

Understanding Epistemology Beyond the Classroom: Meta-narrative of Philosophical and Critical Thinking in Pedagogical Skills

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ABSTRACT

The traditional educational system is witnessing as a significant transformation from information-based instruction to knowledge-centered and wisdom-oriented learning. But here in this paper we attempt to show how the genesis of AI is not a challenge CT & PT but it is a great conducive to modern epistemology—the philosophical study of knowledge, its sources, validity, and limits—has emerged as a crucial framework for understanding educational practices beyond conventional classroom settings. This paper explores the meta-narrative of philosophical inquiry and critical thinking as foundational components of pedagogical skills along with the available empirical evidence on the impact of instruction on the development and enhancement of critical thinking skills and dispositions and students' achievement. It argues that education transcends the transmission of information and involves cultivating reflective judgment, intellectual autonomy, ethical reasoning, and lifelong learning capacities. Through an examination of classical and contemporary epistemological perspectives, the paper highlights the relationship between knowledge construction, critical consciousness, and pedagogical competence. Furthermore, it investigates how philosophical thinking enriches educational practices by fostering analytical reasoning, dialogue, creativity, and democratic participation. The study concludes that effective pedagogy in the twenty-first century requires educators and learners to engage in continuous epistemic reflection, thereby transforming educational experiences into processes of meaning-making, self-discovery, and social transformation, the opportunity for dialogue, the exposure of students to authentic or situated problems and examples, and mentoring had positive effects on CT skills.

Keywords: Epistemology, Pedagogy, Philosophical Thinking, Critical Thinking, Philosophy of Education, Knowledge Construction, Reflective Learning, Meta-Narrative

As we approach the mid- of 21st century, the overdependence on AI in cognitive skills is expected to create significant drawbacks in our epistemic and cognitive skills, and for this reason the philosophical thinking inclusive of critical thinking and logical analysis is highly commendable. The educational thinkers- John Dewey puts emphasis on the role of philosophical thinking to address pedagogical problems. Dewey's most important philosophical works -Experience and Nature (1925), is dedicated to an expansive and passionate defense of the power of critique in all aspects of our lives. Intelligence, said Dewey, was “critical method

applied to goods of belief, appreciation and conduct, so as to construct free and more secure goods” and was “the stay and support of all reasonable hopes” (p. 437). Critical thinking (CT), for Dewey, was something all citizens needed to engage in on a regular basis, and the role of the philosopher was not to postulate and reify eternal truths but rather to provide systematic critique of the beliefs generated through everyday critical (and not-so-critical) thinking in the way of eunoia.

Most philosophers within the Western tradition including Greek culture have emphasized the role of critique, but by philosophical standards, at least, the

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emphasis on the development of the critical faculties of individual citizens is relatively democratic culture. Many Thinkers have offered many definitions of CT that is more Philosophical Thinking- Ennis (1962); Facione (1990); Kurfiss (1988); Lipman (1991); Paul and Binker (1990); Scriven and Paul (1996) and Siegel (1988). In the Ancient Time During Greek Period, Philosophical Thinking, in terms of Critical and Creative Thinking, is Prioritized in the Open Academies of The Academy (Plato) and the Lyceum (Aristotle) in the fields of Biology, Physics, Politics, Anatomy, Ethics, Astronomy, Mathematics, Logic etc. Philosophical thinking, to be fruitful or in order to be philosophized, must be critical as it is generally valued by Bertrand Russell. He states, Philosophy like all other studies, aims primarily at knowledge. The knowledge, its aims at is the kind of knowledge which gives unity and system to the body of the sciences, and the kind of which results from a critical examination of the grounds of our convictions, prejudice and beliefs (The Problem of Philosophy, P-232).

Contemporary research interest in CT dates to the work of Edward Glaser on An Experiment in the Development of Critical Thinking where he writes,

One hundred and fifty years of public education in the United States have resulted in a largely literate electorate . . . Our public education has not resulted, however, in the development of a sufficient proportion of citizens who can evaluate critically what they read (pp. 4-5).

Now in the age of digital consciousness, it is highly imperatives to consider how CT can be supported by instruction and curriculum reforms to make human active and consciousness. This is an important task: In spite of the popularity of CT, there is widespread concern that educational institutions have failed to successfully instill CT skills and dispositions in students. This gap between teachers' values and their practices with respect to CT indicates that a synthesis of effective strategies for teaching CT could be useful. However, before inculcation of CT in our curriculum, it is necessary to briefly touch on a number of important conceptual questions: What is CT? Is CT a generic skill set or does it vary depending on the subject matter context? What are some promising approaches to teaching CT? What have other reviews of CT instruction found?

The American Philosophical Association (APA) accepts Facione's definition which states:

We understand critical thinking to be purposeful,

self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based. The ideal critical thinker is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit (Facione, 1990, p. 2).

From this it is obvious that APA's report is clear and inclusive enough to serve as a framework for deciding which empirical studies have adequately captured elements of CT. The philosophers describe six CT skills (including 16 "subskills" and 19 CT dispositions that needs to be philosophized. The American Philosophical Association (APA) maintained that it was possible to possess the cognitive skills necessary to carry out CT but lack the affective dispositions—the general habits and attitudes—to exercise these skills. Consider the example of a person who possessed the cognitive skills associated with CT but who lacked the disposition to learn about or discuss social issues—it would be difficult to call this individual an effective critical thinker. Hence, the panel held that the development of both skills and dispositions was critical in the education of well-rounded critical thinkers.

There are a number of potential objections to the APA's consensus definition, one of which is that it is insufficiently broad (Alston, 2001). For example, Thayer-Bacon (2000) argues that good CT (she uses the term constructive thinking) broadens the definition to include more than just traditional rational skills and dispositions. Pushing beyond the traditional tools of reason, Thayer-Bacon argues convincingly that intuition, emotion, and imagination also play important roles in effective constructive conversations. She further argues that constructive thinking is more of a social practice than a skill or disposition inculcated in individuals. For Thayer-Bacon, good constructive thinking is analogous to a quilting bee in which one has many different tools at one's disposal along with multiple participants who are diverse in their backgrounds and orientations. An even more profound objection to the APA definition is that it

is not only insufficiently broad but also fundamentally inadequate. Two versions of this argument are available in a special issue of *Studies in Philosophy of Education*—one by Gert Biesta and Geert Stams (2001) and another by James Marshall (2001).

Biesta and Stams note that a specific conception of “criticality” always underlies any CT that is undertaken. Two of the approaches to criticality that they discuss are “critical dogmatism” and Derridean deconstruction. Critical dogmatism conceives of the activity of critique as “the application of a criterion to evaluate a particular state of affairs” (Biesta and Stams, 2001, p. 60). Given that the APA definition suggests critical thinkers should apply a variety of criteria in order to assess propositions, one can locate the definition of CT used in this article firmly within this camp. Biesta and Stams point out that a significant problem for the position of critical dogmatism is that it rests on an unjustifiable belief in the validity of its own method; when one tries to look back behind the criteria that are postulated, there is no further justification of them available that is not circular or that does not imply an infinite regress.

Therefore, thinkers who hold this position reflectively actually stop at this point and make a deliberate choice to hold to their criteria “dogmatically” since no further justification is possible. Biesta and Stams’s (2001) central objection to critical dogmatism is its “totalizing” tendency—its presence to be a foundational point from which all critique can proceed and with which all critique must align. By contrast, their preferred framework of Derridean deconstruction abandons all pretensions of trying to establish a foundation of this type and, in fact, attacks critical dogmatism on this basis, thus serving as a critique of the standard approach to critique. Instead of the traditional approach, deconstruction places a heavy emphasis on what is made invisible and excluded:

Deconstruction thus tries to open up the system in the name of that which cannot be thought of in terms of the system. Deconstruction is an affirmation of what is wholly other, of what is unforeseeable from the present. It is from this concern for what is totally other, a concern to which Derrida sometimes refers as justice, that deconstruction derives its right to be critical, its right to deconstruct (Biesta and Stams, 2001, p. 68)

It is difficult to say exactly how an approach like this would translate into CT teaching practice, but at any rate, a deconstructionist approach would imply a style

of CT that would depart dramatically from most of the studies synthesized in this meta-analysis.

Marshall’s (2001) account ventures less far a field in its critique of standard approaches to CT but is nonetheless more caustic. Like Biesta and Stams (2001), Marshall (2001) is dubious of the APA definition of CT cited above but for a different set of reasons. Marshall thinks that traditional conceptions of CT view it as a neutral set of conceptual tools that “lack the force of ‘critical’ to be found in, e.g., the Frankfurt school” (p. 75). Like the critical theorists of this group, Marshall is interested in a more robust style of critique that will enable students to question foundational aspects of the social systems they inhabit.

In the course of providing an articulation of this style of critique, Marshall (2001) traces the history of the concept of the self in Western philosophy from Descartes to Foucault. It is the Foucaultian conception that Marshall finds to be particularly promising. For Foucault, Marshall (2001) maintains, the fundamental question for the self is “how one practices one’s freedom” (p. 83). In this regard, Foucault (1984/1998) emphasizes the importance of a kind of self-care, which involves “an exercise of the self on the self by which one attempts to develop and transform oneself” (p. 282). This kind of reflective, critical practice, which also includes care-for-others by extension, allows for the development of positive “practices of freedom” that go beyond simply the negative but important acts of liberating people from oppressive social systems (e.g., oppressive sexuality; Foucault, 1984/1998, p. 283).

These counternarratives to the APA definition of CT are important, and there is no intellectually honest way to wholly reconcile our analysis with them. It is, for example, virtually impossible that the kinds of studies captured by this meta-analysis (or, indeed, any other meta-analysis of CT) are going to correspond to the kind of criticality that Biesta and Stams (2001) and Marshall (2001) would hope to see. They would likely object to the studies’ generally short duration, the standardized assessments of CT, and the conventional and narrow definition of CT that is endorsed in most of them. Furthermore, all of the authors, Thayer-Bacon (2000) included, would like to see an approach that puts a greater emphasis on working with the student as opposed to intervening on him or her, and all of them have at least some sympathies for a position that would teach students to question social systems.

There are three responses to these challenges to the APA definition of CT that we have endorsed.

First, we are, in fact, sympathetic to some of these objections. We appreciate the inclusiveness of Thayer-Bacon's (2000) conception of constructive thinking, and Marshall's (2001) interventionist approach to the promotion of 'criticality' is desirable. Our task is not to forge new pathways in conceptualizing CT but rather to describe and pool existing findings. The specificity of the APA definition, with its enumeration of specific skills and dispositions, serves well to synthesize the kinds of interventions that are typically used in CT research.

Second, although this is a question that would ultimately need to be resolved empirically, we believe that even if we adopted a broader definition of CT that attempted to account for some of these counternarratives, it would have made little to no difference in terms of the results of the meta-narrative. This is due to the fact that the kinds of new approaches to CT in which Thayer-Bacon (2000), Biesta and Stams (2001), and Marshall (2001) are interested are unlikely to be investigated using the types of quantitative approach that can be synthesized by a meta-analysis.

Third, although there is a sense in which these authors, particularly Biesta and Stams (2001) and Marshall (2001), are working in an alternate paradigm of criticality *vis-à-vis* the APA definition, the paradigms are not totally incommensurable. There is some potential common ground between even the narrowest effort to promote the development of CT skills and the kinds of efforts that a scholar who is sympathetic to critical theory (e.g., Marshall) might hope to promote.

Arguably, a similar commonality can be found between the kinds of relatively modest efforts to teach CT skills and dispositions that are synthesized in this meta-analysis and the more ambitious research programs detailed by scholars like Thayer-Bacon, Biesta, and Marshall. A short intervention that endeavors to enhance students' CT skills is not what these philosophers would prefer to see, but it may nonetheless enhance students' openness to "not be governed quite so much," which could be useful in getting students ready to think about the more expansive conceptions of criticality that these scholars wish to investigate further. In other words, the mere fact that we have opted for the APA definition of CT skills and dispositions does not mean that the analysis we offer has nothing to offer for those who would endorse another definition. The kinds of very general

techniques—dialogue, posing authentic problems, mentorship—that our meta-analysis indicates are valuable in the development of CT skills and dispositions will likely also have some value for those who have alternate conceptions of CT.

Existential Status of CT Skills- Generic or Context-Specific

Settling on a working definition of CT is a good first step, but there are other important questions that remain outstanding even if one is able to convene on the APA definition. For example, in his pioneering research on the development of CT, Glaser highlighted a difficulty that has remained outstanding ever since: If CT has aspects that are appropriately regarded as skills-based, do these skills represent generic traits and skills or are they context-bound? Glaser also found the changes in CT to be somewhat general in character:

The aspect of critical thinking which appears most susceptible to general improvement is the attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one's experience. An attitude of wanting evidence for beliefs is most subject to general transfer. Development of skills in applying the methods of logical inquiry and reasoning, however, appear to be specifically related to, and in fact limited by, the acquisition of pertinent knowledge and facts concerning the problem of subject matter towards which the thinking is to be directed (p. 175).

Prevailing psychological views tend to favor the generic traits approach; learning to think critically is understood as gaining mastery over a significant series of discrete skills or mental operations and dispositions that can be generalized across a variety of contexts. These skills include concepts such as interpreting, predicting, analyzing, and evaluating. The primary appeal of the meta-cognitive skills discourse on CT involves its presumptive transfer between contexts. According to Woolfolk (1998), higher order thinking such as CT requires consciously applying abstract knowledge, heuristics, or procedures learned in one context to some novel circumstance or situation.

Many philosophers like Ennis (1989), Siegel (1988), Govier (1985), Adams (1999) and Paul (1985) also view CT skills as rather general (applicable across subject domains) and conjecture (a) that general CT skills might apply to more than one subject area, despite the fact that CT always involves thinking about some specific con-

text; and (b) that the existence of general skills does not imply the nonexistence of context-specific knowledge. The generalist view supported by Siegel (1988) contends that the ability to identify informal errors of reasoning (e.g., post hoc propter hoc and hasty generalization fallacies) is easily transferable between different contexts.

Alternatively, the specific view (perhaps best represented in the position of McPeck, 1981) argues against general CT skills or capacities due to the fact that thinking is always tied to a subject domain. McPeck also argues against the existence of general skill on the grounds that (a) all thinking is thinking about something; (b) general CT ability is not possible because knowledge of a subject is necessary for CT; and (c) CT varies greatly from field to field. McPeck remarks,

It makes no sense to talk about critical thinking as a distinct subject and therefore cannot profitably be taught as such. To the extent that critical thinking is not about a specific subject X, it is both conceptually and practically empty” (p. 5). In a wider sense critical thinking is known as situational based subject-interpretation, analysis and exemplary understanding are the part of its pedagogical skills

Inculcation of CT skills and Dispositions

The generic versus content-specific debate has significant practical implications for educational curriculum framework—if CT is generic, then it could be fruitfully taught in specialized courses that focus on CT skills and if it is dependent on subject matter, then it might best be learned by tackling concrete problems in specific disciplines. But the generic versus content-specific debate is not the only outstanding debate about how CT skills can be taught. Generally speaking, in Indian context there are a number of ways in which CT skills are usually taught in university particularly in NEP syllabus as a separate subject.

According to Ennis (1989), the general approach attempts to teach CT skills and dispositions separately from the presentation of the content of existing subject matter offerings, with the purpose of teaching CT. Examples of the general approach usually do involve some content but do not require that there be content. The infusion of CT requires deep, thoughtful, and well-understood subject matter instruction in which students are encouraged to think critically in the subject. Importantly, in addition, general principles of CT skills

and dispositions are made explicit. In the immersion approach, subject matter instruction is thought-provoking, and students do get immersed in the subject. However, in contrast to the infusion approach, general CT principles are not made explicit. The mixed approach consists of a combination of the general approach with either the infusion or immersion approach. Under it, students are involved in subject-specific CT instruction, but there is also a separate thread or course aimed at teaching general principles of CT.

There is little, if any, evidence on the long-term impact of instruction in critical thinking, despite the fact that the vision of such impact is central to the justification of critical thinking instruction . . . If diagnosis and remediation of specific flaws in reasoning are goals of critical thinking instruction, then more fine-grained information on the effects of particular teaching strategies will have to be sought (pp. 44–45).

Philosophical Thinking as a Foundation of Pedagogical Competence

Pedagogical Skills refers to fundamental methods and techniques, theory and practice and strategy and planning which are used by teachers and practitioners to facilitate learning process easier that accelerates ‘Outcome or Growth’ that is not confined to classroom ambience and transcends any sphere in the way of ‘Learning by Doing’. It is primarily associated with Greek thinkers that primarily used ‘Philosophical Thinking’ as a kind of scientific and critical way of thinking and learning with prime focus as to know how knowledge is transmitted, understood and applied by learning process in various contexts. It was a part of curriculum in the institutional practices during the Greek period. But later on, this practice is stopped. In any kind of Pedagogical learning- traditional Pedagogy (teacher-centric instruction), Constructive Pedagogy (active and hands-on-learning) and Inquiry based Pedagogy (student led investigation and discovery learning), Thinking Skills, Critical, Logical and Philosophical way of interpretation become inevitable. Reflective practices, professional growth, cultural responsiveness, collaborative inquiry etc. are the part of critical thinking (Freire, 1970; Giroux, 1988).

Holistically Philosophical thinking involves questioning assumptions, examining concepts, evaluating arguments, and seeking coherent explanations. It cultivates intellectual virtues such as curiosity, open-

mindedness, humility, and rational inquiry. It is based on the following principal issues:

Analytical Reflection

Philosophical inquiry encourages educators to critically evaluate educational goals, teaching methods, and assessment practices. Teachers become reflective practitioners capable of adapting their approaches to diverse learning needs.

Conceptual Clarity

Many educational challenges arise from conceptual ambiguities. Philosophical analysis helps educators clarify concepts such as learning, intelligence, creativity, inclusion, and assessment.

Ethical Awareness

Teaching involves numerous ethical decisions related to fairness, equity, autonomy, and responsibility. Philosophical reflection enables educators to address these issues thoughtfully and responsibly.

Intellectual Autonomy

Philosophy promotes independent thinking and resistance to dogmatism. Educators who cultivate intellectual autonomy empower learners to become active participants in knowledge creation.

Critical thinking represents the disciplined process of analyzing, evaluating, and synthesizing information to form reasoned judgments. It is central to epistemological inquiry because it addresses the question of how beliefs can be justified. Richard Paul and Linda Elder identify essential elements of critical thinking: Purpose, Questions, Information, Concepts, Assumptions, Implications, Interpretations, distinguish fact from opinion, evaluate evidence, identify logical fallacies, recognize biases, Develop reasoned argument, Solve complex problems etc. In educational settings, critical thinking transforms students from passive recipients of information into active investigators of knowledge.

Conclusion

Epistemology beyond the classroom represents as a transformative vision of education that extends learning beyond institutional boundaries and emphasizes the development of philosophical and critical thinking skills on the process of learning. The meta-narrative of

knowledge construction which is based on singular and universal truth highlights the active, contextual, and transformative nature of learning. Philosophical inquiry enables educators and learners to question assumptions, evaluate evidence, and construct meaningful understandings of the world.

In an era marked by rapid technological change, information abundance, and complex global challenges, pedagogical skills rooted in epistemological awareness have become increasingly important considering both AI, HI and PT as the base of interpretation. Critical thinking, reflective practice, ethical reasoning, logical thinking and lifelong learning are no longer optional educational goals but essential competencies for the interpolation and intrapolation of contemporary issues and challenges of the epistemology citizenship. By embracing epistemological reflection and philosophical inquiry, educators can create learning environments that empower individuals to become thoughtful, autonomous, and transformative agents in an ever-changing world, and develop critical method to follow a dialogue between interlocutor and inquisitor with inquisitive questions to test or refute given hypothesis by using CT.

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