Behaviorism, Constructivism, and Socratic Pedagogy

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Abstract

This paper examines the relationship among behaviorism, constructivism and Socratic pedagogy. Specifically, it asks if a Socratic educator can be a constructivist or a behaviorist. In the first part of the paper, each learning theory, as it relates to the Socratic project, is explained. In the last section, the question of whether or not a Socratic teacher can subscribe to a constructivist or a behaviorist learning theory is addressed. The paper concludes by stating that while Socratic pedagogy shares some similarities with each learning theory, ultimately it is fundamentally incompatible with both.

Keywords: behaviorism, constructivism, Socratic pedagogy, Socratic method, learning theory, Platonic dialogues

The great triumph of Western intellectual history from the Enlightenment until the beginning of the 20th century rested on its ability to organize the knowledge of the world in a rational way independent of the learner, determined by some structure of the subject. Disciplines were developed, taxonomic schemes established, and all these categories were viewed as components of a vast mechanical machine in which the parts could be explained in terms of their relationship to each other, and each part contributed to making the whole function smoothly. Nowhere in this description does the learner appear. The task of the teacher was to make clear to the learner the working of this machine and any accommodation to the learner was only to account for different appropriate entry points for different learners. (Hein, 1991)

Introduction

Behaviorism dominated the educational landscape 20 years ago, while the foremost learning theory today is constructivism. Set against the backdrop of these more recent theories is Socratic pedagogy, which finds its origin in the Platonic dialogues. While learning theories have come and gone, the Socratic method has persisted. But what, exactly, is the relationship between these two learning theories and Socratic pedagogy? Specifically, can a Socratic teacher be either a constructivist or a behaviorist?

These questions are important because the two dominant learning theories are often presented as either-or propositions, false dichotomies that educators must choose between. This does not have to be the case. The Socratic method provides a middle ground between the two, and has many of the strengths of both constructivism and behaviorism. When understood in a philosophical framework, and practiced in the classroom, this ancient pedagogical alternative can be a potent learning tool.

In the first section of this paper I will briefly define and explain each learning theory as it relates to the Socratic project. In the second section I address the question of whether or not a Socratic teacher can subscribe to a constructivist or a behaviorist learning theory.[1] The paper concludes by stating that while Socratic pedagogy shares some similarities with each learning theory, ultimately it is fundamentally incompatible with both.

Understanding the Learning Theories: Constructivism and Behaviorism (See Appendix)

Constructivism

> There is no knowledge independent of the meaning attributed to experience (constructed) by the learner, or community of learners. (Hein, 1991)

> Where behaviorism views knowledge as resulting from a finding process, constructivism views knowledge as the natural consequence of a constructive process. Where behaviorism views learning as an active process of acquiring knowledge, constructivism views learning as an active process of constructing knowledge. Finally, where behaviorism views instruction as the process of providing knowledge, constructivism views instruction as the process of supporting construction of knowledge. (Bichelmeyer & Hsu, 1999, p. 4)

There are many different types of constructivism, among the most popular are cognitive, critical, radical, and social. However, they all share the same core: the idea that learners 'construct their own knowledge' (Sener, 1997).[2] Constructing knowledge means that students are active participants in a learning process by seeking to find meaning in their experiences. In a literal sense, learners construct or find meaning in their subjective experiences, and this result becomes knowledge.[3] For the constructivist, each person's subjective experience is just as valid as anyone else's, and no one has an epistemically privileged viewpoint. Therefore, there are no objective criteria for what constitutes knowledge (Poerksen, 2004a). What is knowledge to one individual may not be knowledge to someone else, because no two people necessarily have the same constructions. Having the same constructions would carry with it a host of ontological presuppositions about the world and reality, none of which constructivists accept (Poerksen, 2004a; Poerksen, 2004b).

As a learning theory, constructivism emerged from broader movements in Western intellectual thought: the subjective turn and postmodernism. The subjective turn was a move away from objectivity in epistemology (what one can know independent

of an examiner) and metaphysics (what there is independent of the knower), and towards individual experiences. Before the subjective turn, objectivity had a primacy attached to it, both conceptually and practically. In other words, objectivity was upheld as the goal of inquiry.[4] As will be mentioned below, this manifested itself in the dominant learning theory of the time, behaviorism.

Postmodernism is somewhat harder to define, because it is an intentionally broad term—and it is this open-ended quality that shows its wide range of meaning. Postmodernism, basically, is the idea that there are multiple perspectives, interpretations and truths, and that each perspective has its own validity. No one perspective is 'more valid' than any other perspective.[5] For example (and this is closely related to the idea of subjectivity discussed in the paragraph above), something can be true for me, but not true for you (Swoyer, 1982). These 'true for' claims not only cover trivial and mundane matters of personal taste, like which type of pie is better, apple or cherry, but extend to *all* propositions, even empirical ones.

One can easily see how constructivism emerged from these two movements. Constructivism replaced the teacher as the center of knowledge (objective), with the learner (subjective). Independent of the teacher, each learner's subjective experiences now have a special and unique meaning. It is both the student's learning experience and her perceptions of those experiences that have educational value.

Unlike behaviorists, 'Constructivists argue that there are multiple realities constructed by individuals. The human mind does not copy reality from outside directly, rather, it constructs reality' (Driscoll, 1994). In other words, there is no shared reality'. (Bichelmeyer & Hsu, 1999, p. 3). This is the defining difference between constructivist and behaviorist learning theories.

Behaviorism

> I am sometimes asked, 'Do you think of yourself as you think of the organisms you study?' The answer is yes. So far as I know, my behavior at any given moment has been nothing more than the product of my genetic endowment, my personal history, and the current setting. (Skinner, 1983)

Behaviorism is diametrically opposed to constructivism. Unlike constructivists, behaviorists believe that knowledge does not depend upon introspection, and they completely reject discussion about internal mental states. Rather, behaviorism's focus is on the external observation of lawful relations between and among outwardly observable stimuli and the responses that follow. What constitutes valid knowledge is publically observable, and as such, behaviorists believe that the concept of mental states can be discarded (Freiberg, 1999).

To understand behaviorism it is important to understand the intellectual movement that contributed to its development. Behaviorism is a psychology that was strongly influenced by positivism, a philosophical movement (Amsel, 1989). Positivism only recognized natural phenomena or properties of knowable things, along with their lawful relations of coexistence and succession. The positivist believes that relationships are discovered only by observation and experiment. Both ways of

looking at the world have been termed 'objectivist' because of the belief that there is a 'God's eye' view, or privileged external viewpoint that one can obtain. One of the consequences of this is the recognition only of publicly observable phenomena, and subjective ways of knowing and understanding become discredited. Epistemologically, behaviorism and positivism are 'grounded in objectivism, which assumes that there is a single reality external to individuals. Based on this objectivist worldview, behaviorists argue that learners "acquire" knowledge from outside resources …' (Bichelmeyer & Hsu, 1999, p. 3).

In the traditional behaviorist model, learners undergo some form of conditioning. Ultimately, the goal of conditioning is to produce a behavioral result. In an academic venue, changing behavior is more difficult to measure than in other contexts, like a karate class, where there are observable physical behaviors that result from physical stimuli. For example, in the hypothetical karate class, if students do not form straight lines they are punched in the shoulder (stimuli), after a few people get out of line, and get punched, the line becomes noticeably straighter (behavioral response). However, in an academic context, behaviorists substitute verbal behavior (e.g. responding appropriately to a question) for physical behavior. The behaviorist would interpret, for example, a student's correct answer to a question as a sign of successful conditioning, and then continue to reinforce correct responses behaviorally by assigning good grades. Often, the form of conditioning used to achieve desirable verbal behavior is a lecture-based pedagogy.

Behaviorism thus views the student as an unreflective responder. In a behaviorist paradigm, the student is engaged in the educational process only in that she displays the appropriate verbal behavior (e.g. checking the correct box on a multiple choice test). There is no subjective element to learning—either in determining what to study or in how information is interpreted, used, or understood.[6]

Socratic Pedagogy

> I am simply your fellow-explorer in the search for truth, and if somebody who contradicts me is obviously right, I shall be the first to give way.
> Socrates in the *Gorgias*

The presupposition of the Socratic method is that there is a truth of the matter and that that truth can be known through discourse, or, more specifically, through the elenetic process. The elenchus is a systematized question and answer process that is directed by the teacher and depends upon student involvement. Its purpose is to help those engaged in a dialogue discover true propositions through a sustained inquiry (Boghossian, 2002a).

In the Platonic dialogues, *the* reason Socrates engaged in discourse was to find the truth. For example, in the *Meno*, Socrates approaches a slave boy because he wanted to teach him, or elicit from him, a true proposition about geometry. Before he even enters into the discourse he knows that truth exists independently of his belief. He does not 'construct' a geometrical truth; rather, truth exists in the world, and he expresses and discovers that through language. Socrates also knows that through asking

a series of directed questions he can, along with his interlocutor, arrive at the truth (i.e. he not only knows that there is a truth, but he knows that it can be known through a dialectical process). Ultimately, the main purpose of the Socratic method is to help the students, and the teacher, find the truth (Boghossian, 2002b).

Contemporary Socratic practice is often used less as a way to find the truth, and more as a method for teaching critical thinking (Boghossian, 2005; Schwarze & Lape, 2000). Nevertheless, even in a contemporary context the Socratic method is driven by an assumption that knowledge exists independently of the inquirer. That is the basis upon which propositions can be determined to be true or false: their truth-value is necessarily independent of the inquirers. If it were not, then propositions would just be true for some people and not true for others. Or, framing this in constructivist language, knowledge would just be constructed. So even in contemporary Socratic practice, the realist presupposition is that true propositions yield assent because they correspond to a shared, knowable world. And if seeking the truth is not the primary objective of some 'Socratic' practitioners, then the elenchus acts as a dialectical safeguard to adjudicate competing claims—false propositions can still be rejected, and the truth can still emerge. The Socratic method takes its participants towards a destination: the truth (Boghossian, 2002b). So while Socratic practice can, and often is, illegitimately used as a debate tool, even in these contexts (e.g. law school classrooms) (Guinier, Fine & Balin, 1998) fundamental assumptions about universal assent to true propositions are operative.

Can a Socratic Teacher Be a Behaviorist?

> When a teacher complains that students are 'off task'—a favorite bit of educational jargon—the behaviorist will leap to the rescue with a program to get them back 'on' again. The more reasonable response to this complaint is to ask, '*What's the task?*' Not surprisingly, this way of framing the problem meets with considerable resistance on the part of many educators. More than once I have been huffily informed that life isn't always interesting, and kids had better learn to deal with this fact … Thus is the desire to control children, or the unwillingness to create a worthwhile curriculum, rationalized as being in the best interests of the students. (Kohn, 1993)

The short answer to this question is, 'No, a Socratic teacher cannot be a behaviorist'. There are, however, some similarities between behaviorist learning theory and Socratic pedagogy.

In a behaviorist paradigm, 'learners are told about the world and are expected to replicate its contents' (Jonassen, 1991, p. 28). This is antithetical to Socratic practice. Even though the Socratic teacher shares the same epistemological presuppositions as the behaviorist (i.e., that the world exists and it can be known), the very design of the method prevents the teacher from telling the student how the world is, from expecting the student to respond or behave in a certain way, or from demanding that she exhibit proscribed verbal behavior.

In a Socratic discourse students, and in some cases even the teacher, must come to the truth by undergoing an elenetic or questioning process. The important point is that students *come to* the truth, they are neither told the truth nor expected to yield to the instructor's understanding of what is true. In fact, participants' assent to true propositions emerges, at least in part, because it stands in opposition to the teacher's examples. There is no replication or regurgitation of information or facts, nor is there any behavioral expectation. There are only propositions that yield assent, or not.

It is through the elenchus that true or false propositions can be known. Behaviorism has no elenetic process, but unlike constructivism, this is not because behaviorism and Socratic pedagogy have differing epistemological or ontological commitments. Rather, behaviorism does not see the contributions of the learner as contributing to the corpus of knowledge.[7] Students do not have privileged knowledge regarding observable stimuli and the responses that follow; in fact, a rigorous experimental design process needs to be in place before lawful relationships of observable phenomena can be discovered. Behaviorism's strict idea of what constitutes valid knowledge and expectant behavior leaves virtually no space for dialectical interplay between students and teachers.

However, like behaviorism, Socratic pedagogy has an objectivist presupposition, that 'knowledge should represent a real world that is thought of as existing separate and independent of the knower; and this knowledge should be considered true only if it correctly reflects that independent world' (Murphy, 1997, p. 4). As such, like the behaviorist, the Socratic teacher recognizes that there are true or false propositions. But unlike the behaviorist model, truth or falsity is not determined by the teacher or the by the accepted canon of knowledge, or by observed behaviors, or even by the broader theoretical constraints of the paradigm, but by the dialectical process—by the *elenchus*.

A behaviorist would be likely to view the Socratic method as a type of stimulus. A crude analogy would be that the Socratic teacher is like a dog trainer trying to bring students where she wants them to go. The Socratic practitioner, however, views student acknowledgment of true propositions as the result of a dynamic process in which students are active and willing participants in their own learning. This is, ironically, one of the few similarities between Socratic pedagogy and constructivism.

Can a Socratic Teacher Be a Constructivist?

> The displacement of the idea that facts and evidence matter by the idea that everything boils down to subjective interests and perspectives is—second only to American political campaigns—the most prominent and pernicious manifestation of anti-intellectualism in our time. (Lauden, 1990, p. x)

> … does it actually make any difference in our everyday work whether deep down we consider knowledge to be about some 'real' world independent of us, or whether we consider knowledge to be of our own making? The answer is yes, it does make a difference … : in our profession our epistemological views dictate our pedagogic views. (Hein, 1991)

The short answer to the question is, 'No, a Socratic teacher cannot be a constructivist'. Even though there are elements of constructivism within Socratic pedagogy, constructivist learning theory is, at base, antithetical Socratic practice.

The epistemological and ontological assumptions going into a Socratic discourse are not just completely different, but at odds with constructivist learning theory. The presupposition of the Socratic method is that the truth exists independent of one's beliefs; even though one may not be able to find the truth of the matter in a particular Socratic session, 'progress towards reaching [a] final understanding has taken place' (Routledge Encyclopedia of Philosophy, 2001). An imperfect example is that one cannot inquire into how an airplane flies unless one accepts the fact that airplanes exist. Similarly, there are the underlying assumptions of every Socratic discourse—that the world exists independently of the knower, that there is a truth of the matter that can be discovered, that one can come to truth through discourse, that there are fair and impartial ways to adjudicate competing claims, that some propositions are false, and that there is such a thing as a 'final understanding'. These assumptions are at odds with constructivism.

For constructivists, helping students arrive at *the* truth is impossible, and therefore it cannot be the purpose of education. Constructivist learning theory is about the process of learning and helping people discover *their* truths. The truth element of the Socratic method is an anathema to most varieties of constructivism, particularly those committed to the stronger thesis that *whatever* students construct as knowledge then becomes *de facto* true. An extreme example of this would be if I think that $7 + 5 = 13$, then my thinking so is both necessary and sufficient justification for it being the case.[8] Again, this is because of radical subjectivity, or the 'true for' nature embodied in the constructivist learning paradigm.

The purpose of the Socratic method is give participants a way to arrive at the truth, and the Socratic teacher attempts to guide students, and even herself, to the truth. In the Socratic model, there is no 'true for' me and not 'true for' you; there are propositions that have truth-values. Constructivism, however, asserts that the purpose of an education is to let students discover *their own* truth, that is, what is true for them. These two notions are fundamentally incompatible: propositions are either true or false, or they are true for me and not true for you. One's beliefs about truth will drive one's pedagogy.

To accomplish its ultimate goal, the Socratic method has a built in corrective mechanism—the *elenchus*—that makes it unlikely that false propositions will endure the entire discourse. However, if knowledge is constructed and truth is 'located', as the constructivists believe that it is (Lincoln, 1996), then the Socratic method cannot achieve its epistemological ambitions, and false propositions can neither be weeded out nor identified. If utterances like 'Oh, it's just true for me in my reality', were acceptable, then there could be no elenetic process. This would lead to an epistemological obituary because any type of dialectical interchange would be prevented by relativist claims. As such, a constructivist could not authentically practice the Socratic method.

Conclusion

Both behaviorism and constructivism are incompatible with Socratic practice. Each learning theory has elements that are antithetical to Socratic pedagogy: Behaviorism

rejects a dialectical process and does not actively involve the learner, and constructivism has a radically different epistemology and metaphysic. In some ways, because Socratic pedagogy shares elements of each, it is a middle ground between both (see Appendix). However, it would be a mistake to say that these similarities are sufficient to enable a Socratic teacher to be a constructivist or a behaviorist. Socratic pedagogy occupies a unique category, and provides the oldest learning process known—education through directed discourse. The Socratic method presupposes that there is a truth, we just need cooperation and dialogue to find it.

Notes

1. Constructivism and behaviorism are learning theories, not pedagogies. They are general explanatory models for how people learn, but they do not delve into specific delivery mechanisms. For example, behaviorism has certain epistemological and ontological assumptions about the world, behavior, and how people learn. In an academic context, these assumptions often manifest themselves in a lecture-based pedagogy, even though this is not a necessary part of the learning theory. It could just as easily be that there is some other pedagogy, rather than a lecture-based one, that comports with the behaviorist model, and so would be used in place of lectures. The Socratic method, however, is both a pedagogy and a learning theory. It is a pedagogy in that it is a specific method of instruction, and it is a learning theory due to its epistemological and ontological presuppositions.
2. There are far too many types of constructivism to discuss in one small section here. One of the major flavors of constructivism is social learning theory, or social constructivism. It differs from the type of constructivism discussed here in that it has a conspicuously public element. Social constructivism 'sees consensus between different subjects as the ultimate criterion to judge knowledge. "Truth" or "reality" will be accorded only to those constructions on which most people of a social group agree' (Murphy, 1997, p. 5). All of the different types of constructivism, however, share the same epistemology and ontology.
3. Of course this bypasses the traditional view of knowledge as true justified belief. But, because of the emphasis on subjectivity, constructivists exempt themselves from not only intellectual tradition, but also from formalized rules or systems of logic, e.g. Aristotle's logic, deontic logic, modal logic, etc. These formal systems do not even need to be given *prima facie* consideration, because they presuppose an *a priori* system that stands apart from the knower.
4. One can see an educational symptom of the subjective turn in what is expected of students in their writing. First person writing has recently been replacing third person writing as a normative academic standard.
5. As an academic movement, post-modernism's trendy acceptance has had an enormous impact on virtually all academic disciplines, particularly hermeneutics. Because everyone comes to an interpretive context with unique history, it has been argued that the idea of a 'correct interpretation' is inherently problematic. Similarly with education, each student comes into the classroom with a different set of life experiences, and who is in a position to say that her interpretation of a lecture or classroom activity is any more or any less correct than someone else's? For example, a history lecture about the treatment of blacks in the post-reconstruction South is likely to be interpreted differently depending on what racial group one identifies with. There would be no justification for saying that the experiences of black students, while different from Asian students, are any better or worse. They would just be different interpretations of the same lecture. This is often used, unfortunately, to then draw the conclusion that *any* interpretation, no matter how bizarre or unrelated, would be an 'equally correct' one. An extreme example of this would be attending a lecture on the treatment of freed slaves, and then 'getting out of it' that cable is superior to satellite, and then having this be a completely acceptable interpretation.

6. Behaviorists (B. F. Skinner and J. B. Watson in particular) sought to collapse the dualism between subject and object, and they identified acknowledgment of mental states with a dualistic metaphysics. They believed that these sorts of dualisms were unnecessary and artifical distinctions.
7. This was Piaget's criticism of behaviorism. It was a reoccurring theme for Piaget, and can be found in many of his works.
8. The phrasing here becomes problematic because of the obvious relativistic criticisms.

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Appendix

At a Glance: Constructivism, Socratic Pedagogy, and Behaviorism

Constructivism	Socratic Pedagogy	Behaviorism
Problem oriented	Proposition/question oriented	Replication oriented
Teacher as coach (p. 9)	Teacher as coach, gadfly, fellow inquirer	Teacher as fountain of knowledge
Multiple perspectives/ multiple truths	Truth is univocal	Single truth
Instructional goals and objectives should be negotiated and not imposed (p. 10)	Certain nonnegotiable goals: find the truth, clarify and justify one's position. Topics and direction of the learning are usually student-determined	Goals nonnegotiable
Learners interpret multiple perspectives of the world (p. 10)	Propositions, not perspectives, are at issue. Truth or falsity replaces interpretation	One perspective
Foster reflective practice (p. 10)	Foster reflective practice	Reflection is irrelevant and unnecessary
Context and content dependent; dependent knowledge construction (p. 10)	Context independent	Context independent
Use errors as a mechanism to provide feedback on learners' understanding (p. 10)	Use errors as a mechanism to provide feedback on learners' understanding	Use errors to reinforce behavior
Sensitivity toward and attentiveness to the learner's pervious constructions (p. 10)	Learners previous 'constructions' are either true, false, or unclear	Learners previous 'constructions' are true if they accord with the teacher's
Encourage ownership and voice in the learning process (p. 11)	Encourage opinions, reasons, and arguments to be voiced	Student participation is unnecessary
Knowledge construction emphasized (p. 11)	Clear, coherent, argument emphasized	Knowledge reproduction emphasized
Student exploration is encouraged in order to seek knowledge (p. 11)	Student exploration is encouraged in order to seek truth	Student exploration is neither encouraged nor discouraged
Collaboration and cooperative learning are favored (p. 11)	Collaboration and cooperative learning are neither encouraged nor discouraged	Collaboration and cooperative learning are discouraged

Constructivist categories were adopted from Murphy's *Constructivism: From Philosophy to Practice* (Murphy, 1997; page references are to Murphy, 1997).