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A Historical Perspective on the Evolution of Evaluative Thinking

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Abstract

This chapter reviews the historical emergence of evaluative thinking as an essential approach to evaluation practice. The contributions of evaluation pioneers to the identification and development of evaluation logic as a specialized form of critical thinking are honored. The conclusion articulates the high stakes involved, the life and death importance of thinking evaluatively in these uncertain and perilous times. © 2018 Wiley Periodicals, Inc., and the American Evaluation Association.

> "If I have seen further, it is by standing on the shoulders of giants."
>
> Sir Isaac Newton in 1676

This chapter will review the historical emergence of evaluative thinking to set the stage for the rest of this *New Directions* volume. This historical perspective is especially important because "the term evaluative thinking has been growing in popularity" and "evaluative thinking (ET) is an increasingly important topic in the field of evaluation, particularly among people involved in evaluation capacity building (ECB)" (Buckley, Archibald, Hargraves, & Trochim, 2015, p. 1). But the origin of the emphasis on evaluative thinking in the writings of evaluation's pioneers is very much forgotten and too little appreciated. This chapter aims to change that. But before examining early writings on evaluative thinking, let us set a larger context.

The Intellectual Roots of Critical Thinking

"Evaluative thinking is essentially critical thinking applied to contexts of evaluation" (Buckley et al., 2015, p. 1). This strikes me as the dominant perspective, which I shall suggest later is too narrow. I shall argue that evaluative thinking involves more than critical thinking, and is not just a specific manifestation or application of critical thinking. But critical thinking is a good place to start.

The Foundation for Critical Thinking (2016) traces the intellectual roots of critical thinking to Socrates in ancient Greece, 2,500 years ago. He developed what became known as the Socratic method.

He established the importance of seeking evidence, closely examining reasoning and assumptions, analyzing basic concepts, and tracing out implications not only of what is said but of what is done as well. His method of questioning is now known as "Socratic Questioning" and is the best-known critical thinking teaching strategy. In his mode of questioning, Socrates highlighted the need in thinking for clarity and logical consistency of probing questioning that people could not rationally justify their confident claims to knowledge. Confused meanings, inadequate evidence, or self-contradictory beliefs often lurked beneath smooth but largely empty rhetoric (Foundation for Critical Thinking, 2016, p. 1).

The intellectual history of critical thinking in the western world runs through Thomas Aquinas in the Middle Ages and helped propel the Renaissance and Enlightenment through the contributions of Francis Bacon, René Descartes, Thomas Moore, Thomas Hobbes, John Locke, Immanuel Kant, and Sir Isaac Newton to name but a few among the many classical philosophers who probed deeply into the nature of reason, judgment, logic, knowledge, and critical thinking.

The result of the collective contribution of the history of critical thought is that the basic questions of Socrates can now be much more powerfully and focally framed and used. In every domain of human thought, and within every use of reasoning within any domain, it is now possible to question:

- ends and objectives,
- the status and wording of questions,
- the sources of information and fact,
- the method and quality of information collection,
- the mode of judgment and reasoning used,
- the concepts that make that reasoning possible,
- the assumptions that underlie concepts in use,
- the implications that follow from their use, and
- the point of view or frame of reference within which reasoning takes place (Foundation for Critical Thinking, 2016, p. 1).

Learning and Applying Critical Thinking

Socrates was a teacher. He set the precedent for seeing critical thinking as both a process of inquiry and an outcome. John Dewey, in the twentieth century, developed and articulated an approach to education that eschewed memorization, recitation, and repetition of content (the dominant approach to teaching) in favor of active engagement of students in learning how to learn and think. Dewey's prolific and influential writings emphasized the importance of critical thinking as both process and outcome in such books as *My Pedagogic Creed* (1897), *The School and Society* (1900), *The Child and the Curriculum* (1902), *Democracy and Education* (1916), and *Experience and Education* (1938). He argued that critical thinking was not just important for the development of the child but for the health of democracy.

Following this line of thought, Philosopher Hannah Arendt was especially attuned to the importance of critical thinking as a foundation of democracy. Having experienced totalitarianism under Hitler in World War II, then having fled it, she devoted much of her life to studying it and its opposite, democracy. She believed that thinking rigorously in public deliberations and acting democratically were intertwined. Totalitarianism is built on and sustained by deceit and thought control. In order to resist efforts by the powerful to deceive and control thinking, Arendt believed that people needed to practice thinking. Toward that end, she developed "eight exercises in political thought" (Arendt, 1968). She wrote that "experience in thinking … can be won, like all experience in doing something, only through practice, through exercises" (p. 4). For example, Arendt thought it important to help people learn to think conceptually,

> to discover the real origins of original concepts in order to distill from them anew their original spirit which has so sadly evaporated from the very key-words of political language—such as freedom and justice, authority and reason, responsibility and virtue, power and glory—leaving behind empty shells. (pp. 14–15)

The writings of Ernie House on *Deliberative Democratic Evaluation* (House & Howe, 2003) have brought this perspective into evaluation. House argues that a central function of evaluation incorporated into a democratic process is to give voice to stakeholders and support dialogue and deliberation. For such a process to be perceived as legitimate and credible, it must be fair, inclusive, and open.

The three principles are inclusion of all relevant stakeholder views, values, and interests; extensive dialogue between and among evaluators and stakeholders so they understand one another thoroughly; and deliberation with and by all parties to reach conclusions. The conclusions might be jointly constructed rather than made entirely by the evaluator (House, 2009, p. 1).

Embedded in deliberative democratic evaluation is the capacity of stakeholders to engage in critical thinking (Patton, 2002). We will examine House's early writings on the logic of evaluation argumentation later. First, I want to highlight another application of critical thinking for social change as a precursor of evaluative thinking, the pedagogical work of Paulo Freire.

Freirean Pedagogy and Evaluative Thinking

Paulo Freire's approach to social change emphasized the importance of working with the poor and oppressed to analyze their situation and think critically about how to change it. He called this developing critical consciousness in the tradition of Marxism. In 1964, Paulo Freire was imprisoned in Brazil for 70 days as a traitor. He was subsequently exiled and worked in Chile for 5 years in the Christian Democratic Agrarian Reform Movement. In 1967, he published his first book, *Education as the Practice of Freedom*, bringing him acclaim and a position as visiting professor at Harvard in 1969. In 1968, he wrote his famous *Pedagogy of the Oppressed*, published in Spanish and English in 1970, but not in Brazil until 1974. Critical consciousness, or conscientização (Portuguese), refers to attaining a deep, meaningful, realistic, and reality-based understanding of one's world. This includes becoming aware of how one has been indoctrinated and conditioned to think in particular ways by those with power and wealth who control traditional educational outlets including schools, governmental agencies, media outlets, and the business world. Freire (1970) introduced the idea of conscientização in his book *Pedagogy of the Oppressed* to emphasize that ordinary people, especially the poor, are oppressed by false consciousness, having internalized the message that they are inferior, without value, incapable, and useless. *Pedagogy of the Oppressed* raises consciousness about the nature, sources, and implications of oppression, which include dominant and domineering myths so as to escape control by those in power and come to act with freedom and consciousness as a self-determining and thoughtful human being. This realization empowers the oppressed to take action.

For Freire, critical consciousness involved ongoing evaluation. The development and evaluation of a literacy campaign, which is the most extended example of Freire's approach in *Pedagogy of the Oppressed,* describes in depth and detail a participatory evaluation process. But Freire's critical pedagogy is not conceptualized as a project and the purpose is not to produce a report. Critical pedagogy is an ongoing process that aims to bring about long-term and lasting social change by affecting how a community of people think and their collective actions based on altered thinking.

Today, Freire's pedagogical influence is manifested in and represented by three major and intersecting evaluation approaches: empowerment evaluation, critical systems heuristics as a way of operationalizing critical consciousness, and evaluative thinking as a core capacity to be developed in

the process of conducting evaluations. Empowerment evaluation supports development of critical and evaluative thinking as sources of empowerment (Fetterman & Wandersman, 2005). Critical systems heuristics in evaluation design and implementation emphasizes explicit attention to power dynamics, taking into account diverse perspectives, representing diverse values, and being explicit about critical boundary decisions (Williams & Hummelbrunner, 2011). For example, debates about and proposed actions regarding climate change involve diverse perspectives about how to frame the issue, what is open for discussion (boundary decisions), and differentials in power that affect what is even considered actionable by those with more and less power. Evaluative thinking as a form of critical consciousness is fundamental to House's (1977) conceptualization of evaluation dialogue involving argumentative interaction between the evaluator and stakeholders, "a dialogue in which they are free to employ their reasoning" (p. 48). It is by challenging evaluative premises the evaluator puts forth that "the nature of the evaluation as argumentation becomes apparent" (House, 1977, p. 8). Democratic deliberative evaluation (House, 2014; House & Howe, 2000) requires critical consciousness and enhances the capacity to think critically.

Barry MacDonald, influenced and inspired in part by Freire (2001), was an early advocate of the democratic evaluation model (MacDonald & Kushner, 2005). He argued that the democratic evaluator recognizes and supports value pluralism, with the consequence that the evaluator seeks to represent the full range of interests in the course of designing an evaluation. In this way, an evaluator can support an informed and thoughtful citizenry, the sine qua non of a strong democracy, by acting as an information broker between groups that want and need knowledge of one another, and have the capacity to reason together. The democratic evaluator must make the methods and techniques of evaluation, *and critical thinking*, accessible to nonspecialists—that is, the general citizenry.

Writings on evaluation's role in supporting democratic processes reflect a significant shift in the nature of evaluation's real and potential contributions to a better world. Two decades ago, the emphasis was all on increasing the use of findings for enhanced decision-making and program improvement and, therefore, making sure that findings reflected the diverse perspectives of multiple stakeholders, including the less powerful. While that thrust remains important, a parallel and reinforcing use of evaluation focuses on helping people learn to think and reason evaluatively and on how rendering such help can contribute to strengthening democracy over the long term, a vision articulated by John Dewey, Paulo Freire, and Hannah Arendt, and brought into evaluation most often through the lens of social justice.

Start with the premise that a healthy and strong democracy depends on an informed citizenry. A central contribution of policy research and evaluation, then, is to help ensure an informed electorate as well by disseminating findings, as well as to help the citizenry weigh evidence and think evaluatively. This involves thinking processes that must be learned. It is not

enough to have trustworthy and accurate information (the informed part of the informed citizenry). People must also know how to use the information, that is, to weigh evidence, consider the inevitable contradictions and inconsistencies, articulate values, interpret findings, deal with complexity, and examine assumptions, to note but a few of the things meant by "thinking evaluatively." Moreover, in-depth democratic thinking includes political sophistication about the origins and implications of the categories, constructs, and concepts that shape what we experience as information and "knowledge" (Minnich, 2004), a core issue for Freire encompassed in his focus on critical consciousness. Having looked at some precursors of evaluative thinking in the form of critical thinking and critical consciousness in support of effective democracy, and asserted what is *not* evaluative thinking, let us return to the classroom and the explicit identification of evaluative thinking as a student outcome.
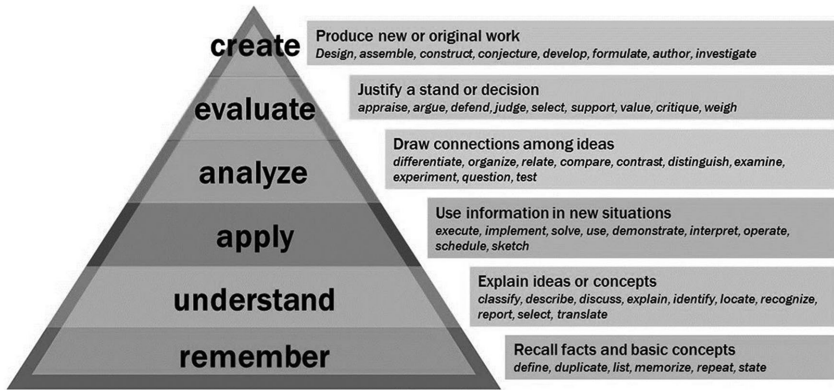
Thinking Evaluatively in Bloom's Taxonomy

In 1956, Benjamin Bloom with collaborators Max Englehart, Edward Furst, Walter Hill, and David Krathwohl published an influential *Taxonomy of Educational Objectives* that became widely known as Bloom's Taxonomy. The taxonomy consisted of six major categories: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. The categories after Knowledge were presented as "skills and abilities," with the understanding that knowledge was the necessary precondition for putting these skills and abilities into practice.

- **Comprehension** "refers to a type of understanding or apprehension such that the individual knows what is being communicated and can make use of the material or idea being communicated without necessarily relating it to other material or seeing its fullest implications."
- **Application** refers to the "use of abstractions in particular and concrete situations."
- **Analysis** represents the "breakdown of a communication into its constituent elements or parts such that the relative hierarchy of ideas is made clear and/or the relations between ideas expressed are made explicit."
- **Synthesis** involves the "putting together of elements and parts so as to form a whole."
- **Evaluation** engenders "judgments about the value of material and methods for given purposes." (Bloom et al., 1956, pp. 201–207)

In 2001, the taxonomy was revised by a team of cognitive psychologists, curriculum theorists and instructional researchers, and testing and assessment specialists and published as *A Taxonomy for Teaching, Learning, and Assessment* (Anderson & Krathwohl, 2001). The revision placed more explicit emphasis on the thinking processes involved in education. To

Exhibit 1.1. Bloom's Taxonomy

create Produce new or original work
Design, assemble, construct, conjecture, develop, formulate, author, investigate

evaluate Justify a stand or decision
appraise, argue, defend, judge, select, support, value, critique, weigh

analyze Draw connections among ideas
differentiate, organize, relate, compare, contrast, distinguish, examine, experiment, question, test

apply Use information in new situations
execute, implement, solve, use, demonstrate, interpret, operate, schedule, sketch

understand Explain ideas or concepts
classify, describe, discuss, explain, identify, locate, recognize, report, select, translate

remember Recall facts and basic concepts
define, duplicate, list, memorize, repeat, state

evaluate is to "justify a stand or decision" by appraising, arguing, defending, judging, selecting, valuing, critiquing, and weighing. Bloom's taxonomy influenced educators generally, and education evaluators particularly, by making thinking evaluatively an explicit, high-level goal, near the top of the learning outcomes pyramid. (See Exhibit 1.1.)

The Foundations of Evaluative Thinking in the Writings of Evaluation's Pioneers

The Logic of Evaluation

In 1976, Michael Scriven wrote a seminal book entitled simply *Reasoning*. It is a big picture book that is too little known in evaluation despite being fundamentally about evaluative thinking. What do I mean by big picture? Consider this opening premise:

> Reasoning is the only ability that makes it possible for humans to rule the earth and to ruin it. All other alleged distinction between us and other life forms on the planet turn out to be illusory. (Scriven, 1976, p. 2)

He goes on to argue that reasoning is essential to democracy, "but above all, there's one supreme advantage for the use of reason, privately or publicly. Reasoning is the best guide we have to the truth" (p. 3).

Scriven has consistently emphasized that evaluation is fundamentally about rendering judgments of merit, worth, and significance. Rendering judgment involves a critical thinking process that he articulated as the *logic of evaluation*.

> The phrase logic of evaluation is used here to refer to the specific principles of reasoning that underlie the inference processes in all and only the fields of evaluation. The general logics of inductive, deductive, and statistical inference, although widely used in evaluation, are not part of the logic

of evaluation as the term is used here, as there is nothing evaluation-specific about them. However, particular applications of those general principles may be specific to the practice of evaluation and hence fall under the logic of evaluation. (Scriven, 1995, p. 49)

For Scriven, the "fundamental problem is a construction problem: the problem of whether and how one can get from scientifically supported premises to evaluative conclusions" (p. 51). That leads to the *synthesis problem*:

> The synthesis problem is the problem of when and how one can integrate several subevaluations (or scores on different dimensions of performance), each referring to a different dimension of the performance or qualities of a particular evaluand—or each referring to different components of the evaluand—into an overall evaluative conclusion. (p. 52)

In explicating the logic of evaluation, and the reasoning processes that undergird reaching evaluative conclusions and rendering evaluative judgments, Scriven anticipated what is now called evaluative thinking. He posited that "the logic of evaluation is not only of intellectual importance as the backbone of the discipline of evaluation but worth studying for its significant implications for practical methodology" (p. 68).

In a special issue of *New Directions for Evaluation* authored entirely by Scriven (1993) (by the way, the only such issue ever published by a single author), he shared "Hard-Won Lessons." These included the admonitions that evaluation is not measuring goal attainment, not applied social science, and that the field of evaluation is much larger than just program evaluation. This is where Scriven articulated his vision of evaluation as a transdisciplinary logic based on reasoning about how to render judgments; essentially, he laid the foundation for *evaluative thinking as fundamentally transdisciplinary*.

The Logic of Evaluative Argument

In 1977, Ernie House spent a sabbatical at the Center for the Study of Evaluation at UCLA, worrying about when the next earthquake would occur. He distracted himself from such ponderings by writing a pioneering monograph on *The Logic of Evaluative Argument*. That monograph led to and provided the foundation for his hugely influential and enduringly important book on *Evaluating with Validity* (1980). In both books, and in his prolific writings and presentations ever since, he has insisted that evaluation is not first and foremost about methods, but is about making sense of evidence and creating a coherent, logical, and, ultimately, if successful, persuasive argument about what the evidence shows.

> Evaluation is an act of persuasion directed to a specific audience concerning the solution of a problem. The process of evaluation is prescribed by the nature of knowledge—which is generally complex, always uncertain (in varying

degrees), and not always propositional—and by the nature of logic, which is always selective. In the process of persuasion one must ascertain who the audience is and find a basis of agreement on premises, both of facts and values, and on presumptions. Two criteria for evaluation are: the most efficient way to a given end, or the most effective use of available resources . . . . Both formulation and interpretation require good intuitive judgment. The evaluator and the audience must employ their reasoning in a dialogue, and both must assume responsibility, since evaluation is never completely convincing nor entirely arbitrary.

The most significant decisions are those that have long-range implications but defy easy extrapolation, that are so entangled with everything else that they resist precise formal analysis. To those we are forced to apply our intuitive logic, our common sense, it is in the nature of these complex problems that knowledge about them is limited, that it is less than determinate. In the face of uncertain knowledge, the task of entangled decision making becomes less one of absolutely convincing ourselves with proofs than one of persuading ourselves with multiple reasons. The criterion becomes not what is necessary but what is plausible (House, 1977, p. 2).

Ernie House, drawing on his roots in philosophy, has offered an insightful, provocative, and inspirational values framework for judging the quality and validity of evaluations: *truth, beauty and justice.*

Put simply, my broadening of the concept of validity was based on the idea that if an evaluation is untrue, or incoherent, or unjust, it is invalid. In other words, an evaluation must be true, coherent, and just. All three criteria are necessary. By contrast, sound fiscal judgment is not necessary to establish evaluation validity, that is, if an evaluation is expensive, that doesn't make its findings invalid. To add some flair, I talked about "truth, beauty, and justice" in evaluation. The underlying concepts were argument, coherence, and politics. Truth is the *attainment* of arguments soundly made, beauty is the *attainment* of coherence well wrought, and justice is the *attainment* of politics fairly done. (House, 2014, p. 31)

Deciding what is valid is fundamentally a challenge of evaluative thinking. House has provided an especially inspiring perspective on the core elements of evaluative thinking that go beyond mere logic and reasoning. And, of course, truth, beauty, and justice harken back to Socrates, where we began this review.

Jane Davidson has added her own provocative and inspirational twist to House's criteria

True "beauty" in evaluation is a clearly reasoned, well-crafted, coherent evaluation story that weaves all three of these together to unlock both truth and justice with breathtaking clarity . . . House, in his 1980 book *Evaluating with Validity*, argued that truth trumps beauty and justice trumps them both. In

other words, get the social justice priorities right, deliver valid answers relative to those, and then convey it all beautifully and believably.

I'd like to flip House's idea on its head. What if beauty wasn't merely about how well the evaluative story is told? What if the *process* of creating a clear, compelling, and coherent (beautiful) evaluative story was in fact the key to unlocking validity (truth) and fairness (justice)? (Davidson, 2014, p. 43)

Other Evaluation Pioneering Thought Leaders

I have highlighted the contributions of Scriven and House in laying the foundation for what we now call *evaluative thinking*. They are far from alone. What we now call evaluative thinking, Carol Weiss (1998) called "an evaluative cast of mind" and discussed collaborative evaluation as "helping program people reflect on their practice, think critically, and ask questions about why the program operates as it does. They learn something of the evaluative cast of mind—the skeptical questioning point of view, the perspective of the reflective practitioner" (p. 25).

Marv Alkin (1990) illuminated evaluative thinking as a core issue for debate in evaluation. Bob Stake, Nick Smith, Tom Schwandt, Eleanor Chelimsky, and Egon Guba were other pioneers in articulating the value of thinking evaluatively. Evaluative thinking is embedded in the Joint Committee Standards and AEA Guiding Principles. Space does not permit presenting these and other pioneering contributions to evaluative thinking. The fundamental point of this review is that we are getting more sophisticated about the nature, importance, and manifestations of evaluative thinking in our current work, as this volume illustrates. But the fundamental importance of critical thinking, reasoning, logic, warranted arguments, and telling a coherent, evidence-based story are all part of evaluation's history and are the precursors and pillars of what we now call evaluative thinking. On that note, I close by reviewing some of my own forays into evaluative thinking in my early writings. In so doing, I shall propose expanding what we understand to be evaluative thinking beyond just critical thinking.

Process Use and Evaluative Thinking

In the third edition of *Utilization-Focused Evaluation* (Patton, 1997), I introduced the notion of process use. I explained:

When I refer to "process use," then, I mean using the logic, employing the reasoning, and being guided by the values that inform our practice. One way of thinking about process use is to recognize that evaluation constitutes a culture, of sorts. We, as evaluators, have our own values, our own ways of thinking, our own language, and our own reward system. When we engage other people in the evaluation process, we are providing them with a cross-cultural experience. They often experience evaluators as imperialistic, that is, as imposing the evaluation culture on top of their own values and culture—or

they may find the cross-cultural experience stimulating and friendly. But in either case, and all the spaces in-between, it is a cross-cultural interaction . . . .

Process use is distinct from use of the substantive findings in an evaluation report. It's equivalent to the difference between learning how to learn versus learning substantive knowledge about something. Learning how to think evaluatively is learning how to learn and think critically, and those who become involved in an evaluation learn by doing.

Facilitating evaluative thinking opens up new possibilities for impact that organizations and funders are coming to value because the capacity to engage in this kind of thinking can have more enduring value than a delimited set of findings. This especially resonates for organizations interested in becoming what has come to be called popularly "learning organizations." Learning to see the world as an evaluator sees it often has a lasting impact on those who participate in an evaluation—an impact that can be greater and last longer than the findings from that same evaluation. Findings have a very short "half-life"—to use a physical science metaphor; they deteriorate very quickly as the world changes rapidly. Specific findings typically have a small window of relevance. In contrast, learning to think and act evaluatively can have an ongoing impact. The experience of being involved in an evaluation, then, for those stakeholders actually involved, can have a lasting impact on how they think, on their openness to reality testing, and on how they view the things they do. (Patton, 2008, pp. 152–153)

Exhibit 1.2 presents my attempt to specify core elements of evaluative thinking two decades ago (see Patton, 2018).

Rigorous Thinking

No problem can withstand the assault of sustained thinking.

Voltaire (1694–1778)

French philosopher

As I noted in the beginning of this review, evaluative thinking is typically approached as an application of critical thinking to conducting evaluations. I think that framing is too narrow. In 1981, I did a book on *Creative Evaluation* in which I argued that evaluative thinking required both critical thinking and creative thinking, despite the common belief that these are opposing ways of thinking. Indeed, I would now go further, as I did in the fourth edition of *Qualitative Research and Evaluation Methods* (Patton 2015, pp. 701–703). I now posit that rigorous evaluative thinking combines critical thinking, creative thinking, inferential thinking, and practical thinking.

Critical thinking demands questioning assumptions; acknowledging and dealing with preconceptions, predilections, and biases; diligently

Exhibit 1.2. Principles of Evaluative Thinking

Be clear	Be clear about goals and purposes; be clear about what's being evaluated, what data will be collected, what judgments are to be made, how results will be used—indeed, be as clear as possible about everything.
Be intentional	Know what you want to do and why. Plan your work and work your plan. Think through what you're doing. Consider contingencies.
Be accountable	Systematically examine the extent to which your intentions and hopes work out as planned and accomplish what you wanted to accomplish.
Be specific	A favorite evaluation clarifying question: "What exactly do you mean by that?"
Focus and prioritize	You can't do or look at everything. Be purposeful in deciding what's worth doing and knowing. Make decisions and own their consequences.
Be systematic	Create a system that covers all priorities. Carefully document what occurs at every stage of decision making and data collection.
Make assumptions explicit	Determine what can and cannot be subjected to empirical test.
Operationalize program concepts, ideas, and goals	The fundamental evaluation challenge is determining how to measure and observe, quantitatively or qualitatively, what is important. Know and specify, operationally, what success will look like—and what constitutes failure. Reality testing becomes real at this point.
Distinguish inputs and processes from outcomes	Confusing processes with outcomes is common. Evaluative thinking looks at the connections between processes and outcomes, and that means distinguishing them and measuring both.
Draw conclusions	Have data to support allegations of fact; provide empirical support based on data and logical explanations for conclusions. This means a commitment to reality testing in which logic and evidence are valued over strength of belief and intensity of emotions.
Separate data-based statements of fact from	Interpretations go beyond the data and must be understood as what they are: interpretations. Judgments involve values about what is desirable or undesirable. interpretations and judgments
Make criteria and standards for judgments explicit	The logical mandates to be clear and specific apply to making criteria and standards explicit.
Limit generalizations and causal explanations to what data support	Overgeneralizations and overly definitive attributions of causality are epidemic outside the culture of research and evaluation.
Cultural sensitivity and cultural competence	Cultural variations and factors are critical to understanding.

looking for negative and disconfirming cases that do not fit the dominant pattern; conscientiously examining rival explanations; relentlessly seeking diverse perspectives; and analyzing what and how you think, why you think that way, and the implications for your inquiry (Klein, 2011; Loseke, 2013).

Creative thinking invites putting the data together in new ways to see the interactions among separate findings more holistically; synthesizing diverse themes in a search for coherence and essence while simultaneously developing comfort with ambiguity and uncertainty in the messy, complex, and dynamic real work; distinguishing signal from noise while also learning from the noise; asking wicked questions that enter into the intersections and tensions between the search for coherent meaning and persistent uncertainties and ambiguities; bringing artistic, evocative, and visualization techniques to data analysis and presentations; and inviting outside-the-box, off-the-wall, and beyond-the-ken perspectives and interpretations.

Inferential thinking involves examining the extent to which the evidence supports the conclusions reached. Inferential thinking can be deductive, inductive, or abductive—and often draws on and creatively integrates all three analytical processes—but at the core is fierce examination of and allegiance to where the evidence leads.

> A rigorously conducted evaluation will be convincing as a presentation of evidence in support of an evaluation's conclusions, and will presumably be more successful in withstanding scrutiny from critics. Rigor is multifaceted and relates to multiple dimensions of the evaluation.... The concept of rigor is understood and interpreted within the larger context of validity, which concerns the "soundness or trustworthiness of the inferences that are made from the results of the information gathering process" (Joint Committee on Standards for Educational Evaluation, 1994, p. 145)....There is relatively broad consensus that validity is a property of an inference, knowledge claim, or intended use, rather than a property either of a research or evaluation study from the study's findings. (Braverman, 2013, p. 101).

In reflecting on and writing about "what counts as credible evidence in applied research and evaluation practice," Sharon Rallis (2009), former president of the American Evaluation Association and experienced qualitative researcher, emphasized rigorous reasoning: "I have come to see a true scientist, then, as one who puts forward her findings and *the reasoning* that led her to those findings for others to contest, modify, accept, or reject" (p. 171; emphasis added).

Practical thinking calls for assiduously integrating theory and practice; examining real-world implications of findings; inviting interpretations and applications from nonresearchers (e.g., community members, program staff, and participants) who can and will apply to the data what ordinary people refer to as "common sense;" and applying real-world criteria to interpreting the findings, criteria like understandability, meaningfulness, cost implications, and implications to address societal issues and problems.

In combing and integrating these ways of thinking, *evaluative thinking* forces clarity about the inquiry purpose, who it is for, with what intended uses, to be judged by what quality criteria; being explicit about what criteria are being applied in framing inquiry questions, making design decisions, determining what constitutes *appropriate* methods, and selecting and following analytical processes; and being aware of and articulating values, ethical considerations, contextual implications, strengths and weaknesses of the inquiry, and potential (or actual) misinterpretations, misuses, and misapplications. In contrast with the perspective of rigor as strict adherence to a standardized process, evaluative thinking emphasizes the importance of understanding the sufficiency of rigor relative to context and situational factors (Clarke, 2005; Patton, 2012).

Rigorous Evaluative Thinking

Methods do not ensure rigor. A research design does not ensure rigor. Analytical techniques and procedures do not ensure rigor. Rigor resides in, depends on, and is manifested in *rigorous thinking*—about everything, including methods and analysis. This means valuing intellectual rigor. There are no simple formulas or clear-cut rules about how to do a credible, high-quality analysis. The task is to do one's best to make sense of things. An evaluator returns to the data over and over again to see if the constructs, categories, interpretations, and explanations make sense—if they sufficiently reflect the nature of the phenomena studied. Creativity, intellectual rigor, perseverance, insight—these are the intangibles that go beyond the routine application of scientific procedures. These are bedrock elements of rigorous evaluative thinking.

In concluding, I offer this reflection from Nobel Prize-winning physicist Percy Bridgman: "There is no scientific method as such, but the vital feature of a scientist's procedure has been merely to do his utmost with his mind, *no holds barred*" (quoted in Waller, 2004, p.106). I would say the same of evaluative thinking.

What Evaluative Thinking Is NOT

This volume was stimulated, in part, by a desire to more precisely define evaluative thinking or, at least, clarify its domain. Readers will judge how well that goal is satisfied after engaging with the remaining chapters. Sometimes we can more definitively specify what something is **not** than what it is. So, having presented some historical context for evaluative thinking, let me expand the landscape of inquiry by including attention to what IT (evaluative thinking) is **not**. As context, I am writing this shortly after the 2016 American presidential election which was characterized by fabrications; lies; misrepresentations; illogic character attacks; and a general disregard for facts, data, science, and evidence. Politics inevitably involves different opinions. But as distinguished social scientist, policy researcher, and US Senator from New York, Patrick Daniel Moynihan, stated: "Everyone is entitled to his own opinion, but not to his own facts." Would that it were so! Instead we have seen the politics of the big lie resurrected at an unprecedented level:

> "If you tell a lie big enough and keep repeating it, people will eventually come to believe it. It thus becomes vitally important for the State to use all of its powers to repress dissent, for the truth is the mortal enemy of the lie, and thus by extension, the truth is the greatest enemy of the State."

> Author unknown
> Often attributed to Joseph Goebbels
> Minister of Propaganda, Nazi Germany

The rise of social media makes disseminating big lies easier than ever. One consequence highlighted by the New York Times editorial board is that: "when everyone can customize his or her own information bubble, it's easier for demagogues to deploy made-up facts to suit the story they want to tell.

> That's what Mr. Trump has done. For him, facts aren't the point; trust is. Like any autocrat, he wins his followers' trust — let's call it a blind trust — by lying so often and so brazenly that millions of people give up on trying to distinguish truth from falsehood. Whether the lie is about millions of noncitizens voting illegally, or the crime rate, or President Obama's citizenship, it doesn't matter: In a confusing world of competing, shouted "truths," the simplest solution is to trust in your leader. As Mr. Trump is fond of saying, "I alone can fix it."
>
> He is not just indifferent to facts; he can be hostile to any effort to assert them . . . . Mr. Trump has changed this game. He has exploited, perhaps better than any presidential candidate before him, the human impulse to be swayed more by story than by fact. As one of his surrogates said recently, "There's no such thing, anymore, as facts." (New York Times, 2016, p. SR10)

We now know from research on how our brains process information that we are vulnerable to *confirmation bias:* the tendency to search for, interpret, favor, and recall information in a way that confirms our preexisting beliefs and prejudices, while giving little consideration to contrary evidence (Kahneman, 2011). In doing so, we mistake the repetition of the same thing over and over as confirmation of its truth. Repetition of the big lie becomes verification of its truth. As if the challenge of thinking clearly and rigorously was not already daunting, *truthiness* has ascended to overshadow truth. *Truthiness,* a term introduced sarcastically by comedian Stephen Colbert (2005, October 17), refers to the quality of preferring facts that *feel right* and that *one wants to believe* to be TRUE. No need to worry about actual facts and empirical evidence.

So, as we inquire into the definition, parameters, nature, applications, implications, and consequences of evaluative thinking, let us bear in mind what it is not: lying, big or little; manipulation of data to support perceived positions; cherry-picking evidence to distort the full truth; illogical and unwarranted conclusions; intentionally creating and disseminating false "news"; treating opinions as facts; *truthiness*; and fabricating evidence to support ideological and political positions. And that is just the short list. We may not agree on a precise definition of evaluative thinking, but perhaps we can agree on what it is not.

The High Stakes of Evaluative Thinking

Earlier I cited philosopher Hannah Arendt's exercises in critical thinking aimed at strengthening democracy. Arendt articulated the phrase "the

banality of evil" to describe and explain how the Holocaust could have happened. She covered the trial of Adolf Eichmann, a senior bureaucratic implementer and major perpetuator of the Holocaust, and titled her book, *Eichmann in Jerusalem: A Report on the Banality of Evil* (1968). Elizabeth Minnich was a teaching assistant to Arendt when the book appeared and has described the vitriolic reactions to and attacks on her analysis, especially the proposition that evil could be "banal." By banality, Arendt meant practiced thoughtlessness and mindless compliance—a fundamental failure to think. Since that time, more than a half-century later, Minnich believes that the phrase "the banality of evil," once so controversial, has, itself become banal through repetition, misrepresentation, misunderstanding, and oversimplification.

Minnich (2017) has updated Arendt's work in a book entitled *The Evil of Banality: On the Life and Death Importance of Thinking.* It is concerned, ultimately, with what can be done to prevent extensive, thoughtless, and mindless violence. She examines the Rwanda genocide as one of her many case examples. She enquires into how it is possible for human beings to engage in genocide, slavery, sexual trafficking of children, systematic rape, mass torture, and other acts of violence in the vast human arsenal of brutal and deadly acts of oppression and exploitation. Her premise, starkly put, is that thoughtlessness disables the conscience. With the mind disengaged and conscience disabled, it becomes possible for otherwise decent people to participate in systematized extensive evils such as genocide, human trafficking, and grinding exploitation of the most vulnerable. She concludes that any education that fails to awaken, practice, support, and prioritize thinking, the most basic of human capacities, fails where it matters most. The same can be said of evaluation. Applying Minnich's analysis to evaluation reveals the moral imperative of deepening the capacity for and practice of evaluative thinking, not only among stakeholders with whom we work directly, but for the general citizenry. Let the subtitle of her book emblazon itself as a catchphrase of evaluative thinking: *the life and death importance of thinking.*

Minnich ends her book with an *Afterword* on Teaching Thinking in two parts: What may we hope? What ought we to do? She asks:

> How can we *teach* an ability, a practice, an art that is the very wellspring of human freedom? How do we make the restless, troublemaking activity of thinking the heart of all education? How might we enliven, engage consciously with all learners such that conscience can arise, and thinking what we are doing becomes second nature? How do we teach thinking so that those who are educated—as many of us as humanly possible—are simply disinclined to take seriously, let alone to give their minds, their consciences, their work, their power, to anyone or anything that requires them *not* to think? (Minnich, 2017, p. 271)

She closes her book with a commitment "to think through an education that can free us not only from the weight of ignorance, but from the deadening, deadly hold of banality" (p. 217). This entire volume represents a commitment to think through ways to facilitate evaluation that can free us not only from the weight of ignorance, but from the deadening, deadly hold of banality—mindless compliance, thoughtlessness in all its manifestations, and the deadly cynicism that thinking does not matter. The stakes could not be higher when we understand, truly and deeply understand, *the life and death importance of evaluative thinking.*

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