
How Do Adventist Students Think About Creation and Evolution?

By Donna Evans

“There’s no proof of creation; I just believe it because the people I trust believe it.”

“Obviously, there’s no scientific basis for creation as there is for evolution. Belief in creation is an issue of faith, whereas evolution is one of science.”

“Both creation and evolution require faith. When you look at evolution, there’s not a lot of evidence; but there’s no direct evidence that God created the earth, either, except for the Bible.”

“I don’t think anybody can say right now that they know for sure that the Bible is correct, unless they’ve had some supernatural experience. But you know, I’ve chosen to believe the Bible.”

—Adventist College Students

These college students—part of a study interviewing 19 freshmen and 19 seniors at an Adventist college—all claimed fidelity to the views of Creation, evolution, and biblical inspiration traditionally upheld by the Adventist church. Their responses to questions designed to probe their thinking revealed

Donna Evans graduated from Southern College with a degree in English, and received her Ph. D. in education from the Claremont Graduate School in Claremont, California. She has taught at Montemorelos University and Southern College, and has previously published books for Pacific Press, Southern Publishing, and Review and Herald.

that each had done some wrestling with the issues involved. All had quite honestly faced the fact that the “other side” had some supportable arguments. But what about the foundation of these students’ belief? On what did they base their confidence? It appears that their beliefs were built without reference to the weight of evidence, rationality, or even personal experience. Instead, a faith supported by feeling, apart from rationality, and governed, not by understanding, but by preconditioning, is prevalent. They seem to lack comprehension that, in a world where most choices are not clear-cut, the choice of what to put faith in must be based on a careful weighing of evidence.

When analyzing the comments of these students, unsettling questions come to mind: Why, having come so far in Adventist education, are they unable to get beyond acknowledgement of other potentially valid viewpoints? Why must they cling to their beliefs based on what can only be called truly “blind” faith? The answer may lie, at least partially, in the way Adventist young people are taught or encouraged to think.

Being an Adventist—and especially growing up as one—can be a very secure and comfortable experience. There is security in knowing which things are right and wrong; there is security, too, in understanding the meaning of the past and anticipating events in the future. There is great comfort in knowing the acceptance and favor of God and in being reasonably sure of what his will is for one’s life.

Many Adventists are able to hold onto this comfort and security indefinitely because they believe that knowledge (or truth) is absolute and can be absolutely known. Others, however, come to the place where they must deal with challenges to their cherished values and beliefs. Because of such confrontations, these individuals eventually realize that not only are they no longer sure of things they once knew for certain, but now they aren't sure if they can know *anything* for certain. This ambiguity causes a major shift in their world view.

Such a shift is traumatic. The realization that human beings, because of their limitations, can never know all things, nor perceive revealed things with complete accuracy, is a major one. Especially for Adventists, the birth of such an understanding is generally difficult and painful, because it entails a loss of much of one's basis for security and comfort.

Major changes in world view come not only to Adventists, but to most people at some time in their lives, as a natural result of confrontation with reality. Some changes may happen gradually as a child matures, encounters more people, and experiences more of life. Other changes occur—gradually or not—as a result of learning that takes place during formal education. And finally, changes in assumptions about knowledge come because of major life crises. But regardless of how these changes occur, they usually carry a great deal of impact.

There is a model that describes a natural and predictable sequence of changes in world views (stages of thinking and/or attitudes toward knowledge). It is known as the reflective judgment model. As in any stage model, it presupposes that the stages are progressive, sequential, and invariant. This means that when people change from one distinct type of thinking to another, the change follows a set pattern. It also means that people don't skip stages—that for one to arrive at stage four, for instance, one must first go through stages one, two, and three—and, having achieved a certain stage of thinking, they generally don't regress to an earlier stage.

The reflective judgment model describes a predictable progression of stages, moving from a

certain and absolute view of knowledge through a relativistic and uncertain view, and beyond to a mature and reasonable way of selecting the knowledge that is most likely to approximate reality.¹

The Absolute Level

Stage 1: There is an objective reality that exists just as the individual sees it. Reality, and knowledge about reality, are identical, and are known absolutely. Thus, since knowledge exists absolutely, one's own views and those of authorities are assumed to correspond to each other and to absolute knowledge.

Stage 2: There is an absolute, objective reality that is knowable and known by someone, but that knowledge may not be immediately available to the individual. It is, however, available to legitimate authorities. The choosing of beliefs depends on authority, as certain knowledge can be obtained from authority. Evidence does not play a role in decision-making.

Stage 3: There is an objective reality, but it cannot always be immediately known, even by legitimate authorities. Absolute knowledge exists in some areas, but in others it is uncertain, at least temporarily. Even authorities may not have certain knowledge yet. However, given enough time and sufficient study, absolute knowledge can be attained. In the meantime, in areas of uncertainty, subjects are unsure of how to choose their beliefs. Therefore, in these areas, they tend to make their decisions based on feeling, whim, or previous belief.

The Relativistic Level

Stage 4: There is an objective reality, but it can never be known with certainty. Neither authorities, time, money, nor a quantity of evidence can be relied on to lead to absolute knowledge. Therefore, knowledge is always uncertain. There are many possible answers to every question, but no way to decide which one

is correct or even which one is better. Subjects are aware of evidence, but not able to evaluate it or to see how it leads to decision-making. Therefore, they tend to make decisions based on whim and/or mechanically used, or incomplete, evidence.

Stage 5: An objective understanding of reality is not possible, since objective knowledge does not exist. Reality exists only subjectively, and what is known of reality reflects a strictly personal knowledge. Knowledge, therefore, is subjective, and knowledge claims are limited to subjective interpretations from particular perspectives. Subjects are able, however, to cite evidence supporting the various different perspectives and to understand how each group of data can lead to a given conclusion, but only within a given context.

The Probabilistic Level

Stage 6: An objective understanding of reality is not possible, since our knowledge of reality is subject to our own preconceptions and interpretations. However, some judgments about reality may be evaluated as more rational or based on stronger evidence than other judgments. Knowledge claims can be constructed through principles of inquiry that are generalizable across contexts.

Stage 7: There is an objective reality against which ideas and assumptions must ultimately be tested. Despite the fact that our knowledge of reality is subject to our own perceptions and interpretations, it is nevertheless possible, through the process of critical inquiry and evaluation, to determine that some judgments about that reality are more correct than others.

Eleven years of research have shown this model to be very consistent. Subjects tested at different intervals of their lives have progressed from lower stages to higher stages in the sequence described, often reaching a higher stage at which they have remained. Cross-sectional studies have shown older subjects with more education to score at higher levels than younger subjects with less education. The Reflective Judgment Interview, the instrument used in these studies, has proved to be both valid and reliable.

The later stages of this model provide a very reasonable framework of thinking for the Adventist who has matured beyond absolutism, but is not content to remain relativistic. While it is true that the security and comfort of absolutistic thinking are gone, it is not necessary to remain in a state of chaos and unfounded and unmeasurable choices. The model provides for thinking that is evaluative and yet still open to change and/or additional information. This allows for both strong commitment and openness to new thought. It allows the individual to choose the better option based on evidence, authority, and personal experience.

Reflective Judgment Research and Adventist Education

The journey through the reflective thinking stages is a slow one and may stop at any given stage, leaving the individual with that particular style of thinking indefinitely. It is especially important to notice, however, that for a person to move from the arbitrary, authority-reliant, black-white early stages to the probabilistic stages, it is necessary to go through a time of relativism.

Research has shown that relative judgment scores increase with formal education. But what is it about formal education that causes changes in reflective thinking?

It is conjectured that the move from absolutis-

College education seems to provide the stimulus for the major jump from eventual absolutism to clear relativism.

tic stages to the relativistic ones is caused by confrontation. The move from relativism to probabilism may be fostered by the building of verbal and critical thinking skills; by support for questioning as a legitimate stage; by the teaching of options for thinking other than skepticism, cynicism, and relativism; and by the role-modeling of making choices based on probabilistic attitudes.³

Research done thus far has shown high school

students scoring generally between stages two and three, college freshmen at stage three, college seniors at stage four, beginning graduate students between stages four and five, and advanced graduate students between stages five and seven. A look at these scores shows that college education seems to provide the stimulus for the major jump from stage three to stage four, a leap that goes from eventual absolutism to clear relativism. But college does not seem to lead students through the relativistic states to the clearly more desirable probabilistic stages where choice is based on evaluated evidence.

The Adventist who studies the reflective judg-

How is it possible that Adventist students graduate with definite relativistic thinking? How can an education that is supposed to preserve values create, or at least sustain, relativism?

ment model will sooner or later come to ask how Seventh-day Adventist college education affects its students. Do Adventist students go through the relativistic stages, too? Is this possible in a college whose purpose it is to pass on “proven” values and to impart “truth”? If not, do students remain in the absolutistic stages? Or, on the contrary, does Adventist education provide its students with the necessary factors by which to arrive at probabilistic decisions without lingering in relativism?

In order to seek answers to these questions, 19 freshmen and 19 seniors, full-time students at an Adventist college, were given the reflective judgment interview, which consists of four dilemmas presented to the student one by one. After each dilemma, the student is asked a series of questions. The dilemmas explore the student’s thinking about issues that are familiar to most people, and about which there are conflicting viewpoints and no definitive solution or answer. These interviews were taped and later transcribed word for word. They were then separated and coded so they could be rated blindly. The scores of these Adventist students were then compared to scores of freshmen and seniors attending non-church-

sponsored colleges and universities. The comparison students were subjects of various studies done on freshmen and seniors, the students from each study attending the same school. Their ACT scores and high school GPAs were comparable to those of the students in the Adventist study.

Before the study at the Adventist college was undertaken, three hypotheses were proposed:

1. That there would be a significant difference or gain between the freshmen and the seniors in this study. (This hypothesis was based on the score trends for all college freshmen and seniors studied so far.)

2. That the Adventist freshmen in this study would score similarly to freshmen in other studies, but that the seniors would score lower or spread across a wider range than the seniors in other studies. (This hypothesis was based on the assumption that a religious, somewhat conservative, and homogeneous education would not provide the necessary confrontation with previously held values in order to move most of the freshmen into relativistic stages.)

3. That the students’ thinking on the Creation/evolution dilemma would score at a lower stage than their thinking on the other three dilemmas. (This hypothesis was based on the assumption that it would be difficult to bring into question a church doctrine so ingrained as the Creation doctrine.)

The results were unexpected. The first hypothesis was confirmed. The mean score (stage) for the freshmen was 3.87, and the mean of the seniors was 4.18. This, as hypothesized, was a significant gain. The freshmen mean, however, rather than being about the same as that of freshmen in the comparison studies, was actually the highest of any study done so far. The senior mean was not lower than that of other seniors; rather it was average. The range of scores for these seniors was narrower than any in the comparison studies. Thus, the second hypothesis was disproved.

The third hypothesis was also disproved. Scores on the Creation/evolution dilemma were not significantly lower than the scores on the other three dilemmas. However, the scores on the news-reporting dilemma were significantly higher than scores of the other three dilemmas.⁴

The results of this study raise several major questions.

1. Why did the freshmen score so high?
2. Why were the seniors' scores average, given that the freshmen scored so high? The progress between freshmen and seniors in this study is less than the progress between freshmen and seniors in any of the comparison studies.
3. Why was there a significant difference in the scores for the news-reporting dilemma compared to the other three dilemmas?
4. How is it possible that Adventist students come into college with close to relativistic thinking and graduate with definite relativistic thinking? How can an education that is supposed to preserve values create, or at least sustain, relativism?

Careful analysis of the transcripts of the interviews provided some answers to these questions.

High Freshmen Scores

One basic difference between the Adventist freshmen and those in the other studies was that they had all attended private academies rather than public high schools. A possible explanation, then, for the high scoring of the Adventist freshmen is the repeated reference in the freshmen interviews to exposure to both the Creation point of view and the evolution point of view.

It is to the credit of the science teachers at these academies that they presented both points of view rather than just presenting the Creation viewpoint and dismissing the evolutionary one. Although evolution was not validated, it seems that at least some of the bases for evolutionary belief were presented. It seems certain that this issue was discussed more deeply than it would have been at a public high school where, in general, Creation is dismissed as invalid and unscientific. The students in this study, therefore, were at least permitted to see possibly valid conflict, something not allowed for in stage two. Because confrontation on this fundamental issue challenged an overly simplified world viewpoint, it is possible that that style of thinking would have carried over into

other content areas. Examples of freshmen's statements citing the high school confrontation follow:

Uh, my ideas changed in academy. Until I went to academy, you know, I always heard that God created everything one day at a time, and that it took seven days and that was it; seven literal days of creation. And um, that always leads to well, what about these rocks that are so old and stuff. Well, I believe that there could have been matter here when God came on the first day, because it says that on the first day the Spirit of God moved on the face of the water . . . I got that from a high school teacher who taught science class . . .

Well, I guess, ever since I've been in school and old enough to, to uh, understand what my textbooks were saying, whether it was fifth or ninth grade, you know, I mean, some of which you have say millions and millions of years, you know, evolution this and evolution that, and you have to, I mean it is something that you're not used to seeing, you're not, you don't believe in it because your parents have taught you this and you have learned this in Sabbath school, and so when you have this conflict in belief, I mean, you have to sit there and figure it out for yourself in your own mind and you have to say this doesn't really make sense.

These freshmen obviously confronted a dilemma before they ever got to college. They wrestled with concepts and moved past the totally absolutistic stages.

Another possible reason for high scores of freshmen is that perhaps in a smaller, private school there were more opportunities for them to participate in activities of leadership and responsibility. Both of these factors—confrontation of beliefs and leadership opportunity—seem to have advanced these students' ability to think for themselves.

Relatively Low Scoring of Seniors

Given that the Adventist freshmen scored so high, why is it that the seniors did not make more notable progress? The low average for seniors was due not only to mostly stage four scoring with a goodly number still scoring at stage three, but also to the fact that there were very few evidences of stage five. Why did these seniors have such difficulty getting past

stage four? The transcripts suggested several reasons. One of these seemed to be the difficulty of seeing affirmation of faith as something that could be arrived at, at least partially, through an underlying rational process. Over and over again, the seniors gave faith as a valid ground for their decisions, but saw faith as alien to reason and more based on feeling or whim—evidences of stage-four thinking. Here are a few examples:

[In speaking of Creation and evolution,] both sides take, take a lot of faith into consideration. Because, you look at evolution, there's not a lot of evidence for a lot of these things that happened way back. But Creation, you know, there's not direct evidence that God created the earth, except for the Bible, and so you kind of, kind of have to work backwards from faith in God and religious experience to believing that what God has set down is true, and from that you believe that Creation is true.

No, I don't think that anyone ever knows for sure, I mean, I don't think that anybody can say right now they know for sure that, you know, the Bible is uh, necessarily correct except that they've had some supernatural experience and/or they feel they're so close to the Lord that they know for sure, but uh, you know, I've chose to believe in the Bible. I understand that this is contradictory from what I've said before [in reference to knowing things].

The following excerpt from the actual interview evidences the same stages of thinking:

Interviewer: What do you think about these statements?

Student: That's a tough subject. Obviously there's no scientific basis for Creation as there is for evolution. I would, I think that the belief in Creation as opposed to evolution is one of mere faith, where evolution is one of science.

Interviewer: You don't see that as a cognitive issue at all, then? An issue of logic at all?

Student: No, to hold Creation as a belief is one of mere, merely of faith, not of support.

Interviewer: So you wouldn't base it on any specific support?

Student: (Shakes head.)

This type of response was prevalent. It seems that to these students, belief in religion-related issues can validly be based on faith; but that faith is based on feeling, on choice made aside from rationality, on what "seems right," or on preconditioning, as one senior put it. This was true of most of the dilemmas.

Differences in Scores Across Dilemmas

Students did not see faith issues only in the Creation-evolution dilemma, but also saw their religion permeating most aspects of life. Therefore, both the chemical additives (Are chemical additives in foods harmful or beneficial?) and the pyramids (Were such complex structures built by the Egyptians alone, or did they have help from supernatural sources, i.e., aliens from space?) dilemmas were also faith issues. Only the news-reporting dilemma (Is news reporting objective or subjective?) seemed to be free of faith-related factors.

Because of the tendency, then, to see faith as a non-cognitive action, all faith-related dilemmas scored lower than the dilemma that to the students was free of faith factors.

Relativistic Thinking in SDA College Students

Although the students in this study all adhere firmly to church beliefs (insofar as this study refers to them), their thinking about such issues is very relativistic. The question, then, is, How do Adventist students become relativistic as a result of Adventist college education? The answer seems to lie, at least partially, in the nature of that education.

Actually, any kind of formal higher education seems to provide a broadening of viewpoints and a certain amount of challenge to previously held beliefs just because of exposure to so much that is new. Also, it should be noticed that many of the freshmen were already into a relativistic style of thinking when they arrived at college. The more appropriate question, perhaps, is why an Adventist college education doesn't guide them more quickly toward probabilistic thinking.

Several answers suggest themselves. Perhaps Adventist students are not being given sufficient support for and acceptance of the legitimate question-asking that should occur as one comes out of absolutism. Question-asking, viewed as danger-

ous, is a somewhat frowned-upon activity at Adventist colleges. Without support and validation for a student's honest and legitimate question-asking process, there will be a delay in progress.

Secondly, faculty may fail to provide students with sufficient role models for probabilistic thinking by explaining clearly and carefully the procedure they go through in arriving at decisions or choices, given the uncertainty of human knowledge. Faculty members themselves must think at probabilistic levels in order to be of help to their students in advancing out of relativism.

Even more fundamentally, Adventism too often sees faith as totally feeling-oriented. Our forebears studied and searched for truth and adjusted to and accepted new knowledge as it came to

them, even when that required abandoning or altering cherished beliefs. Surely we should teach ourselves and our students to weigh all the evidence that can be produced, to search for the best information available, and to examine all experience and circumstance in order to make faith choices as intelligently as possible.

The reflective judgment model provides a description of changing patterns of attitudes toward knowledge. It advocates probabilistic thinking as the highest form of reflective thinking. Understanding this model and its sequence of stages should help toward making the relativistic period a normal, though hopefully temporary, situation. The probabilistic period is a goal toward which all honest thinkers (not mere reflectors of others' thoughts) must move.

NOTES AND REFERENCES

1. Karen S. Kitchener and Patricia M. King, "The Reflective Judgment Model: Ten Years of Research," in *Beyond Formal Operations II: Comparisons and Applications of Adolescent and Adult Developmental Models*, M. L. Commons, C. Armon, L. Kohlberg, F. A. Richards, T. A. Grotzer, and J. Sinnott, eds. (New York: Praeger, in press).

2. Karen S. Kitchener, "Intellectual Development in Late Adolescents and Young Adults: Reflective Judgment and Verbal Reasoning," *Dissertations Abstracts Interna-*

tional, 39, 956-B, 1977. Robert Mines, "Levels of Intellectual Development and Associated Critical Thinking Skills in Young Adults," Dissertation, University of Iowa, 1980.

3. Karen S. Kitchener, "Educational Goals and Reflective Thinking," *The Educational Forum* (Fall 1983), pp. 75-95.

4. Donna J. Evans, "The Effects of a Religious-Oriented, Conservative, Homogeneous College Education on Reflective Judgment," Dissertation, The Claremont Graduate School, 1988.