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Constructivism and Christian Teaching

BY AUSTIN C. ARCHER

In the past decade or so, a new term has become popular in the teaching/learning literature—*Constructivism*. In fact, it has become a dominant theme and recommended framework for instruction. How should Adventist educators react to this new trend? Are the assumptions underlying Constructivism compatible with Christian values and educational practice?

In this article, I will make two seemingly contradictory propositions. First, Constructivism is based on questionable moral assumptions. Second, certain instructional approaches based on Constructivism can and should be embraced by the Christian teacher. Let's first look at definitions and then discuss the positives and negatives of Constructivism.

The Assumptions of Constructivism

It's somewhat difficult to define Constructivism, since the term is an umbrella for a variety of loosely associated ideas about teaching and learning. In his helpful review of the subject, M. C. O'Connor¹ identifies three streams of thought that he identifies as Constructivist: social, individual, and socio-cultural. O'Connor sees support for the philosophy of Constructivism in the work of social thinker Peter Berger and educational theorists Jean Piaget, Lev Vygotsky, John Dewey, and Jerome Bruner.² However, there is clearly no unanimity among proponents of this theory.

Constructivist approaches do share some basic assumptions about learning. Let's contrast this theory with the more traditional "objectivist" philosophy. Following Duffy and Jonassen,³ I have compared these assumptions in the accompanying table (see Table 1). To summarize: The traditional view asserts that there is a unified and absolute set of truths that can be discovered and taught. Constructivism, by contrast, holds that there is no unified or absolute truth. Rather, truth is a matter of personal perspective and is therefore relative.

Closely related to Constructivism is a concept called Situated Cognition or Situated Learning. According to this theory, thinking and learning are inseparable from the context (or situation) in which they occur. So again, knowledge is not

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objective but is situated in particular contexts. Situated Learning asserts that the best and most usable forms of knowledge are gained in the context of their intended use.⁴

How “Christian” Are These Assumptions?

The basic assumptions of Constructivism present major challenges for the Christian. Constructivism denies objective truth. Although all but the most radical proponents admit the existence of “reality,” they believe that it has no inherent structure—and that any apparent structure is imposed by personal experience.

Consequently, since people have varying experiences, there can be no single correct view of reality. For Constructivists, reality has no single independent meaning, only multiple meanings imposed by personal experience.

The views cited above are incompatible with the Christian belief that God created everything with a purpose. At Creation, He imposed structure on the universe, replacing chaos (“formless and empty”) with order.⁵ Christians believe that reality is structured and that this structure has inherent meaning. Human perceptions and experience, then, must be compared with and evaluated in terms of

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objective facts that describe the structure of the universe. In other words, what we perceive is a reflection of what is actually there; and can be evaluated accordingly.

If one believes that there is no reliable truth about the world, then there cannot be any basis for eternal, unchangeable principles or values—or even a school curriculum! If one person’s view of what is great music or literature, or of which events were important in European history, is just as valid as someone else’s, how would we decide which poems to read in literature class? Or what constitutes a “factual account” of history? Not only do Constructivist assumptions about reality seem incompatible with Christian teachings, they seem also to defy common sense and intuition. Why, then, is this position so widely embraced?

Is Truth Relative, After All?

One possible answer is that recent research on learning and knowledge seems to support the view that knowledge may not be as objective as we may have imagined—that truth may be somewhat relative, after all. Let’s look at two examples that raise such questions.

Table 1

A Comparison of Traditional and Constructivist Assumptions

Issue	Traditional View	Constructivist View
The nature of reality	The world is completely and correctly structured and has inherent order. ¹⁷	The world is real, but this reality is not structured or inherently meaningful.
The role of experience	Experience plays little or no part in the structure or order in the world.	Order and meaning are imposed on the world by human experience.
The place of meaning or understanding	The goal of understanding is to come to a correct knowledge of the ways in which the world is structured (i.e., empirical facts).	There are many ways which we may structure the world; thus, many meanings may be generated from varied perspectives.
The role of instruction	The goal of instruction is to help the learner attain a correct understanding of this structure.	Instruction allows for multiple understandings, since none of these meanings is inherently correct.
The role of assessment	The processes of gaining knowledge and assessing it are seen as independent. Assessment occurs separately from instruction.	Authentic assessment is accomplished by multiple approaches. Assessment occurs in the midst of instruction.

First, an example from cognitive psychology. Over a 25-year period, Elizabeth Loftus and others⁶ have examined the nature of memory as demonstrated in eyewitness testimony. She and her colleagues have demonstrated the following: When questioned about an event they have experienced, eyewitnesses' memories are influenced by a variety of factors, including the wording of the questions, as well as their biases, expectations, and prior experience. Moreover, people's memories of an event are changed by events surrounding the experience, as well as by their being interviewed about the event. In other words, human memory is not a literal, objective record of events, but rather an artificial construction based on subjective experience.

In one such study, people who were asked how "frequently" they had headaches reported a significantly higher incidence than those who were asked whether they "occasionally" suffered from this ailment. In another study, people who watched a video of an automobile accident later gave a lower estimated speed for the auto if the researchers asked how fast the car was going when it "hit" the other vehicle than if the researchers said it "smashed into" the other vehicle. In similar studies, people remembered seeing barns that did not exist on a landscape, being lost at a young age, and spilling punch

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at a wedding. In each case, the memory was not an objective recollection of the events, but rather a subjective reconstruction influenced by the situation when the memory was formed or recalled.

Another example of how different perspectives can shape perceptions comes from James Loewen's comparison of high school American history texts in his recent book *Lies My Teacher Told Me*.⁷ Loewen shows that many of these textbooks distort the historical narrative in order for the story to conform to certain preconceptions or perspectives. He cites the cases of Helen Keller and President Woodrow Wilson, two persons depicted as heroes in most American history texts. He argues that once a person is presented as a role model, his or her biography is likely to be distorted to conform to our mental image of what a hero should be like. As

a result, important information about such individuals, such as Keller's radical socialism and Wilson's extreme racism, are omitted because they do not fit the hero stereotype. In the same way, the view that the United States is a "land of opportunity" causes the public (and textbook writers!) to ignore the many ways in which social class has shaped opportunity in America from colonial times to the present.

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Loewen's allegation that these themes are intentionally inserted into textbooks may be an overstatement; instead, the themes may simply reveal the unconscious reconstruction of ideas to correspond with the authors' worldviews.

Other research⁸ also seems to support the tenets of Constructivism and Situated Learning. Many decades ago, such evidence appeared even in the "hard sciences," where data from quantum physics cast doubt on the existence of a single objective reality.⁹

How can we reconcile this evidence with our Christian view that events are independent of experience? The above-cited studies have been explained using a Constructivist model. However, there may be other explanations for these phenomena that do not require us to accept the relativistic assumptions underlying Constructivism.¹⁰

One inherent weakness of postmodern assertions is the contradictions of their basic positions. How can a position or idea be considered "true" if it asserts that there is no absolute truth? As Anderson, Reder, and Simon put it, "radical constructivists cannot argue for any agenda if they deny a consensus as to values. The very act of arguing for a position is to engage in a

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value-loaded instructional behavior."¹¹ Thus, Constructivism (ironically) suffers from the absoluteness of its claims. Anderson and his colleagues point out that, while many of Constructivism's claims are partially true, they often fail because they are so radical.

In order to interpret these studies from a Christian perspective, we need to distinguish between human perception of reality and reality itself. Here are some basic assumptions of a Christian worldview:

- We are imperfect creatures with limited perception. We see "but a poor reflection as in a mirror" (1 Corinthians 13:12, NIV).
- Each of us is unique, with different perspectives and experiences, so our perceptions will vary. We construct reality differently, not because reality has no inherent structure, but because of our incomplete and distorted perspectives.
- Human views of reality are inherently imperfect and inaccurate.
- An objective reality exists and is known by God, though it may be somewhat inaccessible to humans (because of the three preceding statements).

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- Although humans cannot be entirely unbiased, we can achieve greater objectivity by comparing multiple perspectives—without assuming that every point of view is equally valid.

Thus, Adventist teachers can use a number of applications of Constructivist techniques based on Christian principles, while rejecting the postmodern assumption that there is no ultimate truth.

Implications for Teaching

Constructivism and Situated Cognition have been applied in the classroom in numerous ways. In some instances, methods previously promoted by theorists such as Dewey and Bruner have been included in the Constructivist framework. These include student-centered approaches such as discovery and project methods that emphasize each child's unique experiences.

Constructivism's assertion that knowledge is "situated" has led to changes in traditional classroom instruction. Situated cognition seeks to explain and to overcome the common inability of students to transfer what they learn in school to real-life situations. The knowledge seems to remain inert—present in the mind, but virtually unusable.¹² Although students may recall isolated facts upon demand (during an examination, for example), they cannot put the information in context or use it spontaneously outside the classroom.

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Various approaches to learning have been developed to overcome this problem,¹³ including *cognitive apprenticeship*. Here, schools seek to incorporate the social and physical context in which the knowledge will be used. This resembles to some degree the master craftsman-apprentice arrangement where learning occurs "on the job."

Situated Cognition requires that the learning situation be *authentic*, both in terms of the objects and data used and the tasks performed. It asks: Are the equipment and tasks the same as those in the real world? Thus, if students are learning about the weather, they should obtain real data from a weather station. Selection of problems to solve, as well as class interaction and decision-making, must also mirror the real world.

Brooks and Brooks¹⁴ outline five principles that should guide Constructivist teaching. They suggest, first, that teachers pose problems students can increasingly recognize as being relevant. While not all problems posed by the teacher will immediately seem relevant to students, they can become so as the students gain greater understanding. However, this is not a one-way street. By getting to know his or her students better, the teacher will be able to gain a greater understanding of what they consider relevant and interesting, not as a means of determining *what* to teach, but rather to determine *how* it may best be learned.

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A helpful principle of Constructivism is to provide a wholistic structure for classroom instruction. Teachers often present isolated facts and then require students to combine them into an integrated, logical whole. Constructivist researchers argue that it is better to present concepts as wholes. Then students, on their own initiative, can separate the “big picture” into easy-to-grasp parts.

The third and fourth principles also highlight the need for student initiative. The teacher should ascertain and value the students’ points of view, then adapt the curriculum accordingly. This will reveal any misconceptions that students may have and allow the teacher to address them. It also means, however, that teaching is a shared experience and that the teacher may learn from considering the students’ perspectives. However, in the Christian classroom, “addressing misconceptions” means that classroom instruction will help students move toward a more complete understanding of “truth.”

Finally, Constructivists believe that learning should be assessed in the context of teaching rather than through separate and independent “testing” exercises. This principle is particularly challenging to the Christian teacher because it discourages the labeling of answers as “right” or “wrong.” Doing so, Constructivists argue, ruins creativity and short-circuits the teacher’s attempts to help students construct new knowledge.

Although the Christian teacher would (rightly) cringe at the suggestion that absolute standards be eliminated, this principle

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does highlight the need for an affirming learning climate in which students feel comfortable enough to risk failure. In such a climate, creativity can be nurtured, and students can synthesize and combine information to achieve a more comprehensive and objective view of “truth.” To be sure, some answers *are* right. But often there is more than one right answer, and there is almost always more than one way to get to the correct answer. However, this final principle does highlight the relativity of Constructivist assumptions and leaves it open to the criticism that the approach lacks rigor, since it does not emphasize absolutes.

Implications for the Christian Teacher

Notwithstanding the apparent relativism of its assumptions, many of the methods suggested by Constructivism fit nicely with the teachings of Christ, who more often used questioning rather than telling. Remember how effectively He made His point about the Good Samaritan through the skillful use of questions?¹⁵

The three-year period during which Christ trained His disciples provides an example of cognitive apprenticeship. They learned by doing in an authentic learning environment, as well as by discovery. They had to reason out Christ’s sometimes obscure parables, and they gained ex-

perience going out two by two. This cooperative environment provided for each of Christ’s “students” the scaffolding—the social support—necessary for effective learning to occur.

Christ adapted His approach to match the temperament and abilities of each student, dealing differently with Peter, John, and

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Thomas.¹⁶The techniques of the Master Teacher should reassure the Christian teacher that so-called Constructivist methods can be effective and do not require postmodern assumptions to justify them. The ways human beings construct knowledge can be explained by assumptions entirely compatible with a Christian worldview.

Conclusion

Constructivism is a theoretical framework that has been widely accepted in education. Clearly, many of its proponents use premises that are incompatible with biblical principles, but its applications in the classroom are in most cases consonant with good teaching. Although Constructivism's relativistic assumptions present problems for Christian teachers, its conclusions about what works in education can be explained by premises that are consistent with a Christian worldview.

When one is evaluating a new approach to teaching and learning, it is important to examine both its philosophical assumptions and the empirical results of its methods. "What works" can often have more than one explanation. Teachers should analyze the philosophy underlying any set of practices, bearing in mind that although certain practices may work, the assumptions underlying them may be questionable. At the same time, they should experiment to see what feels comfortable for them in the Christian context and what enhances the learning of their particular students. Whatever approach they use, it should demonstrate the principles of justice, fairness, and truth. ☞

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6. Elizabeth F. Loftus, "Leading Questions and the Eyewitness Report,"

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7. James W. Loewen, *Lies My Teacher Told Me* (New York: Simon and Schuster, 1995). The examples cited in this article are taken from chapters one and seven.
8. The 18-minute video *A Private Universe* distributed by Merrill illustrates this nicely.
9. Werner Heisenberg, whose "indeterminacy principle" casts doubt on the possibility of measuring two properties of an object at the same time, and Erwin Schödinger, whose "cat paradox" seeks to demonstrate why reality cannot be determined independent of experience, are examples of respected theoretical positions in physics that fit a postmodern perspective.
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11. John R. Anderson, Lynne M. Reder, and Herbert A. Simon, *Applications and Misapplications of Cognitive Psychology to Mathematics Education* (1995). (This is an unpublished paper accessible as of August 13, 2001, at <http://act.psy.cmu.edu/ACT/papers/misapplied-abs-ja.html/>.) A later published version is John R. Anderson, Lynne M. Reder, and Herbert A. Simon, "Situated Learning and Education," *Educational Researcher* 25:4 (May 1996), pp. 5-11.
12. Nearly a century ago, British mathematician and philosopher Alfred North Whitehead warned about the inadequacy of inert knowledge. See *The Aims of Education and Other Essays* (New York: Macmillan, 1929), pp. 1, 2.
13. Cognition and Technology Group at Vanderbilt, "Anchored Instruction and Its Relationship to Situated Cognition," *Educational Researcher* 19:6 (August-September 1990), pp. 2-10.
14. Jacqueline G. Brooks and Martin G. Brooks, *In Search of Understanding: The Case for Constructivist Classrooms* (Alexandria, Va.: Association for Supervision and Curriculum Development, 1993).
15. Luke 10:25-37, NIV.
16. The whole of the Gospels show Christ's pedagogic model as He deals with both His disciples and His antagonists. Examples include John 20:26-28 and John 21:14-19.
17. "The world" refers to all of the reality that we experience from day to day, as well as the wider universe that we believe exists but cannot experience because of our limited senses and instruments of observation.