

FOR YEARS 7–12

# TEACH LIKE SOCRATES

*Guiding Socratic Dialogues &  
Discussions in the Classroom*

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# THE FOURTH “R” – REASONING

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The 21st-century world is flooded with information. We can know almost anything instantly. But what is important to know? How do we know that it is important? How do we analyse and evaluate it? How do we apply it in new and unforeseen situations? How do we collaborate in analysing, evaluating and applying our knowledge? How can we create new knowledge?

Each subject in school, shaped by its assumptions, definitions and principles, answers these questions through different methods. In science classes, students create knowledge through application of the scientific method; in literature classes, through imagination and analysis of language; in mathematics classes, through meticulous reasoning with numbers, figures and formulas; in history classes, through the careful sifting of primary and secondary sources to separate opinion from fact, understand cause and effect, and so assemble a plausible view of the past. And, upon more careful examination, there is usually a unique blending of qualitative and quantitative methods in each field. We see that imagination is important for the progress of science, even as meticulous reasoning is crucial for the analysis of poetry. There is usually the conviction that knowledge is open to revision by new facts or understandings. Knowledge is dynamic and growing.

In each subject, critical thinking is a core skill. This skill empowers students to navigate the widening ocean of information and data and to arrive at new destinations. Tony Wagner (2008), the first Innovation Education Fellow at the Technology and Entrepreneurship Center at Harvard, has identified critical thinking and problem solving as the very first survival skill for the 21st-century. Technology progresses at an exponential rate, and our world is changing more rapidly than in the past. I believe that Socrates

would have agreed with Professor Wagner. Certainly the Socratic Method focuses on this immensely important skill.

In 5th century Athens, Socrates practised a method of teaching critical thinking that remains the basis of much meaningful education today. Socratic pedagogy focuses on questioning, and especially on facilitating higher level thinking by skilful inductive questioning. Inductive questioning moves from premise to premise to a discovery. If done at the proper pace and in the proper tone, this manner of teaching stimulates and guides students to think more critically. They learn how to examine assumptions, principles, reasoning and evidence; how to consider implications and consequences; and how to imagine and critique alternatives. Done correctly, the Socratic Method empowers students to think and problem-solve.

The best guides to the Socratic Method are the dialogues of Plato. Studied largely in philosophy departments, these dialogues today are the most neglected classics of pedagogy. Reading them as a teacher, one can only be fascinated by the pedagogical craft of Socrates, his incisive analysis and evaluation within a shared investigation. The primary purpose of this book is to show teachers how to question inductively in this Socratic manner.

Socrates is the most famous teacher of antiquity, but, surprisingly enough, his method is not well known in practical detail. Many associate it with legal education, and perhaps have even caught glimpses of it in old movies or television series like *The Paper Chase*. Others believe, incorrectly, that it is simply synonymous with questioning, and is best used for drilling and quizzing for information, an exercise for recalling facts. In reality, the Socratic Method has been adapted for different contexts, from primary education to legal and business training in graduate school, and it consistently guides students into higher level thinking.

### *Socratic Method in Recent History*

One catches flashes of the Socratic Method in history. In his youth, Benjamin Franklin read Xenophon and playfully practised the Socratic Method (Houston, 2004). Isaac Watts praised it in *The Improvement of the Mind* (1741), declaring, among other things, that

it leads the learner into the knowledge of truth as it were by his own invention, which is a very pleasing thing to human nature; and by questions pertinently and artificially pro-

posed, it does as effectually draw him on to discover his own mistakes, which he is more easily persuaded to relinquish when he seems to have discovered them himself (p. 171).

In the late 19th and early 20th centuries, when great strides were made in Plato scholarship, we see the Socratic Method always distinguished from catechetical questioning and extolled by different religious educators, such as Sir John Adams (n.d.), whose small volume contains three example dialogues. The Socratic Method is mentioned and fulsomely praised, but not extensively developed, in the popular manuals on recitation intended for secondary school teachers. Charles A. McMurry and Frank M. McMurry (1903), for instance, treat it briefly and with admiration in *The Method of the Recitation*. George Herbert Betts (1910) also presents the Socratic Method, characterising it as “the very height of good teaching” (pp. 30–33). Herman Harrell Horne (1916), who was professor of the history of education and the history of philosophy at New York University, presented the Socratic Method briefly in a slender book. Samuel Hamilton (1906) explained very well some of the salient characteristics and benefits of the method. Most authors remark that it is difficult to learn. Samuel Chester Parker (1920) is quite negative about the Socratic Method, but, judging from the two simplistic and caustic observations he makes, I believe that he fails to understand thoroughly its utility. We should keep in mind too that recitation and the Socratic Method are not synonyms. Recitation was a common activity in secondary schools, and the Socratic Method could fit within this activity, if the teacher mastered it.

Much better known is the law school adaptation of the Socratic Method. In 1870, Christopher Columbus Langdell pioneered the case method of studying law at Harvard University (Kimball, 2009). He believed that law was a science and appellate cases were the best materials for learning this science. In the classroom, the task was to isolate the most significant facts of a case and then to detect the reasoning for the judge’s ruling. Langdell guided analysis through inductive questioning. At first controversial, the case method gradually gained popularity, and by the time of Langdell’s death in 1906, it was regarded as the very best method for learning the law. The boast was that it made you think like a lawyer.

The experience of the Socratic Method in the legal classroom depended much on the expertise and temperament of the questioning professor. Some professors, regrettably for the students and for the reputation of the Socratic Method, could be ruthless. In the late 1960s, protest against the Socratic Method gained momentum, although its defenders (e.g. Areeda, whose 1996 outline makes very good reading) could be found at all points of the spec-

trum, from liberal to conservative. But its use has decreased in law schools (Kerr, 1999). In general, where it survives today, it is used in a softer manner and in conjunction with other teaching strategies.

Socratic questioning is also used at Harvard Business School. Based on the examination and evaluation of cases, it fosters more open exchanges between students and between the students and the professor. Several excellent books have been published about this, such as *Education for Judgment* (Christensen, Garvin & Sweet, 1991). Not as rigid as legal Socratic questioning, it probes analysis, evaluation and decision-making in response to real-life business cases. “What would you do in this situation?” is the basic question, and this is followed up with questions for clarification, justification, connections and extension.

One also sees this approach, choreographing soft collisions of opinions and ideas, in Harvard professor Michael Sandel’s admirable and well-known undergraduate classes, videos of which are available online (see <http://www.justiceharvard.org>).

There are other excellent adaptations of the Socratic Method. The Hungarian mathematician George Pólya (1957) further elaborated the method into a broader heuristic in *How to Solve It*, first published in 1945. Pólya outlined a four-step method, each step having several facets, for solving not only mathematical problems, but any problem. The first step is to understand the problem, the next is to understand the relation of the data to the unknown and to devise a plan (analyse), then to carry out the plan (synthesise), and finally to examine the solution. In an earlier publication, he summarised the process as “Understand, Take Apart, Put Together, Check” (Pólya & Anning, 1935, p. 273). In this process, the teacher guides the student through questions to make his own discoveries. The epigraph of another work expresses Pólya’s inductive Socratic approach: “What is good education? Giving systematically opportunity to the student to discover things by himself” (Pólya & Szegő, 1972/1998, p. vi).

A broader Socratic approach developed in the Great Books discussion groups that began at Columbia University after World War I. In the wake of changes to the university curriculum, there was concern that many monuments of Western culture were being neglected. Novelist and professor John Erskine began the Great Books discussion groups, which became extraordinarily popular, and this work was continued and considerably expanded in the next decades, especially through the efforts of Mortimer Adler and Robert Maynard Hutchins (Beam, 2008). These discussions were critical conversations on the work developed in reference to a handful of thematic questions, prodded into further analysis by two leaders. To facilitate the expansion of the program, Adler (1946) wrote a manual for leaders.

We have reviewed very briefly how the Socratic Method has been used in the past, as well as in higher education and adult education. But can it also be used in primary or secondary education? Certainly, it can. The Socratic Method is one of many forms of inductive teaching or discovery learning that allow students to make a discovery through their own efforts, not through the passive reception of information.

Advocated by Jerome Bruner and many other psychologists and educationists, discovery learning has made great strides since the 1960s, finding expression in humanities and social sciences, maths, language and science curricula. A variety of teaching models have developed inductive strategies for the classroom for individual and group learning (Joyce & Calhoun, 1998).

It is odd that the Socratic Method, which at its best provides a paradigm for such exploration, has not been widely understood and adapted for daily use. One outstanding exception is seen in the influential work of Hilda Taba (1902–1967). Originally from Estonia, Taba completed a doctorate in educational philosophy at Columbia University and soon afterwards became involved in a research study on curriculum (Krull, 2003). Curriculum development remained a focus through the next decades, leading her to develop her ideas regarding the teaching of thinking. Her method of inductive questioning to develop concepts, generalisations and applications is patient, wise, as well as strikingly and unmistakably Socratic. Through inductive questions, the teacher gently guides primary school students to develop concepts and generalisations, and then to apply these in a consistent manner (Durkin, 1993; Taba, 1967).

Linda Elder and Richard Paul have made a strong and excellent contribution to fostering Socratic education through many books and articles as well as through the Critical Thinking Foundation, which energetically propagates their Socratic ideals and practices throughout the curriculum (see <http://www.criticalthinking.org>). In particular, they elucidate several basic principles of Socratic questioning in a short series of exemplary articles (Elder & Paul, 1998; Paul & Elder, 2007a, 2007b, 2008). Other books and articles encourage the transfer of critical thinking skills to daily life. Elder and Paul’s efforts to transform education from teacher information-sharing to autonomous construction of knowledge by the student are well-known (Moseley et al., 2005).

Another notable contribution was made by Mortimer Adler, who adapted his classically oriented educational ideas to secondary education with the founding of the Paideia Program in the 1980s (Adler, 1982, 1983, 1984a). Socratic coaching and discussion, along the same principles and procedures of the Great Books discussion program, are central teaching activities.

Advanced today by the Paideia Center under the guidance of Terry Roberts and Laura Billings, who have also authored texts furthering Adler's ideas and discussion principles, this program continues to affect education.

Socratic Seminars remain an excellent method for organising discussions in secondary school (Ball & Brewer, 2000; Copeland, 2005). But at the same time, they somehow do not seem exactly Socratic when compared with the dialogues of Plato and Xenophon. Mortimer Adler and Charles van Doren (1984) in fact wrote that

Plato's dialogues, in so many of which Socrates appears as the interlocutor, do not portray him as a seminar leader. Nor do they describe the kind of seminar discussions that should play so central a part in a Paideia school.

In questioning those with whom he talked, Socrates sought for answers that would clarify ideas – the idea of justice, of love, of piety or virtue. He did not assign books to be read for a seminar session in which he would ask questions in order to achieve an understanding of what had been read, nor did he raise issues for the participants to argue about (p. 15).

The Socratic Seminar, or Socratic Circle, uses the adjective “Socratic” as a broad synonym for “organised with questions”, but this does not mean, I think, that the questions are similar in form or sequence to those Socrates once asked. In the contemporary format used in secondary schools, Socratic Seminar questions generally are topical or thematic. The aim is to have an open and critical conversation that delves meaningfully into the text. The fishbowl technique, which has one circle of conversing students surrounded by another circle of observing students, was an innovation of Training Groups (T Groups) borrowed by the Socratic Seminar. In one variation, unlike the Great Books discussion groups, which had two active leaders, the teacher does not intervene in the discussion at all.

In education, one can see the footprints of Socrates wherever there is systematic questioning. In classrooms, this questioning can be directed at an individual in a dialogue, or at a class in discussion. In a broader perspective, these can be the Essential Questions that guide the backward curriculum design advocated by Wiggins and McTighe (2011). Or, in a more narrow perspective, this systematic questioning can direct students in the same way that a personal trainer or coach assists an athlete or group of athletes.

This book is intended for learning this method of systematic inductive questioning, whose purpose, as has always been recognised, is not imparting

information but teaching others to think critically about it. Socratic dialogue continues to merit a role in education, but it is difficult to learn and requires practice. In the past, it held a small place in treatments of traditional recitation, but recitation itself has largely dropped out of use, and Socratic questioning in the more strict sense has also. But everyone recognises that questioning is perennially relevant, and the Socratic Method, in its strict sense, is essentially the art of the question.

### *The Socratic Method: Higher Level Thinking*

One can frame the Socratic Method very well with Bloom’s revised taxonomy. In 1956, Benjamin S. Bloom’s edition of *Taxonomy of Educational Objectives* appeared and in succeeding decades became an extraordinarily helpful resource for classifying the goals of tests and curriculum design in general, both at the university and in primary and secondary education. In 2001, Anderson et al. revised the taxonomy in light of more recent research about teaching and learning. Instead of a continuum from Knowledge to Evaluation, the revised taxonomy articulated teaching objectives according to the cognitive process engaged and the type of knowledge concerned. It allows one to clearly align teaching objectives, activities and assessment, so that there is a conscious understanding that the learner is challenged and evaluated in a consistent manner.

The Cognitive Process Dimension arranges the thought processes across a hierarchy. Formerly these categories were ordered Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation. In the new taxonomy, the order as well as the nomenclature has changed to Remember, Understand, Apply, Analyse, Evaluate and Create. The revision is more consciously constructive and focused upon retention and transferable learning.

The Knowledge Dimension has four categories: Factual Knowledge, Conceptual Knowledge, Procedural Knowledge and Metacognitive Knowledge.

The entire new taxonomy joins the Cognitive Process and Knowledge Dimensions in order to express teaching objectives. In expressing a teaching objective, one typically uses a verb and a noun or noun phrase. The verb expresses the cognitive process, and the noun or noun phrase expresses the knowledge dimension. For example, *Students will learn to recognise the*

*characteristics of Renaissance art*. The verb *recognise* expresses the cognitive process, which is related to the Remembering category. The phrase *the characteristics of Renaissance art* is related to Conceptual Knowledge because it expresses a classification.

As mentioned before, through the taxonomy one can better understand learning objectives, activities and assessment. Among the activities or assessments, one can also classify the objectives of classroom questions. For example, questions eliciting facts test memory alone and, while this does have a certain utility and can demonstrate retention, it is not distinctively Socratic. Moving forward along the continuum of the taxonomy, one passes into questions that elicit deeper understanding and more accurate application, as well as more meticulous analysis and evaluation. They also can help in creating new knowledge. But in the end, single questions (even the important questions of *how* and *why*) asked in isolation are not exactly Socratic.

But more extended sequences of inductive questions can become Socratic. As sequences of inductive questions move along the cognitive continuum and guide the learner to higher level thinking, they become increasingly Socratic in the stricter sense. As the sequences move beyond the factual dimension, passing into conceptual, procedural, and metacognitive knowledge, fostering in the end heightened self-awareness and self-knowledge as a learner, they become increasingly Socratic.

In this book I distinguish two Socratic methods, both of which can be understood through Bloom's taxonomy. The first focuses on the articulation, application and analysis of concepts, and the second on careful guidance through a method or process. Each is oriented to higher level thinking. Each can lead to creative thinking before new problems and situations. In other words, the Socratic Method can validly appeal to any section of Bloom's taxonomy.

Daniel Kahneman (2011) and other proponents of dual process theory discern two interacting systems of thinking (Myers, 2004). The first system is rapid, emotional, intuitive, nonverbal, self-evident (requiring no justification) and given to generalising. The second system is slow and at times lazy, logical, justified with evidence and differentiated; that is, it makes distinctions and does not overgeneralise. The Socratic Method guides careful thinking in the second system without being overly distracted by the first.