aside more idealistic concepts.

Teaching Styles

A lot of talk nowadays deplores the lecture style of teaching and the teacher-centered classroom. Such condemnations conjure up images of large classes lulled into numbness by a monotonous presentation, interspersed with occasional comments such as, "You no doubt noted on page 340 of your text. . . ."

Lectures, however, may be a teacher's forte. He or she may have mastered the subtleties of emotional sequence; of logical development, summarization, and closing appeal. The teacher can be a stand-in for a Carl Sagan or a Paul Harvey. Why muzzle the ox if it does a good job of treading out the corn?

The lecture format need not be inimical to teaching students to think. This type of instruction functions best by limiting the landscape and focusing on a few images that can be made to stand out starkly

against the skyline. A lecturer who includes too much can never make the elements of his or her exposition more than pebbles along the beach. Nothing stands out and little is remembered. But an expert lecturer can include techniques that challenge his or her audience to the highest level of thinking.

Admittedly, few faculty may feel secure enough in their own disciplines to explore ideas along with their students. This could lead them into territory where their prepared lecture would rapidly lose its rescue power. Furthermore, intellectually awakened students would want to explore other aspects of the subject, and might use up what precious little time the teacher has left for summarizing and review.

Some student feedback can be accomplished by carefully critiquing a student's written work. But writing comments on sufficient insight to inspire a student toward higher ground takes a lot of time. With 90 students in each class, and the time of a normal working day already committed to numerous other tasks, the teacher may feel a sense of masochism about tackling those papers. My personal vote goes for fewer, shorter papers, more carefully evaluated, when facing large class situations.

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Teacher- or Student-Centered Classes?

Teaching critical and independent thinking, then, does not appear to hinge on the controversy between the merits of teacher-centered or student-centered learning, although more voices might be raised in praise of the latter. Some teacher-centered classrooms (where direct teaching is emphasized) can engage the student in the type of dialogue that leads learners through all of the steps of higher-level thinking. Conversely, a more student-oriented classroom may amount to little more than a pooling of ignorance, especially if students do not receive guidance in ranking the relevance of ideas and observations.

How Do You Teach Thinking?

Edward Glaser's "An Experiment in the Development of Critical Thinking"[5] was just getting off the ground when I attended college. Realizing the importance of critical thinking, some universities now have a graduation requirement in this area.

In his article on "The Basics of Adventist Education," V. H. Fullerton notes the need for critical thinking among Adventists, which would give them skill in "weighing and reconciling contradictory arguments and points of view through dialog, discussion, and debate." This he felt might be best accomplished by a positive approach to an issue through seeking to know "what is right about a topic."[6]

Using Questions

Questioning is an ancient pedagogical technique, and can serve us well in teaching students to think. But not all questions serve such noble ends. Questions may represent mere information checks that are not penetrating or invigorating. Questioning may serve simply as a rapport builder (What did you think of the game last night?) or attention grabbers (Who do you suppose owns the House of Seven Gables today?).

To ask a student to publicly produce information that he never owned or that was jolted from his mind by sudden confrontation may send him in search of a drop slip.

Interrogation can smoke out the student who didn't do his homework, but he may flee to another den where such assignments are not required.

Asking questions can be an art form. Pursuing a line of questioning that progressively builds to an understanding causes the student to savor the solution. This can be compared to successfully observing a timid creature in the wild. The tracker looks more intently and feels rewarded for having achieved this privileged access. When this pinnacle is reached in the classroom, both questions and answers may be initiated by the students.

Bible Reading Enhances Critical Thinking

We can easily see why Ellen White spoke so persuasively about the ways Bible reading may develop the powers of the mind. Surely she did not mean simply recalling the details of an event or the location of a particular text. An in-depth discussion of a Biblical incident can spawn questions that stretch the mind from here to eternity. The story of Rahab and the spies is an intriguing example.

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By a series of questions the teachers and students can explore together the solution to the ultimate question of what one should do when pressured to break one commandment in order to keep another. After reading Joshua 2 to the class the teacher could begin asking questions in a nonthreatening way, gradually increasing the complexity of the discussion as suggested below:

1. Do you think that Rahab spoke the truth when she told the Jericho "police" that she knew nothing of the background of the Hebrew spies?
2. Did she lie when she said that the men left her place at the end of the day? Did she tell the truth when she said that she didn't know where they went?
3. Did she speak the truth when she suggested that the police might

Continued on page 31

SHAPING CURRICULUM

Continued from page 6

cator with a formidable challenge: How to formulate a Christian curriculum that fosters spiritual growth and activity within the context of a secular culture.

Materials and methods must encourage heavenly as well as earthly citizenship. Students must be prepared to give effective Christian service in a very earthly culture through the various professions and vocations they choose.

The task of shaping curriculum, then, is too important and involves too many factors to entrust it exclusively to any one group.

Who Shall Determine Curriculum?

Most college faculties have active and competent committees dealing with courses and curricula. However, participating in board meetings over more than a score of years in North America and abroad has convinced me that trustees give meager attention to curriculum concerns.

Furthermore, constituency sessions often ignore curriculum matters entirely, or treat them so superficially that they might better have ignored them!

The following plan of action may help administrators, faculty, boards, and constituencies understand what is expected of an Adventist college and how these expectations may be realized:

1. At its organizing meeting, the newly elected board should appoint its own curriculum committee.

2. Soon after its appointment, this committee should meet with the faculty curriculum and courses committee to learn what studies are currently in progress and to determine the status of curriculum development.

3. Each board member, but particularly new members and those on the curriculum committee, should review the principles of Christian education and become acquainted with course and curricular offerings at other institutions as set forth in their academic bulletins.

4. Near the close of the first year or beginning of the second, the board might profitably spend a full day with its curriculum committee and the faculty curriculum committee studying:

   a. the unique curricular needs of an Adventist college, in particular its own college;

   b. the leadership and staffing needs of the church and its institutions;

   c. the educational needs and interests of the young people within its territory;

   d. professional and vocational opportunities open to college-trained Adventists in secular society;

   e. curricula and courses to be offered (affordable within available resources) in order to meet the needs, interests, and opportunities of present and prospective students.

5. The board should annually review progress and assign the curriculum committee to report on its activities.

6. Each fifth year the board could well spend several hours, perhaps half a day, in evaluating curricular development during the quinquennium and preparing a report to the next constituency session.

7. The constituency in session should spend whatever time necessary to allow delegates to react to the report and discuss its implications for future studies and development. Areas of special concern might be identified for consideration by the new board.

Some means must be found to achieve broader and more intensive involvement in curriculum development if Adventist institutions of higher learning are to merit the support of their church, its youth, and secular society.

Our system of colleges and universities must offer learning opportunities in every field, for which there is substantial demand within the church, and for which funding that guarantees excellence can be achieved.

A Nurturing, Intellectual Climate

Adventist colleges must have quality facilities and well-trained, dedicated teachers. These institutions must provide an intellectual climate that will foster the most rigorous studies in the humanities, sciences, professions, and vocations. Our schools are called upon to prepare high-quality graduates to serve the church and the larger society. The climate of a Christian college with this kind of mission will nurture students such as those described here:

> Perseverance in the acquisition of knowledge, controlled by the fear and love of God, will give them [students] an increased power for good in this life, and those who have made the most of their privileges to reach the highest attainments here, will take these valuable acquisitions with them into the future life. . . . The capability to appreciate the glories that "eye hath not seen, nor ear heard," will be proportionate to the attainments reached in the cultivation of the faculties in this life.[5] □

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[1] Ellen G. White, *Education* (Mountain View, Calif.: Pacific Press Publishing Assn., 1903), p. 30.

[2] ________, *Testimonies for the Church* (Mountain View, Calif.: Pacific Press Publishing Assn., 1948), vol. 4, p. 425.

[3] ________, *Counsels on Education* (Mountain View, Calif.: Pacific Press Publishing Assn., 1968), pp. 33-69.

[4] H. W. Byrne, *A Christian Approach to Education* (Grand Rapids, Mich.: Zondervan Publishing House, 1961), p. 151.

[5] Ellen G. White, *Fundamentals of Christian Education* (Nashville, Tenn.: Southern Publishing Assn., 1923), p. 49. (Originally published as "An Appeal to Our Students," in the June 21, 1877, *Advent Review and Sabbath Herald*).

GREAT TEACHING—GREAT THINKING

Continued from page 9

overtake the spies if they hastened to pursue them?

4. Why do you think Rahab spoke as she did?

5. If you had been one of the Hebrew spies, what would you have wanted Rahab to say?

6. What should Rahab have said?

7. If Rahab had turned the Hebrew spies over to the Jericho

police, would she have been guilty of murder?

8. Are there times when we must tell a lie to save someone's life?

9. If the demands of the Ten Commandments appear to conflict with one another, how do you deal with this apparent challenge to faith?

Sometimes it is useful to let some time elapse before asking for a suggested solution. Personally, I prefer to work out viable options so that the student is not left hanging. I usually share with the students my own preferred solution. To the critical question of the Rahab story, as suggested in Number 9 above, students will frequently adopt one of these two options:

1. The commandments of God do not conflict if we rightly understand them.

2. There would probably never be a conflict between the commandments of God in a perfect environment. However, our world is flawed by both our finite and our fallen nature, so conflicts do emerge.

I do not conceal the fact that I personally favor the second option, using the concept Jesus endorsed in declaring that some matters of the law are more weighty than others (Matthew 23:23). By this reasoning, our duty to God takes precedence over our duty to man. Among our duties to our fellow human beings, saving life takes priority. From this, one can logically argue that while stealing a loaf of bread from my neighbor is serious, it is far less morally objectionable than murdering him.

As Adventists we sometimes have trouble with this concept since we may limit our description of the interrelationships among the Ten Commandments to the analogy of a chain. If we view ourselves as being dangled above an abyss, held aloft only by this 10-link support system, we will have difficulty ranking the priority of the links.

Questioning to Find God's Will

A second illustration of pedagogical questioning might focus on Gideon's use of fleece to determine divine will (Judges 6:36-40). This time the ultimate question is, Should we follow Gideon's approach to divine knowledge today?

The teacher may seek to stimulate a higher level of thinking by using a series of questions paralleling the sequence of Bloom's famous taxonomy. The following sequence of questions moves from lower to higher levels of thinking according to the Bloom model:

1. What was Gideon's plan for determining God's will? (Knowledge and comprehension—calling for understanding the terms involved, and the ability to paraphrase the components of the story).

2. Does fleece always absorb more of a given amount of water than the ground around it? (Analysis[8]—stressing relationships among the parts.) Could natural weather conditions have confused the message of the fleece, e.g., no dew, a rain shower in the night? Suppose an animal had come along and slept on the fleece (as my cat would likely have done)?

3. In what ways might we "put out fleece" to locate a marriage partner? (Application—relating knowledge to a concrete setting.)

4. What type of physical signs might God use today to show us His will? (Synthesis—using knowledge in new ways.)

5. Should we seek to know God's will in the same manner as Gideon? (Evaluation—showing the value of usefulness of this information.) Does God speak to us today as vividly as He did in the days of Gideon? Do you think it is easier for God to develop faith and trust in His guidance if He does not accompany His instruction with direct and obvious miracles?

Students will likely sense that I view the method of guidance by physical signs as appropriate to a certain period or level of faith. I believe that a mature faith, however, is guided by principle and trusts in Providence to overrule all situations.

Being required to think (as opposed to simply recall) is not popular with some students. A teacher may encourage easy entrance to this approach by asking a student to reflect further on his or her own ideas. "When you defended the continued use of physical signs to determine God's guidance," the teacher might ask, "did you consider the possibility that the devil might be controlling the sign?"

Or the teacher might call for analysis by asking, "How would you deal with a situation in which two of you asked for a sign and were given contradictory answers?" Some students might believe that the devil can occasionally control a sign when the communicant is not totally in tune with God. Conversely, they would assume that God will not allow the devil to interfere when faith is strong. However, if two people of great faith receive conflicting signs, then greater cognitive risk is generated, as the teacher challenges ideas students have previously held.

Some teachers like to move students into unexplored terrain and directly challenge their ideas. In this case the teacher may attack long-held beliefs by a statement such as this: "Don't you see that the use of signs promotes superstitious ideas rather than trust based on an appreciation of God's true character?" However, such confrontation creates even more severe cognitive risk, and may be ill-advised in many circumstances.

Drawbacks of Questioning

Of course questioning as a teaching technique has certain drawbacks. Some students will view this approach as a waste of time, since their consuming interest is to garner sufficient facts to ace the tests and keep their G.P.A. untainted by grades below an "A" or "B." These may desert the class upon learning that the tests will require them to demonstrate critical thinking skills.

Unfortunately, almost every class has at least one student who seems bent on dominating the discussion. Seemingly insensitive to other students who are thus blocked from participation, the monopolizer still drones on, having lost his audience after the first few sentences.

McKeachie suggests several ways to deal with students whose monologues could wear out the saints. One approach is to simply

ask the group the following question immediately after they have endured this type of abuse: "Would the class be more effective if participation were more evenly distributed?"[7] I can't imagine more than one dissenting vote.

One technique that I use to deal with this teaching nightmare is to break in on the filibusterer with a Thank you and move on to the next participant. Any subsequent attempt on his part to bore the class can be postponed by declaring that I will not recognize a speaker for the second time until everyone has had an opportunity to speak.

Unfortunately, this approach tends to perpetuate a dialogue between the teacher and the class rather than a free-flowing exchange among the students. A private appeal to the speaker sometimes help. But I must confess that sometimes deliverance from these situations comes either through a special dispensation of patience by the teacher or the graduation of the offender.

The Thinking Employee

The difference between thinkers and those who simply produce right answers emerges in time. The careful thinker is more interested in the process than in finding an immediate answer. As Robert Sternberg has observed, "students who think well will be in a position to generate good answers, whereas students who generate good answers do not always think well."[9]

The person who learns to think, to read, and to write—in short, who discovers the joy of learning—will have the best of both worlds. He will rise in responsibility in his employment, while at the same time sharing the delight of high-level thinking. A recent writer in the *Chronicle of Higher Education* described such a student:

> He will have learned how to give his whole attention to something, how to organize his forces against the completion of a task. He will know the pleasure of hard work, how to be happy even when work is demanding and arduous. He will know the exhilaration of achievement, look forward to the lure of the next challenge. He will have discovered a passion for knowing, for doing, for being—the vital signs of a good student and the educated person.[10]

Thinkers Can Be Threats

Clearly, the use of certain teaching techniques can improve the analytical skills of our students. So the question is not, Can we teach students to think? but, Do we really want to teach them to think? and, Do they want to learn to think?

Most undergraduates don't go to college to learn to think; most teachers don't see their role in teaching students to think. Administrators who say they want to challenge students to be thinkers may simply be posturing—trying to identify with what is progressive and upbeat. Their attitudes may represent a gesture of political expediency rather than a call for reform.

To be worthy of its name, great teaching must lead students to think.

Are we really prepared to reward students for being more questioning and critical, and hence less inclined to accept at face value what their teachers say? Thinking implies healthy skepticism, which will probably lead to an examination of our traditional ways of looking at things. It is the rare bird among leaders who is ready to trade the harmonious atmosphere of the conformist for the discomfort and controversy thinkers almost invariably stir up.

As John Milton wrote in the 17th century, "Where there is much desire to learn there of necessity will be much arguing, much writing, many opinions; for opinions in good men is but knowledge in the making."[11]

However, discomfort and potential controversy are unacceptable excuses for failure to teach thinking skills. Thinking students empowered by the Holy Spirit are Christianity's best witnesses in this sophisticated information age.

When those in less literate lands reach out for the gospel, our hearts rejoice. However, skeptics express a lingering question as to whether such people would have so readily accepted the message had they been aware of the options available to more sophisticated listeners.

Should not the evidences for truth be convincing to the most culturally advanced on Earth? Should it not embarrass Christians if the number added to the church is inversely proportional to the level of education achieved by the converts? Hence the challenge to each of us to be—and to train our students to be—thinkers rather than mere reflectors, as the church undertakes its final mission. □

REFERENCES

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

[2] For instance, the Carnegie Task Force on Teaching as a Profession has noted: "An economy based upon people who think for a living requires schools dedicated to the creation of environments in which students become very adept at thinking for themselves, places where they master the art of learning and acquire a strong taste for it."—Carnegie Task Force on Teaching as a Profession, *A Nation Prepared: Teachers for the 21st Century*, excerpted in the *Chronicle of Higher Education* (May 21, 1986), p. 45; also quoted in Larry Cuban, "Persistent Instruction in the Classroom," *Phi Delta Kappan*, 68:1 (September 1986), p. 9.

[3] Tom Haggai, "Education With a Difference," *Vital Speeches of the Day*, 51:18 (July 1, 1985), p. 568.

[4] Benjamin Samuel Bloom, ed., *Taxonomy of Educational Objectives* (New York: Longmans, Green, 1956), pp. 201-207.

[5] Edward M. Glaser, "An Experiment in the Development of Critical Thinking," *Teachers College Record*, 43 (February 1942), pp. 409, 410.

[6] V. H. Fullerton, "The Basics of Adventist Education," *The Journal of Adventist Education*, 47:4 (April-May 1985), p. 37.

[7] Wilbert J. McKeachie, *Teaching Tips* (Lexington, Mass.: D. C. Heath and Company, 1978), p. 43.

[8] Selma Wasserman lists the approaches involving analysis as "asking for examples, asking for a summary, asking about inconsistencies, asking about assumptions underlying an idea, asking about alternatives, asking about ways to classify data, and asking about what data support an idea."—Selma Wasserman, "Teaching for Thinking: Louis E. Raths Revisited," *Phi Delta Kappan*, 68:6 (February 1987), p. 458.

[9] Robert J. Sternberg, "Teaching Critical Thinking: Eight Easy Ways to Fail Before You Begin," *Phi Delta Kappan*, 68:6 (February 1987), p. 458.

[10] Josephine Trueschler, Letter to the editor, *The Chronicle of Higher Education*, 33:25 (March 4, 1987), p. 45.

[11] John Milton, *Areopagitica* (New York: Payson and Clark, 1927), p. 31.