Selected, Edited, and with Issue Framing Material by:
Glenn L. Koonce, *Regent University*

ISSUE

Is Constructivism the Best Philosophy of Education?

YES: David Elkind, from "The Problem with Constructivism," *The Educational Forum* (Summer 2004)

NO: Jamin Carson, from "Objectivism and Education: A Response to David Elkind's 'The Problem with Constructivism'," *The Educational Forum* (Spring 2005)

Learning Outcomes

After reading this issue, you will be able to:

- Compare and contrast constructivism and objectivism sphilosophies of education.
- Translate constructivism in education into a practical pedagogy.
- Explore how behaviorism views prior knowledge informing new, consequently making the new knowledge meaningful.
- Identify current practices in the classroom as constructivism, behaviorism or different philosophical orientation altogether.
- Analyze problems with a constructivism mindset.

ISSUE SUMMARY

YES: Child Development Professor David Elkind contends that the philosophical positions found in constructivism, though often difficult to apply, are necessary elements in a meaningful reform of educational practices.

NO: Jamin Carson, an Assistant Professor of Education and former high school teacher, offers a close critique of constructivism and argues that the philosophy of objectivism is a more realistic and usable basis for the process of education.

For years the term constructivism appeared only in journals read primarily by philosophers, epistemologists, and psychologists. Nowadays, constructivism regularly appears in the teacher's manuals of textbook series, state education department curriculum frameworks, education reform literature, and education journals. Constructivism now has a face and a name in education. So say educators Martin G. Brooks and Jacqueline Grennon Brooks in "The Courage to Be Constructivist," *Educational Leadership* (November 1999). According to them, the heart of the constructivist approach to education is that learners control their learning. This being the case, the philosophical orientation provided by John Dewey, John Holt, and Carl R. Rogers would seem to feed into the development of David Elkind's ideas on this educational theory. The contrary positions taken by Hutchins, Adler, and Skinner would seem to contribute to the objectivist philosophy espoused by Jamin Carson.

Constructivism, which is additionally influenced by the theories of Jean Piaget, Lev Vygotsky, and Jerome Bruner, is an approach to learning in which students construct new understandings through active engagement with their past and present experiences. Constructivists contend that traditional instructional models emphasize knowledge transmission without producing deeper levels of understanding and internalization.

Objectivists and other critics of constructivism say that this approach to learning is imprecise, overly permissive, and lacking in rigor. This argument is quite well-illustrated in a *Phi Delta Kappan* exchange between Lawrence A. Baines and Gregory Stanley on one hand and Lynn Chrenka on the other (Baines and Stanley, "We Want to See the Teacher: Constructivism and the Rage Against Expertise," in the December 2000 issue and Chrenka, "Misconstructing Constructivism," in the May 2001 issue). Baines and Stanley condemn the constructivists' adamant stand against direct instruction by lecturing and the sin of memorization. Chrenka replies that expertise is central in a constructivist classroom in which the teacher must develop "scaffolding strategies"

needed for the learners to begin to construct their own meanings.

David N. Perkins of the Harvard Graduate School of Education, in "The Many Faces of Constructivism," *Educational Leadership* (November 1999), describes a tension between ideological constructivism and pragmatic constructionism, the former being seen as a rather rigid cure-all for traditional school ills and the latter as a flexible, circumstance-driven means of school improvement. While the constructivists' goal of producing active, collaborative, creative learners is certainly an antidote to the often prevalent emphasis on knowledge absorption by passive learners, the techniques for moving toward that goal are often difficult to implement and most always require more time than traditional methods.

These "theory-into-practice" difficulties have been elaborated upon by Mark Windschitl in "The Challenges of Sustaining a Constructivist Classroom Culture," *Phi Delta Kappan* (June 1999), and by Peter W. Airasian and Mary E. Walsh in "Constructivist Cautions," *Phi Delta Kappan* (February 1997). Windschitl sees constructivism as a culture, not a mere collection of practices, so its effectiveness as a guiding philosophy is realized only through major changes in curriculum, scheduling, and assessment. Airasian and Walsh insist that the "catch phrases" that flow from theorists to teachers are inadequate for dealing with implementation complexities.

These and similar concerns are addressed in the first of the following articles, in which constructivism advocate David Elkind examines three major barriers—societal, curricular, and pedagogical—that must be removed if the philosophy is to flourish in school settings. In the second article, Jamin Carson, an objectivist, attacks not only the practical aspects of constructivism's implementation but the very basic principles on which it is based.

YES ←

<div align="right">**David Elkind**</div>

The Problem with Constructivism

Constructivism, in all of its various incarnations, is now a major educational philosophy and pedagogy. What the various interpretations of constructivism have in common is the proposition that the child is an active participant in constructing reality and not just a passive recorder of it. Constructivism thus echoes the philosophy implicit in Rousseau's *Emile* (1962) in which he argued that children have their own ways of knowing and that these have to be valued and respected. It also reflects the Kantian (Kant 2002) resolution of the nature/nurture controversy. Kant argued that the mind provides the categories of knowing, while experience provides the content. Piaget (1950) created the contemporary version of constructivism by demonstrating that the categories of knowing, no less than the contents of knowledge, are constructed in the course of development. Vygotsky (1978) added the importance of social context to the constructivist epistemology—a theory of knowledge and knowledge acquisition.

Constructivism in education has been approached at many different levels and from a variety of perspectives (e.g., Larochelle, Bednarz, and Garrison 1998). In this essay, I will limit the discussion to those writers who have attempted to translate constructivism into a practical pedagogy (e.g., Brooks and Brooks 1993; Fosnot 1996; Gagnon and Collay 2001; Lambert et al. 1997). Though many different models have been created and put to test, none have been satisfactorily implemented. The failure of the constructivist reform movement is yet another in the long list of ill-fated educational reform movements (Gibboney 1994).

The inability to implement constructivist reforms is particularly instructive with regard to the failures of educational reforms in general. Constructivist reforms start from an epistemology. This sets constructivism apart from those educational reforms inspired by political events (such as the curriculum reform movement spurred by the Russian launching of the Sputnik) or by social events (such as the school reforms initiated by the Civil Rights Movement) or by a political agenda (e.g., *A Nation at Risk* [National Commission on Excellence in Education 1983]; the No Child Left Behind initiative). That is to say, the constructivist movement is generated by genuine pedagogical concerns and motivations.

The lack of success in implementing this widely accepted educational epistemology into the schools can be attributed to what might be called *failures of readiness*. Consider three types of readiness: teacher readiness, curricular readiness, and societal readiness. Teacher readiness requires teachers who are child development specialists with curricular and instructional expertise. Curriculum readiness requires courses of study that have been researched as to what, when, and how the subject matter should be taught. Societal readiness requires a nation that is willing—indeed eager—to accept educational change. For a reform movement to succeed, all three forms of readiness must be in alignment.

Teacher Readiness

Those who have tried to implement a constructivist pedagogy often argue that their efforts are blocked by unsupportive teachers. They claim that some teachers are wedded to an objectivist view that knowledge has an independent existence and needs only to be transmitted. Others have difficulty understanding how to integrate the learner's intuitive conceptions into the learning process. Still others are good at getting children actively involved in projects but are not able to translate them effectively into learning objectives. These problems are aggravated by an increasingly test-driven curriculum with little opportunity for creativity and innovation.

The problem, however, is not primarily with teachers but with teacher training. In the United States, many universities and colleges have done away with the undergraduate major in education. In Massachusetts, for example, a student with a bachelor's degree in any field can get a provisional certification after a year of supervised internship. After five years and the attainment of a master's degree, the candidate is eligible for permanent certification.

The demise of the undergraduate major in education can be attributed to a number of different factors that were enunciated in *Tomorrow's Schools of Education* (Holmes Group 1995) written by the deans of 80 of some of the nation's most prestigious schools of education. The report (1995, 45–46) targeted the education faculty who "ignore public schools to concentrate on theoretical research or to work with graduate students who do not intend careers as classroom teachers." In effect, the education faculty has failed to provide the kind of research that would be useful to teachers. As the report (1995, 45–46) argued, "Traditional forms of academic scholarship have a place in professional schools, but such institutions are obliged as well to learn from practice and to concern themselves with questions

of applying knowledge." These observations are supported by the facts. Few teachers read the educational research journals, and few educational researchers read the journals directed at teachers such as *Educational Leadership* and *Young Children*. This also is true for researchers in the field of child development. Much of the research on children's cognitive, social, and emotional development is directly relevant to teaching. Yet, the educational implications of these studies are rarely, if ever, discussed in the literature.

The end result is that much of teaching as a profession has to be learned in the field. While this is true for all professions to a certain extent, it is particularly true of education. Indeed, one could make the case that teaching is, as yet, more art than profession. Professional training implies a body of knowledge and skills that are unique and that can be acquired only through a prescribed course of study. It is not clear that such a body of knowledge and skills exists for education. In fact, each educational reform movement challenges the practices currently in play. Perhaps it is because there is no agreed upon body of knowledge and skills that reform in education is so frequent and so unsuccessful. To be sure, all professions have disagreements but they all share some fundamental common ground, whether it is anatomy in medicine or legal precedence in the field of law. There is, however, no such common base in education.

Teaching will become a true profession only when we have a genuine science of education. Such a science will have to be multidisciplinary and include workers from traditional educational psychology, developmental psychology, sociology, and various subject matter disciplines. Researchers would investigate individual and group differences in learning styles in relation to the acquisition of the various tool subjects (i.e., reading, writing, arithmetic, science, and social studies) at different age levels. Teacher training would provide not only a solid grounding in child development but also would require domain specific knowledge as it applies to young people at different age levels. Teachers also would be knowledgeable about research and would have access to journals that serve both teachers and investigators.

The failure to treat education as a profession has a long history but was made patent by Flexner's (1910) report *Medical Education in the United States and Canada.* That report was critical of medical education in the United States and suggested that training in medicine should be a graduate program with an undergraduate major. It also argued for the establishment of teaching hospitals as a means of practical training under supervision. Though the report was mandated by the Carnegie Foundation for the Advancement of Teaching, no comparable critique and suggestions were made for teachers and teacher training. The only innovation taken from this report was the founding of lab schools which would serve the same function as teaching hospitals at various universities. These schools, however, were more often used for research than for training. Today, only a few lab schools remain in operation.

Before any serious, effective reform in education can be introduced, we must first reinvent teacher training. At the very least, teachers should be trained as child development specialists. But teachers need much more. Particularly today, with the technological revolution in our schools, teacher training should be a graduate program. Even with that, teaching will not become a true profession unless and until we have a true science of education (Elkind 1999).

Curricular Readiness

A constructivist approach to education presupposes a thorough understanding of the curriculum to be taught. Piaget understood this very well. Much of his research was aimed at shedding light on what might be called the *logical substructure* of the discipline. That is to say, to match the subject matter to the child's level of developing mental abilities, you have to understand the logical demands it makes upon the child's reasoning powers. In his research with Inhelder (1964), Piaget demonstrated that for a child to engage in the addition and multiplication of classes, relations, and numbers, children first need to attain concrete operations. Similarly, Inhelder and Piaget (1958) showed that true experimental thinking and dealing with multiple variables require the formal mental operations not attained until adolescence. Task analysis of this sort is required in all curricular domains. Only when we successfully match children's ability levels with the demands of the task can we expect them to reconstruct the knowledge we would like them to acquire.

In addition to knowing the logical substructure of the task, we also need research regarding the timing of the introduction of various subject matters. For example, the planets often are taught at second grade. We know that children of seven or eight do not yet have a firm grasp of celestial space and time. Does teaching the planets at grade two give the child an advantage when studying astronomy at the college level? Similar questions might be asked about introducing the explorers as a social study topic in the early elementary grades. I am not arguing against the teaching of such material; I am contending that we need to know whether this is time well spent. We have little or no research on these issues.

Another type of curriculum information has to do with the sequence of topics within any particular course of study. In elementary math, is it more effective to teach coins before or after we teach units of distance and weight? Some sequences of concepts are more effective for learning than others. In most cases, we don't have data upon which to make that kind of decision. In most public school textbooks, the order of topical instruction is determined more by tradition, or by the competition, than by research. We find this practice even at the college level. Most introductory courses begin with a chapter on the history of the discipline. Yet many students might become more engaged in the subject if the first topic was one to

which they could immediately relate. Again, we have little or no research on such matters. This is true for teaching in an integrated or linear curriculum format.

The argument that there is little connection between academic research and practical applications has many exceptions. Nonetheless, as long as these remain exceptions rather than the rule, we will not move toward a true science of education.

Societal Readiness

If the majority of teachers are not ready to adopt a constructivist pedagogy, neither are educational policy makers and the larger society. To be successfully implemented, any reform pedagogy must reflect a broad and energized social consensus. John Dewey was able to get broad backing for his Progressive Education Reform thanks to World War I and the negative reaction to all things European. Up until the First World War, our educational system followed the European classical model. It was based on the doctrine of formal discipline whereby training in Greek and Latin, as well as the classics, rigorously trained the mind. In contrast, Dewey (1899) offered a uniquely American functional pedagogy. He wanted to prepare students for the demands and occupations of everyday life. There was general consensus that this was the way to go.

The launching of the Russian Sputnik in 1957 was another event that energized the nation to demand curriculum reform. Russia, it seemed, had outstripped us scientifically, and this reflected badly on our math and science education. The National Science Foundation embarked on a program of science and math curriculum reform. To this end, the foundation recruited leading figures in the fields of science and math to construct new, up-to-date curricula in these fields. These scholars knew their discipline but, for the most part, they did not know children. The new curricula, which included variable-base arithmetic and teaching the principles of the discipline, were inappropriate for children. When these curricula failed, a new consensus emerged to advocate the need to go "back to basics." The resulting teacher-made curricula dominated education prior to the entrance of the academicians. While "back to basics" was touted as a "get tough" movement, it was actually a "get easier" movement because it reintroduced more age-appropriate material.

Many of the educational reforms of any category have not had much success since that time. Though *A Nation at Risk* (NCEE 1983) created a number of reforms, the report itself did not energize the nation, and there was not sufficient motivation to bring about real change. In large part, I believe that this was because there was no national consciousness of a felt need for change. The current educational movement, No Child Left Behind, was introduced for political rather than pedagogical reasons. This legislation was avowedly for the purpose of improving student achievement and changing the culture of American schools. These aims are to be achieved by requiring the states to test all children every year from grades three through eight. Schools that do not meet statewide or national standards may be closed or parents given an opportunity to send their children to other schools.

This is an ill-conceived program based on a business model that regards education as akin to a factory turning out products. Obviously, children are not containers to be filled up to a certain amount at each grade level. The program forces schools to focus on tests to the exclusion of what is really important in the educational process. Testing is expensive and depletes already scarce educational resources. Students are being coached to do well on the tests without regard to their true knowledge and understanding. The policy is corrupt in that it encourages schools to cheat. The negative results of this policy already are being felt. A number of states are choosing to opt out of the program. The No Child Left Behind legislation is a good example of bad policy promoted for political gain that is not in the best interests of children.

Other than a national crisis, there is another way for social consensus to bring about educational reform. In Kuhn's (1996) innovative book on scientific revolutions, he made the point that such revolutions do not come about by the gradual accretion of knowledge. Rather they come about as a result of conflicts between opposing points of view with one eventually winning out over the other. Evolution, for example, is still fighting a rearguard action against those who believe in the biblical account of the origin of man. In education, the long-running battle between nature and nurture (read development and learning) is not likely to be resolved soon by a higher order synthesis.

An alternative view was offered by Galison (1997), who argued that the history of science is one of tools rather than ideas. He used the history of particle physics as an example. The tools of particle physics are optical-like cloud chambers and electronic-like photographic emulsions that display particle interactions by way of images. One could make equal claims for the history of biology and astronomy. As both Kuhn and Galison acknowledged, scientific progress can come about by conflict or the introduction of new technologies.

Education seems likely to be changed by new tools rather than conflicting ideas. Computers are changing education's successive phases. In the first phase, computers simply replaced typewriters and calculators. In the second phase, computers began to change the ways in which we teach. The widespread use of e-mail, Blackboard, PowerPoint, and simulations are examples. And there is an active and growing field of computer education with its own journals and conferences (e.g., Advancement of Computer Education and Association for the Advancement of Computing in Education). The third phase already has begun, and we are now seeing changes in math and science curricula as a direct result of the availability of technology. Education is one of the last social institutions to be changed by technology, but its time has come.

Conclusion

In this paper, I have used the failure of the constructivist reform movement to illustrate what I believe is necessary for any true educational innovation to succeed. There must be teacher, curricular, and societal readiness for any educational innovation to be accepted and put into practice. In the past, reforms were generated by one or the other form of readiness, but without the support of the others. I believe that technology will change this. It is my sense that it will move us toward making teaching a true profession, the establishment of a multidisciplinary science of education, and a society ready and eager to embrace a technologically based education.

Education is, however, more than technology. It is, at its heart, people dealing with people. That is why any successful educational reform must build upon a human philosophy that makes clear its aims and objectives. Technology without a philosophy of education is mechanical, and a philosophy without an appropriate technology will be ineffective. Technology is forcing educational reform, but we need to harness it to the best philosophy of education we have available. I believe this to be constructivism. The current failure to implement constructivism is not because of its merits but because of a lack of readiness for it. We need to make every effort to ensure that the technological revolution in education creates the kinds of teachers, curricula, and social climate that will make constructivism a reality in our classrooms.

References

Brooks, J. G., and M. G. Brooks. 1993. *In search of understanding: The case for constructivist classrooms.* Alexandria, Va.: Association for Supervision and Curriculum Development.

Dewey, J. 1899. *The school and society.* Chicago: University of Chicago Press.

Elkind, D. 1999. Educational research and the science of education. *Educational Psychology* 11(3): 171–87.

Flexner, A. 1910. *Medical education in the United States and Canada.* New York: Carnegie Foundation for the Advancement of Teaching.

Fosnot, C. T. 1996. *Constructivism: Theory, perspectives, and practice.* New York: Teachers College Press.

Gagnon, G. W. J., and M. Collay. 2001. *Designing for learning: Six elements in constructivist classrooms.* Thousand Oaks, Calif.: Corwin Press.

Galison, P. L. 1997. *Image and logic: A material culture of microphysics.* Chicago: University of Chicago Press.

Gibboney, R. A. 1994. *The stone trumpet: A story of practical school reform.* Albany, N.Y.: State University of New York Press.

Holmes Group. 1995. *Tomorrow's schools of education.* Ann Arbor: University of Michigan.

Inhelder, B., and J. Piaget. 1958. *The growth of logical thinking from childhood to adolescence: An essay on the construction of formal operational structures,* trans. A. Parsons and S. Milgram. New York: Basic Books.

Inhelder, B., and J. Piaget. 1964. *The early growth of logic in the child, classification and seriation,* trans. E. A. Lunzer and D. Papert. New York: Harper and Row.

Kant, I. 2002. *Immanuel Kant: Theoretical philosophy after 1781,* trans. G. Hatfield and M. Friedman. New York: Cambridge University Press.

Kuhn, T. S. 1996. *The structure of scientific revolutions,* 3rd ed. Chicago: University of Chicago Press.

Lambert, L., M. Collay, M. Dietz, K. Kent, and A. E. Richert. 1997. *Who will save our schools? Teachers as constructivist leaders.* Thousand Oaks, Calif.: Corwin Press.

Larochelle, M., N. Bednarz, and J. Garrison. 1998. *Constructivism and education.* Cambridge, England: Cambridge University Press.

National Commission on Excellence in Education. 1983. *A nation at risk: The imperative for educational reform.* Washington, D.C.: U.S. Government Printing Office.

Piaget, J. 1950. *The psychology of intelligence,* trans. M. Piercy and D. E. Berlyne. London: Routledge and Paul.

Rousseau, J. J. 1962. *Emile,* trans. W. Boyd. New York: Teachers College Press.

Vygotsky, L. S. 1978. *Mind in society: The development of higher psychological processes,* ed. M. Cole. Cambridge, Mass.: Harvard University Press.

DAVID ELKIND is Professor of Child Development at Tufts University where he conducts research in the cognitive, perceptual, and social growth of children based on the theories of Jean Piaget.

Jamin Carson

→ **NO**

Objectivism and Education: A Response to David Elkind's 'The Problem with Constructivism'

In "The Problem with Constructivism," David Elkind (2004) made several claims about why constructivism has not been implemented in schools. He argued that constructivism will be implemented only when we have *teacher, curricular,* and *societal readiness;* that teaching needs to become a science before it can be a true profession; and that constructivism is the only philosophy that will reform education. In this essay, I present counterarguments for each of these claims.

Constructivism is the theory that students learn by individually or socially transforming information (Slavin 1997). This theory necessarily entails certain metaphysical and epistemological assumptions. To accept constructivism, one must believe that:

- reality is dependent upon the perceiver, and thus constructed;
- reason or logic is not the only means of understanding reality, but one of many; and
- knowledge or truth is subjective and relative to the individual or community.

One philosophy of education that challenges this theory is objectivism, which asserts that students must be engaged actively in the subject matter to learn. This theory does not advocate, however, that students "transform" or "construct" reality, reason, knowledge, or truth. Objectivism holds that one reality exists independent of anyone perceiving it, humankind is capable of knowing this reality only by the faculty of reason, and objective knowledge and truth is possible (Peikoff 1993). I argue against Elkind's claims primarily from an objectivist viewpoint.

Failures of Readiness

Elkind's main thesis was that constructivism has not been implemented in schools because of failures of teacher, curricular, and societal readiness. Teacher readiness requires that a teacher be educated in a science of education such as child development. Curricular readiness involves knowing exactly when and how students are developmentally ready to learn specific information. Societal readiness is when society is eager for educational reform or change.

Elkind did not explain the causal relationship between these states of readiness and the implementation of constructivism. He only implied that a causal relationship exists. There is no reason to believe that a relationship exists or that any state of readiness would lead to a specific philosophy of education. A teacher must accept the metaphysical and epistemological assumptions of a pedagogic practice before he or she can implement it.

Elkind's definitions of readiness also were problematic. When defining teacher readiness as having good teacher "training"—which comes only from scientific knowledge (e.g., child development)—he stated (2004, 308), "Teaching will become a true profession only when we have a genuine science of education." Though education is not a true science, teachers generally are taught one unique body of knowledge. Most college and university teacher preparation programs, alternative certification programs, and professional development seminars teach the same information, and a great deal of it is constructivist in nature or a variant of it.

Elkind's definition of curricular readiness also has problems. He (2004, 307–08) defined curricular readiness as knowledge of "what, when, and how the subject matter should be taught" and then claimed that "only when we successfully match children's ability levels with the demands of the task can we expect them to reconstruct the knowledge we would like them to acquire." The phrase "we would like them to acquire" contradicts constructivist metaphysics and epistemology. If constructivism assumes that students construct their own knowledge, then how can a constructivist teacher choose the knowledge they would like students to acquire? The phrase "we would like them to acquire" presupposes an objective philosophy which holds that given a specific context, some knowledge is objectively superior to other knowledge. For a constructivist, this is a contradiction, if one views reality, reason, knowledge, and truth as subjective and relative to the perceiver, then what is the basis for arguing for any knowledge at all, let alone one over another? Any curricular choice, according to constructivist philosophy, should be as valid as any other. When constructivists make absolute claims about what, when, and how something should be taught, they are either objectivists or making arbitrary claims.

Finally, there are problems with societal readiness. Elkind (2004, 310) suggested that "to be successfully implemented, any reform pedagogy must reflect a broad and energized social consensus," which the United States currently does not have. Yet, a broad and energized social consensus in the United States does exist. The concensus is that public education has not adequately educated its students, particularly those of lower socioeconomic status. This societal readiness has paved the way for programs like No Child Left Behind. Progressive reform pedagogies like constructivism are usually prescribed by administrators to improve education or raise test scores. Despite the social consensus that education needs reform pedagogy and constructivism has been one of those pedagogies, education still has not closed the gap between rich and poor—assuming that is education's aim in the first place.

Science of Education

Most teachers receive the same education, but not all teachers readily accept what they are taught, whether it be constructivism or some other philosophy of education. Unlike medical practitioners, for example, educators disagree about nearly all issues within their field. Medical practitioners simply observe whether or not the treatment cured the patient. They may disagree about why or how a treatment worked, but at least they have objective and verifiable evidence of whether or not the treatment worked. Education, on the other hand, possesses many more points of disagreement. How do people learn? What should people learn? How do we measure learning? The complexity of these questions results in virtually no consensus about what works among all educators. Though education draws from a unique body of knowledge to prepare its teachers, it is not scientific and probably never will be because there is so much disagreement about the definition of education.

Assuming that Elkind is correct in believing that education must become a science, his argument is still flawed. It is contradictory for a constructivist to advocate a science of education. The philosophical foundation of constructivism rejects an objectively knowable reality. The philosophical foundation of science claims that one reality is objectively knowable through the senses and reason. Science, therefore, undermines constructivism rather than serves as a prerequisite to it.

If Elkind used Kuhn's (1996) definition of science—reality is observed by a perceiver who sees it through the lens of socially constructed paradigms that are periodically overthrown by new paradigms that are incommensurate with past paradigms—then any science of education still has no claim of truth over any other method of inquiry within education. Claims like "teaching will become a true profession only when we have a genuine science of education" are equivalent to saying that teaching will be a profession only when it becomes an art. If we construct our own reality, what is the difference?

If Elkind believes that most of what educators consider science comes from constructivists like Rousseau, Kant, Piaget, and Vygotsky, his argument is flawed. It is circular logic for a constructivist to claim that a science of education is needed and then to select only constructivists as the founders of that science. Though some beliefs are obtained in experiments, most are not—especially philosophical views about *literally* constructing reality, which are not testable or falsifiable and thus should not be accepted as scientific.

Philosophy of Education

Elkind seems to have overlooked the role of the educator's metaphysical and epistemological assumptions in accepting constructivism or any philosophy of education. He admitted that educators who "are wedded to an objectivist view that knowledge has an independent existence" have resisted constructivism, but he quickly dismissed this cause in favor of teacher readiness. Ironically, teacher readiness is more likely the cause of resistance to constructivism. For an educator to implement a pedagogical practice, he or she must consciously or unconsciously accept its metaphysical and epistemological assumptions. Constructivists possess certain metaphysical and epistemological assumptions that lead to constructivist practices, while objectivists possess other metaphysical and epistemological assumptions that lead to objectivist practices. Elkind overlooked the possibility that not everyone holds the same assumptions about reality, reason, knowledge, and truth that lead to constructivist practices. Some have other worldviews and, therefore, reject constructivism as a theory of learning because it contradicts their philosophical assumptions.

Elkind said that constructivism is the "best philosophy of education we have available," and that it has been "widely accepted." This is true only at the university level, where the majority of professors possess the metaphysical and epistemological assumptions that lead to constructivism. It is not true at other levels of education, where one is likely to encounter different metaphysical and epistemological assumptions that lead to other pedagogical practices.

Constructivism is not the best philosophy of education. Objectivism is more reasonable from a theoretical and practical perspective than constructivism. Objectivism holds that there is one reality independent of anyone perceiving it. This means that regardless of whether or not someone perceives something, it still exists. For example, I can leave the room with a table in it and be convinced that the table still exists. Most people probably would agree with this statement. Constructivism, on the other hand, holds that reality is dependent upon the perceiver. This means that something exists only if someone perceives it. From a constructivist perspective, if I leave a room with a table in it, the table ceases to exist. Most people would disagree with such a statement or at least have difficulty accepting it.

Objectivism also holds that humankind takes in data through the senses and uses reason to obtain knowledge. Constructivism does not deny the efficacy of reason completely, but does consider it as only one of many ways of knowing. This belief is another theory that does not stand up in practice. The theory of multiple intelligences, for example, proposes at least ten "intelligences" or ways of knowing: verbal, logical, musical, physical, spatial, inter- and intra-personal, natural, existential, and spiritual. When analyzed or reduced to their epistemological foundation, these intelligences seem more like specialized bodies of acquired knowledge than actual processors of information. Reason exists in all of them, which suggests that each is the *primary* way of knowing.

Objectivism also holds that we have objective knowledge and truth. A person observes reality via his or her senses, forms concepts through the use of noncontradictory (i.e., Aristotelian) logic, and thus acquires knowledge and truth. Constructivism posits that only subjective knowledge and relative truth are possible. If knowledge is subjective or relative to an individual or a group, then *any* knowledge could be true. Sacrificing virgins to appease the gods or believing that the universe revolves around the earth would count as knowledge and truth. Notable constructivists (Lawson 1989; Noddings 1998; Rorty 2003) have raised these criticisms about constructivist metaphysics and epistemology and have admitted that they have no answer to them.

Constructivism in Practice

Practically, objectivism is more reasonable than constructivism. As a high school English teacher, I implemented constructivism in my classes by allowing the students to construct what an English class is—choosing its purpose, curriculum, and instruction. Most of the students did not understand how they could "construct" an English class. They expected me to define the English class for them—a very reasonable assumption considering how young they were and how limited their experience. After a fair amount of prompting, a few bold students thought English should be spelling and grammar. Some might argue that the students' answer proves only that they had been prevented from constructing previous curriculums, and thus had not learned to think for themselves or to question the curriculum. I concede that the students' previous conception of what constitutes schooling was part of their inability to construct the course. However, perhaps children naturally look to adults to share with them their learned and acquired knowledge. They expect teachers to pass on to them a body of knowledge, imperfect though it may be, that they can update according to their discoveries. Many practicing constructivists refuse to do this, believing instead that a child's knowledge is equal to that of an adult's and a student is no less an authority on a subject than a teacher. This assumption is untrue and dangerous. It assumes that children are better off entering a world with no knowledge and creating their own rather than entering a world full of knowledge, learning it, and then updating it if it does not stand the test of their scrutiny.

The students in my English class could not be pure constructivists in the context of day-to-day assignments either. For example, when we read *Romeo and Juliet* by William Shakespeare, the reality of the story presented obstacles. If the students would have said that the story was about an aging salesman who imagines he is a success when he is not, a constructivist teacher would have to accept their response—right or wrong—because reality is constructed. For an objectivist English teacher, however, every claim must be supported by textual evidence and logic—by reality. *Romeo and Juliet*, therefore, must be about what the text supports and what logic dictates, not about the subjective feelings of the reader, which may not be in accordance with reality. Constructivist English teachers who tell students that there are no right-or-wrong answers or that their interpretation is as correct as anyone else's only encourage students to be careless and uncritical readers, writers, and thinkers.

I shifted to giving students a choice supported by evidence and logic because of the flaws in the practical application of constructivism. Students could choose the purpose, curriculum, and assignments of the course, but ultimately their choices had to conform to reality, not to their subjective whims. In other words, their choices had to have a compelling connection to their literacy development.

Conclusion

Constructivists must ask themselves whether they want to cling to the literal interpretation of constructivism that sees reality as constructed or simply believe that students learn best when they are actively engaged in the learning process. The two definitions are not the same metaphysically or epistemologically. The former entails an untenable theory and practice and should be modified or rejected.

Noddings (1998, 117–18) addressed the distinction between moderate and radical constructivism in this way:

> [I]f radical constructivists are just saying that our perception and cognition are theory-laden, that all knowledge is mediated by our cognitive structures and theories, then they have lots of company among contemporary theorists. However, if they are saying that there is no mind-independent reality, then they seem to be arguing a line long ago rejected.

Though Noddings seemed to advocate a moderate constructivist view that denies a mind-dependent reality, I maintain that constructivists cannot be moderates. All constructivists necessarily must believe that reality is dependent upon the perceiver. It is logically impossible to believe that a person's perception and cognitive structures are theory-laden, while simultaneously believing that reality

is independent of the perceiver. If reality is perceived by a theory-laden perceiver, then the reality is theory-laden too. The moment that one becomes theory-laden, one is prevented from knowing an objective reality.

Objectivists believe humans are not theory-laden in the pejorative sense of that word. Objectivists do not consider prior knowledge or cognitive structures as a subjective lens through which one views reality. Rather, one possesses prior knowledge that informs new knowledge and, consequently, makes the new knowledge meaningful. If the prior knowledge or cognitive structure is incorrect, eventually the new correct knowledge will conflict with it and a person will be forced to update his or her old knowledge. If constructivists believe in an independent reality, then they not only must believe in it, but also must possess an objective method of perceiving it and, therefore, have objective knowledge and truth. There is no middle ground.

References

Elkind, D. 2004. The problem with constructivism. *The Educational Forum* 68(4): 306–12.

Kuhn, T. S. 1996. *The structure of scientific revolutions*, 3rd ed. Chicago: The University of Chicago Press.

Lawson, H. 1989. Stories about stories. In *Dismantling truth: Reality in the post-modern world*, ed. H. Lawson and L. Appignanesi, xi–xxviii. London: Weidenfeld and Nicolson.

Noddings, N. 1998. *Philosophy of education*. Boulder, CO: Westview Press.

Piekoff, L. 1993. *Objectivism: The philosophy of Ayn Rand*. New York: Penguin Books.

Rorty, R. 2003. Dismantling truth: Solidarity versus objectivity. In *The theory of knowledge: Classical and contemporary readings*, 3rd ed., ed. L. P. Pojman, 324–30. Belmont, CA: Wadsworth/Thomson Learning.

Slavin, R. E. 1997. *Educational psychology: Theory and practice*, 5th ed. Boston: Allyn & Bacon.

JAMIN CARSON is Assistant Professor at East Carolina University. His research interest is in the philosophical foundations of education.

EXPLORING THE ISSUE

Is Constructivism the Best Philosophy of Education?

Critical Thinking and Reflection

1. How would multiple intelligences theory fit into constructivism or behaviorism viewpoints?
2. Is constructivism not the best philosophy of education, why or why not?
3. How is the "science" of education linked to constructivist thought and action?
4. Why does Carson take a behaviorist viewpoint to attack constructionism?
5. How many philosophies of education are there?

Is There Common Ground?

So it can be seen that present-day constructivists like David Elkind draw a lot of inspiration from Dewey's portrayal of the active, probing learner immersed in social experience, Holt's learners who steer their own personal development unfettered by imposed curricula, and Rogers' self-exploring students whose subjective knowledge takes precedence. In contrast, objectivists like Carson most likely find comfort in Scruton's timeless rationality, Adler's concept of a single best curriculum for all, and Skinner's use of scientific principles and quantitative methods to create effective learners.

Elkind responded to Carson's critique in the Summer 2005 issue of *The Educational Forum*, primarily refuting the accusation that constructivists deny that a physical world exists outside our sensory experiences. He states that "it is not that an external reality does not exist, only that we have to reconstruct it to know it . . . it is because humans share a common sensory apparatus that we can agree upon an external reality existing outside our experience." Our senses can be mistaken but "objective" reasoning is fallible as well, he concludes.

In the past decade, the philosophy of constructivism has been widely treated by those who praise it and those who deplore it. A sampling of sources includes Jacqueline Grennon Brooks and Martin G. Brooks, *In Search of Understanding: The Case for Constructivist Classrooms* (1993); Susan Ohanian, *One Size Fits Few* (1999); Karen R. Harris and Steve S. Graham, "Memo to Constructivists: Skills Count, Too," *Educational Leadership* (February 1996); Tony Wagner, "Change as Collaborative Inquiry: A 'Constructivist' Methodology for Reinventing Schools," *Phi Delta Kappan* (March 1998); Heinrich Mintrop, "Educating Students to Teach in a Constructivist Way—Can It All Be Done?" *Teachers College Record* (April 2001); and Rhoda Cummings and Steve Harlow, "The Constructivist Roots of Moral Education," *The Educational Forum* (Summer 2000).

Additional commentary may be found in Michael Glassman, "Running in Circles: Chasing Dewey,"

Educational Theory (August 2004); Donald G. Hackmann, "Constructivism and Block Scheduling: Making the Connection," *Phi Delta Kappan* (May 2004); Ian Moll, "Towards a Constructivist Montessori Education," *Perspectives in Education* (June 2004); and David Chicoine, "Ignoring the Obvious: A Constructivist Critique of a Traditional Teacher Education Program," *Educational Studies* (December 2004).

The discussion launched by Elkind and Carson has been continued in the Spring 2006, Fall 2006, and Summer 2007 issues of *The Educational Forum*. See especially the Henry Pegues's article, "Of Paradigm Wars: Constructivism, Objectivism, and Postmodern Stratagems," in the Summer 2007 issue.

Create Central

www.mhhe.com/createcentral

Additional Resources

D. Elkind, "The Problem With Constructivism," *The Educational Forum* (vol. 68, no. 4, pp. 306–312, 2004)

T. S. Kuhn, *The Structure of Scientific Revolutions*, 3rd ed. (University of Chicago Press, 1996)

H. Lawson, "Stories About Stories," in H. Lawson and L. Appignanesi, eds., *Dismantling Truth: Reality in the Post-Modern World*, pp. xi–xxviii (Weidenfeld and Nicolson, 1989)

N. Noddings, *Philosophy of Education* (Westview Press, 1998)

L. Piekoff, *Objectivism: The Philosophy of Ayn Rand* (Penguin Books, 1993)

R. Rorty, "Dismantling Truth: Solidarity Versus Objectivity," in L. P. Pojman, ed., *The Theory of Knowledge: Classical and Contemporary Readings* (3rd ed., pp. 324–330) (Thomson Learning, 2003)

R. E. Slavin, *Educational Psychology: Theory and Practice* (5th ed.) (Allyn & Bacon, 1997)