

ACADEMIC ARTICLE

Socratic Dialogue dalam Pembelajaran

Socratic Dialogue in Learning

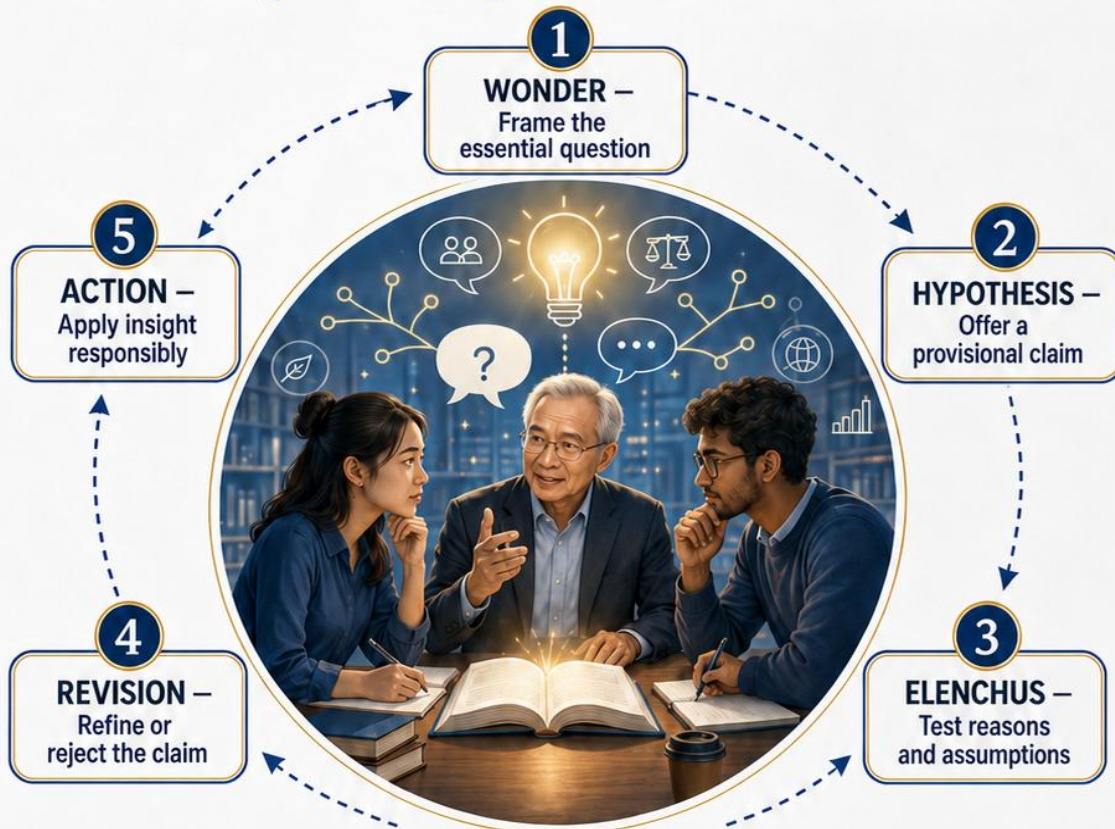
Prof. Ir. Rudy C. Tarumingkeng, PhD

www.rudycr.com/cv.pdf

Bogor, Indonesia • 30 Juli 2026

SOCRATIC DIALOGUE DALAM PEMBELAJARAN

Questioning • Reasoning • Reflection • Intellectual Growth



CORE QUESTION FAMILIES



LEARNING OUTCOMES



By Prof. Ir. Rudy C. Tarumingkeng, PhD

www.rudycr.com/cv.pdf



Abstract

Socratic dialogue is a disciplined form of inquiry in which teachers and learners examine claims through purposeful questions, reasons, evidence, counterexamples, and reflective revision. This article develops a comprehensive account of its philosophical foundations, learning mechanisms, classroom design, ethical requirements, and contemporary applications. Particular attention is given to master's and doctoral management education, where learners must integrate theory, empirical evidence, professional experience, stakeholder interests, and moral responsibility under conditions of uncertainty. The article distinguishes authentic dialogue from recitation, adversarial interrogation, and unstructured discussion; explains the roles of psychological safety, intellectual accountability, cultural responsiveness, and formative assessment; and proposes practical architectures for face-to-face, online, hybrid, and AI-supported learning. It argues that Socratic pedagogy is neither a refusal to teach nor a ritual of relentless questioning. It is a form of guided participation in which academic authority is used to improve the quality of collective reasoning while progressively strengthening learners' epistemic independence. The article concludes with an implementation framework for lecturers and institutions, emphasizing that productive dialogue must be intentionally designed, ethically facilitated, assessed through multiple forms of evidence, and continually improved.

Keywords: *Socratic dialogue; dialogic pedagogy; critical thinking; active learning; management education; doctoral education; questioning; metacognition; artificial intelligence; academic integrity.*

Article Roadmap

1. Introduction: Why Dialogue Matters in Learning
2. Historical and Philosophical Foundations
3. What Socratic Dialogue Is—and Is Not
4. Learning Theory: Constructivist, Sociocultural, and Dialogic Views
5. Critical Thinking, Reasoning, and Metacognition
6. Anatomy of a Productive Socratic Question
7. The Lecturer as Facilitator, Scholar, and Ethical Authority
8. Establishing Psychological Safety and Intellectual Discipline
9. Designing a Socratic Learning Session
10. Socratic Dialogue in Master's-Level Management Education
11. Socratic Dialogue in Doctoral Education
12. Cases, Problems, Simulations, and Ethical Dilemmas
13. Online, Hybrid, and HyFlex Socratic Dialogue
14. Artificial Intelligence as a Socratic Partner
15. Assessment of Dialogic Learning
16. Inclusion, Culture, Language, and Power
17. Common Failures and How to Correct Them
18. Faculty Development and Institutional Support

19. Researching Socratic Dialogue
20. A Practical Implementation Framework
21. Socratic Dialogue and Responsible Management
22. Conclusion: Education as the Practice of Thoughtful Judgment

Opening Perspective

Education is not completed when information has been delivered. It becomes educational when learners can inquire into the meaning of that information, examine how it is justified, connect it to other knowledge, and decide responsibly what follows from it. Socratic dialogue provides one of the oldest and still most demanding models for this work. Its visible instrument is the question, but its deeper purpose is the formation of judgment. The method invites learners to make their reasoning public, to listen carefully enough to be changed, and to accept that uncertainty can be an intellectually productive condition rather than a failure.

In contemporary higher education, this purpose has renewed importance. Students inhabit an environment of abundant information, algorithmic recommendations, rapid organizational change, polarized public discourse, and generative artificial intelligence. Access to answers is expanding faster than the capacity to evaluate those answers. A postgraduate lecturer must therefore do more than summarize established theories. The lecturer must design occasions in which students learn to distinguish a plausible statement from a defensible one, a confident presentation from a sound inference, and a technically efficient decision from a responsible decision.

The English discussion that follows retains the Indonesian title to honor the requested framing. It treats Socratic dialogue as a family of disciplined dialogic practices rather than a single immutable technique. The emphasis is especially relevant to management education, but the principles extend across disciplines. Throughout the article, the term lecturer includes professors, supervisors, facilitators, and other educators who carry responsibility for the intellectual and ethical quality of postgraduate learning.

1. Introduction: Why Dialogue Matters in Learning

The central concern of this section is Socratic dialogue as disciplined inquiry rather than casual conversation. This concern matters because many classrooms still equate teaching with the efficient transmission of settled answers. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: learning becomes durable when learners articulate assumptions, confront reasons, revise claims, and connect ideas to consequences. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, the lecturer frames a contestable problem, invites provisional answers, and uses follow-up questions to expose the structure of reasoning. The sequence is purposeful. An opening question creates

a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider a graduate management class examining whether a profitable restructuring can also be ethically responsible. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that discussion can become entertaining but intellectually thin when claims are not tied to evidence or concepts. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that participation must be designed so that confidence, language fluency, seniority, or professional status do not determine whose ideas count. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that quality is visible in the clarity of claims, relevance of evidence, responsiveness to counterarguments, and willingness to revise. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that graduates who can reason publicly and respectfully are better prepared for ambiguous organizational decisions. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and

doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

2. Historical and Philosophical Foundations

The central concern of this section is the legacy of Socrates, Plato's dialogues, elenchus, aporia, and intellectual humility. This concern matters because the historical Socrates is known mainly through mediated accounts, so modern pedagogy must avoid treating one dramatic style as a rigid script. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: elenchus tests a claim through questions, while aporia marks a productive recognition that an earlier certainty is inadequate. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, teachers use definition, implication, counterexample, and consistency questions without impersonating Socrates or seeking theatrical victory. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an

unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider students define leadership, discover that charisma alone cannot distinguish ethical from destructive influence, and reformulate the concept. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that a caricature of Socratic teaching can reward verbal combat, humiliation, or the teacher's hidden answer. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that intellectual humility applies to the lecturer as well as the learner; authority does not eliminate fallibility. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that progress is demonstrated when definitions become more precise and assumptions more visible. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that the classical inheritance remains valuable when translated into democratic, psychologically safe, and evidence-informed practice. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The

responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

3. What Socratic Dialogue Is—and Is Not

The central concern of this section is a clear conceptual boundary between Socratic dialogue, recitation, debate, interrogation, and ordinary discussion. This concern matters because question-and-answer sequences are often labeled Socratic even when the instructor merely leads students toward a predetermined phrase. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: genuine dialogue keeps meaning open long enough for reasons to be examined and permits a justified change in the direction of inquiry. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, questions seek clarification, grounds, implications, alternatives, and metacognitive reflection rather than short factual recall alone. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully

timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider an instructor replaces 'What are Porter's five forces?' with 'Under what conditions might this framework misdiagnose platform competition?'. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that pseudo-dialogue preserves lecturer control while shifting the burden of guessing onto students. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that participants need explicit permission to question premises, including those introduced by the lecturer or a prestigious author. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that a dialogue is productive when contributions build on one another and the group can explain how its understanding changed. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that clear distinctions protect the method from becoming a fashionable label for any classroom talk. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the

person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

4. Learning Theory: Constructivist, Sociocultural, and Dialogic Views

The central concern of this section is the theoretical mechanisms through which talk becomes a medium for thinking. This concern matters because individual cognition is sometimes treated as separate from the language, tools, and social relations through which knowledge is formed. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: dialogue externalizes reasoning, allows ideas to be inspected collectively, and supports the internalization of more disciplined intellectual practices. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, the teacher provides conceptual scaffolds, prompts peer uptake, and gradually transfers responsibility for questioning to students. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully

timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider a doctoral seminar jointly constructs competing explanations for employee resistance to digital transformation. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that group talk does not automatically produce learning; misconceptions can circulate when evidence and disciplinary standards are absent. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that socially shared norms must make disagreement legitimate while preventing exclusionary speech. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that analysis considers both individual understanding and the quality of collective meaning-making. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that dialogic competence should be treated as a learnable academic practice, not an innate personality trait. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not

the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

5. Critical Thinking, Reasoning, and Metacognition

The central concern of this section is the development of critical thinking through explicit examination of reasoning. This concern matters because students may possess information yet struggle to evaluate sources, detect assumptions, distinguish correlation from causation, or recognize uncertainty. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: Socratic questioning makes inferential moves observable and therefore available for correction and self-regulation. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, learners state a claim, identify warrants, test disconfirming evidence, compare explanations, and report what would change their minds. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a

Carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider an MBA team evaluates whether falling turnover proves the success of a new incentive system or reflects labor-market conditions. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that critical thinking can collapse into habitual skepticism if students learn to attack every claim without constructing better alternatives. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that the right to challenge must be paired with the responsibility to listen, represent another view fairly, and distinguish ideas from persons. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that metacognitive memos ask learners to identify their strongest reason, weakest assumption, and most important revision. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that these habits support adaptive judgment when managers face incomplete data and contested values. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not

the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

6. Anatomy of a Productive Socratic Question

The central concern of this section is question design as the central craft of dialogic teaching. This concern matters because questions can be grammatically open but cognitively closed when the lecturer accepts only one expected answer. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: productive questions are answerable yet contestable, connected to a learning purpose, and capable of generating reasons rather than guesses. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, question sequences move from clarification to evidence, assumptions, perspectives, implications, counterexamples, and reflection. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully

timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider a strategy class asks first what resilience means, then how it could be measured, whose resilience matters, and what trade-offs it creates. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that too many rapid questions fragment thought and reproduce an interrogation rhythm. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that wait time, written preparation, and think-pair-share allow more learners to formulate considered responses. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that students can be evaluated on the quality of questions they generate, not only the answers they defend. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that question literacy is an increasingly important professional capability in data-rich and AI-assisted organizations. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

7. The Lecturer as Facilitator, Scholar, and Ethical Authority

The central concern of this section is the lecturer's changing authority in a dialogic classroom. This concern matters because facilitation is sometimes misunderstood as withdrawal, leaving students without disciplinary guidance or conceptual correction. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: dialogic authority is exercised by structuring inquiry, safeguarding standards, and making expert judgment transparent rather than monopolizing speech. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, the lecturer listens diagnostically, maps competing claims, introduces evidence at pivotal moments, and models revision. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider a professor pauses a discussion on stakeholder theory to distinguish normative, instrumental, and descriptive claims. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that overcontrol suppresses inquiry, whereas underdirection permits confusion and unequal participation. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that ethical authority includes stopping personal attacks, correcting misinformation, and protecting minority viewpoints. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that facilitators review recordings or observation notes to examine talk distribution, question types, and moments of conceptual movement. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that faculty development should treat facilitation as a sophisticated professional practice requiring rehearsal and feedback. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its

benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

8. Establishing Psychological Safety and Intellectual Discipline

The central concern of this section is the dual conditions of interpersonal safety and rigorous accountability. This concern matters because students remain silent when error carries social punishment, yet uncritical affirmation can make discussion academically empty. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: psychological safety means that learners can take intellectual risks without humiliation; it does not mean that every argument is equally warranted. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, classes establish norms for charitable interpretation, evidence-based challenge, confidentiality where appropriate, and the right to pause. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider executive students discuss a failed merger while separating analysis of decisions from judgment of personal worth. The facilitator might begin by asking what decision is actually being made and which

criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that forced disclosure, public cold-calling, sarcasm, or adversarial questioning can reproduce fear under the name of rigor. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that the facilitator watches for interruption patterns, microaggressions, and the invisible authority attached to titles or employers. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that anonymous pulse checks and participation maps reveal whether safety and rigor are shared across the group. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that trustworthy dialogue is a foundation for organizational learning, whistleblowing, and responsible leadership. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk

quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

9. Designing a Socratic Learning Session

The central concern of this section is constructive alignment among outcomes, preparation, dialogue, synthesis, and assessment. This concern matters because improvised discussion often consumes time without producing a traceable learning progression. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: a session should begin with a substantive tension and end with an explicit account of how reasoning developed. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, design includes a pre-class text or case, an opening question, sequenced probes, participation structures, a synthesis board, and an exit reflection. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider a ninety-minute class debates whether an AI-based recruitment tool should be deployed when accuracy improves but subgroup error remains unequal. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would

fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that an overloaded agenda prevents sustained examination and tempts the lecturer to rush toward closure. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that multiple entry modes—written notes, pairs, small groups, and plenary dialogue—broaden access. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that the exit task requires a defensible decision, acknowledged uncertainty, and one unresolved question. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that repeatable session architecture allows dialogue to scale beyond instructors with exceptional improvisational skill. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula.

Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

10. Socratic Dialogue in Master's-Level Management Education

The central concern of this section is application-oriented inquiry for experienced and emerging managers. This concern matters because master's students can overgeneralize from personal experience or accept managerial fashions without examining conditions and evidence. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: dialogue links conceptual frameworks to situated judgment while testing where analogies and best practices fail. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, students compare cases, diagnose assumptions, quantify uncertainties, and recommend action with explicit ethical and stakeholder reasoning. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider participants analyze a hospital emergency department where reducing waiting time may conflict with triage priorities and staff well-being. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The

resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that the most senior or verbally confident participant may turn professional experience into unquestioned authority. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that the facilitator treats experience as evidence to be interpreted, not as a credential that ends discussion. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that rubrics reward integrative application, evidence, trade-off analysis, and responsiveness to critique. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that Socratic inquiry prepares managers to explain decisions to employees, boards, regulators, and communities. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

11. Socratic Dialogue in Doctoral Education

The central concern of this section is epistemic independence, theoretical contribution, and scholarly identity. This concern matters because doctoral students may master techniques yet remain dependent on supervisors for problem definition and standards of significance. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: doctoral dialogue interrogates ontology, epistemology, theory, method, inference, boundary conditions, and contribution. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, seminars ask what a construct assumes, which rival theory explains the phenomenon, and what evidence could falsify or refine the claim. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider a candidate defending a model of digital leadership must distinguish a renamed construct from a genuinely new theoretical mechanism. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that Socratic examination becomes destructive when uncertainty is treated as incompetence or the supervisor's preferences are disguised as universal rules. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that candidates need transparent criteria and space to develop a scholarly voice that may legitimately differ from the supervisor's. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that doctoral progress is shown by stronger problematization, coherent argument, methodological fit, and defensible original contribution. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that the ultimate aim is a scholar capable of asking consequential questions without continuous external direction. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

12. Cases, Problems, Simulations, and Ethical Dilemmas

The central concern of this section is the use of rich stimuli that make competing interpretations possible. This concern matters because thin prompts invite opinion exchange, whereas overly scripted cases conceal ambiguity and reward answer hunting. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: a strong stimulus contains incomplete information, plausible alternatives, consequential choices, and a reason to integrate theory with evidence. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, facilitators disclose information in stages, assign stakeholder perspectives, and ask participants to revisit earlier conclusions. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider a coastal development project promises employment but threatens mangroves, fishing livelihoods, and intergenerational ecological rights. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured

disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that role-play can trivialize lived suffering or reinforce stereotypes when context is poorly researched. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that case design should represent affected communities as agents with knowledge, not merely as obstacles or beneficiaries. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that students submit a decision record showing claims, evidence, stakeholder impacts, uncertainties, and revision history. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that complex cases connect management education to sustainable development and public responsibility. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

13. Online, Hybrid, and HyFlex Socratic Dialogue

The central concern of this section is preserving dialogic depth across synchronous and asynchronous environments. This concern matters because digital platforms can multiply messages while weakening attention, uptake, and the social cues needed for careful disagreement. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: online dialogue succeeds when technology supports continuity of reasoning rather than merely distributing content. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, short video meetings, annotated readings, threaded argument maps, voice notes, and synthesis posts are combined around one inquiry. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider working professionals debate a supply-chain disruption asynchronously before a live session devoted to counterarguments and decisions. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that discussion boards become serial monologues when posting requirements reward quantity rather than genuine response. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that bandwidth, time zones, disability access, language, and digital confidence must shape participation design. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that analytics are interpreted cautiously and supplemented by qualitative evidence of uptake, reasoning, and revision. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that hybrid dialogue can widen participation if flexibility is designed without sacrificing intellectual community. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

14. Artificial Intelligence as a Socratic Partner

The central concern of this section is responsible use of generative AI to rehearse questions, test arguments, and support reflection. This concern matters because AI systems tend to produce fluent answers that can encourage cognitive offloading, false confidence, and fabricated evidence. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: their educational value increases when they are configured to ask, probe, request justification, and surface alternatives rather than complete the learner's work. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, students disclose AI use, preserve dialogue logs, verify sources, annotate errors, and compare machine prompts with human seminar discussion. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider a doctoral student asks an AI tutor to challenge the causal assumptions of a proposed PLS-SEM model without generating the thesis text. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that algorithmic bias, privacy leakage, hallucinated citations, dependency, and unequal access require explicit governance. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that AI support should not become a hidden advantage or a substitute for accessible teaching and human mentorship. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that credit is assigned to the learner's judgment, verification, synthesis, and documented revision rather than the fluency of generated prose. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that human-AI dialogue should strengthen intellectual agency and preserve responsibility for consequential claims. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a

weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

15. Assessment of Dialogic Learning

The central concern of this section is valid and equitable evaluation of reasoning processes and outcomes. This concern matters because grading spontaneous speech can reward extroversion, speed, accent familiarity, and social privilege rather than learning. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: assessment should triangulate preparation, contribution, listening, evidence use, synthesis, and reflective revision. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, a transparent rubric combines low-stakes observation, peer feedback, analytic writing, concept maps, and self-assessment. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider students receive credit for accurately reconstructing an opposing position before offering a rebuttal. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that overmeasurement makes authentic dialogue performative and encourages students to speak merely to accumulate points. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien

vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that equivalent pathways allow oral, written, and multimodal evidence while retaining common intellectual standards. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that criteria distinguish frequency from quality and reward questions that advance collective understanding. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that assessment becomes part of learning when feedback helps students recognize and improve their reasoning habits. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence

introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

16. Inclusion, Culture, Language, and Power

The central concern of this section is dialogue as a culturally situated and power-laden practice. This concern matters because norms of direct challenge, rapid turn-taking, and individual assertion are not culturally neutral. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: inclusive Socratic pedagogy preserves rigor while expanding legitimate forms of participation and recognizing relational obligations. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, teachers explain discourse norms, invite metacommunication, pronounce names correctly, permit preparation time, and rotate discussion roles. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider an Indonesian postgraduate cohort explores how respect for seniority can coexist with evidence-based criticism. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that celebrating openness without examining power can pressure junior participants to take disproportionate interpersonal risks. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity

and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that the group differentiates respect for persons from deference to claims and uses face-saving routes for revision. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that participation evidence includes listening, connection-making, summarizing, and question generation. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that culturally responsive dialogue equips graduates for plural, international, and intergenerational organizations. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

17. Common Failures and How to Correct Them

The central concern of this section is diagnosis of predictable breakdowns in Socratic teaching. This concern matters because dominant voices, silence, topic drift, unsupported opinion, premature consensus, personal conflict, and lecturer monologue frequently coexist. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: breakdowns are design information rather than proof that students are incapable of dialogue. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, interventions include silent writing, round-robin entry, evidence checks, paraphrase requirements, question parking, role rotation, and midpoint synthesis. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider when an executive class polarizes around layoffs, the lecturer pauses advocacy and asks each side to state the other's strongest argument. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that corrective techniques become mechanical if the facilitator ignores emotion, history, and status relations. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that repair includes privately addressing harmful behavior and publicly restoring norms without scapegoating individuals. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that post-session review compares intended learning moves with actual talk patterns and student reflections. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that systematic improvement turns facilitation from intuition into evidence-informed teaching practice. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

18. Faculty Development and Institutional Support

The central concern of this section is the organizational conditions required for sustainable dialogic pedagogy. This concern matters because institutions often exhort lecturers to be interactive while rewarding content coverage, large classes, and easily quantified outputs. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: pedagogical innovation depends on aligned workload, spaces, technologies, professional learning, and quality assurance. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, faculty rehearse questioning, observe colleagues, analyze transcripts, co-design cases, and participate in communities of inquiry. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider a graduate school introduces peer observation focused on wait time, uptake questions, talk distribution, and synthesis. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that mandatory standardization can reduce dialogue to a checklist and discourage disciplinary adaptation. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that development opportunities must include adjunct faculty and lecturers working across campuses or online programs. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that program review combines student learning evidence, observation, course artifacts, and faculty reflection. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that institutional culture determines whether dialogue becomes a durable norm or an isolated personal experiment. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

19. Researching Socratic Dialogue

The central concern of this section is methodological approaches for studying process, quality, and outcomes. This concern matters because the label 'Socratic' is applied inconsistently, making comparison and causal inference difficult. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: research requires operational definitions that distinguish question type, uptake, reasoning, participation, and epistemic movement. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, mixed-method designs combine video coding, discourse analysis, surveys, learning assessments, interviews, and social-network measures. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider a quasi-experiment compares conventional case discussion with a structured dialogue protocol across several management cohorts. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that test-score gains alone may miss identity development, intellectual humility, or transfer to professional judgment. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that disaggregated evidence examines who speaks, whose ideas receive uptake, and who benefits from the intervention. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that claims are strengthened through preregistration where appropriate, reliable coding, transparent limitations, and replication. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that research should identify mechanisms and boundary conditions rather than searching for one universal effect size. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

20. A Practical Implementation Framework

The central concern of this section is a staged pathway from preparation to institutionalization. This concern matters because lecturers may endorse dialogue in principle but lack a manageable route for changing established courses. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: implementation is strongest when it begins with one consequential question, gathers evidence, and expands through iterative refinement. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, the cycle comprises diagnose, design, prepare, facilitate, synthesize, assess, reflect, and redesign. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider a research-methods lecturer redesigns one session on causality, then extends the model to validity, mediation, and theory testing. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that attempting a complete transformation at once can overload teachers and confuse students. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that each iteration examines access, participation distribution, and unintended exclusion. Equality is not achieved simply by announcing that everyone may speak. Some

participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that a teaching portfolio documents plans, question sequences, anonymized artifacts, learning evidence, and revisions. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that small disciplined cycles can accumulate into a coherent dialogic curriculum. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

21. Socratic Dialogue and Responsible Management

The central concern of this section is the relationship between dialogic education, ethics, sustainability, and public accountability. This concern matters because management decisions are often framed as technical

optimization even when they redistribute risks, opportunities, dignity, and environmental burdens. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: Socratic inquiry reveals value assumptions and asks who benefits, who bears costs, whose knowledge is absent, and what obligations extend to future generations. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, students examine financial, legal, social, ecological, and moral reasoning within one decision process. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider a firm considering nickel-processing investment evaluates employment, national value addition, labor standards, pollution, community consent, and long-term transition risk. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that ethical dialogue becomes ceremonial when recommendations are detached from incentives, governance, and implementation. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that stakeholder voices are represented through credible evidence and, where possible, direct participation. Equality is not achieved simply by announcing that everyone may

speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that responsible judgment is evaluated through transparency of trade-offs, safeguards, accountability, and revisability. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that dialogic management education can help form leaders who are competent without becoming morally technocratic. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

22. Conclusion: Education as the Practice of Thoughtful Judgment

The central concern of this section is the synthesis of philosophical purpose, pedagogical design, and institutional responsibility. This concern matters because education loses its transformative potential when

students learn to reproduce conclusions without understanding how claims deserve assent. A Socratic approach does not respond by replacing one monologue with an unstructured exchange of opinions. It organizes a disciplined encounter among claims, reasons, evidence, concepts, and consequences. The educational task is to help learners see not only what they think, but how their thinking is produced, where it depends on assumptions, and why another informed person might reasonably disagree. Dialogue therefore becomes both a method of teaching and an object of learning.

The underlying mechanism can be summarized as follows: Socratic dialogue cultivates disciplined freedom: the capacity to question, justify, listen, revise, and decide responsibly. When thought remains private, weaknesses may be protected by fluency, familiarity, or status. Once a claim is expressed, other participants can request clarification, test an inference, introduce a counterexample, or connect the proposition to a wider theoretical system. This social exposure of reasoning is productive only when the purpose is inquiry rather than victory. Participants must be able to say 'I need to revise that claim' without losing dignity. Intellectual humility is thus not an ornamental virtue; it is an operating condition of rigorous learning.

In practical terms, effective implementation joins demanding questions with evidence, inclusion, synthesis, feedback, and continuing reflection. The sequence is purposeful. An opening question creates a field of inquiry; probing questions make reasoning explicit; uptake questions connect one contribution to another; and synthesis questions require the group to state what has changed. The lecturer listens for conceptual thresholds: a hidden definition, a causal leap, an excluded stakeholder, an unsupported generalization, or a conflict between stated values and proposed action. At those moments, a carefully timed question can do more pedagogical work than a long explanation, although explanation remains necessary when students lack essential knowledge.

Consider a graduate leaves not with a formula for every crisis but with habits for convening inquiry when evidence is incomplete and values conflict. The facilitator might begin by asking what decision is actually being made and which criteria deserve priority. A second round could ask what evidence supports each diagnosis, what alternative explanation remains plausible, and which affected parties are absent from the room. Students might then be asked to identify a condition under which their recommendation would fail. The resulting conversation does not guarantee consensus. Its achievement is a better-structured disagreement in which positions are intelligible, evidence is visible, and trade-offs are acknowledged rather than hidden.

This approach should not be romanticized. A major danger is that no method guarantees wisdom; dialogue must remain accountable to knowledge, ethics, and consequences. Questions themselves can carry power: they may imply that the questioner knows the answer, impose an alien vocabulary, or force a learner to defend personal experience in public. The lecturer must distinguish productive perplexity from humiliation. Productive perplexity interrupts certainty while preserving agency; humiliation attacks identity and reduces willingness to participate. Ethical facilitation therefore requires attention to tone, timing, consent, and the cumulative social history of the group, not merely to the logical form of a question.

An inclusive design responds to the fact that the classroom becomes a rehearsal space for democratic and organizational participation in which every person is respected and every claim may be examined. Equality is not achieved simply by announcing that everyone may speak. Some participants require preparation time; others contribute most effectively by summarizing, connecting, or questioning rather than by making

frequent assertions. The facilitator can use private writing before public talk, structured turn-taking, rotating roles, anonymous question collection, and deliberate invitations to previously unexamined perspectives. These supports should not lower academic standards. They make access to those standards more equitable by separating intellectual quality from speed, confidence, and social dominance.

Evaluation should follow the principle that the deepest outcome is increasingly independent judgment that remains open to correction. Participation counts are weak proxies for learning because a frequent speaker may repeat unsupported opinions while a quieter participant may transform the discussion with one precise question. Strong assessment attends to the relationship between claims and evidence, the accuracy of listening, the treatment of counterarguments, the ability to identify uncertainty, and the quality of revision. Short reflective writing can reveal changes that are not visible in live speech. Peer assessment can also be useful when learners are taught to provide specific, criterion-referenced observations rather than popularity judgments.

The broader implication is that the enduring relevance of Socratic dialogue lies in forming people capable of thinking together without surrendering truth, responsibility, or humanity. Socratic dialogue should therefore be understood as a design for intellectual agency. It helps learners become capable of entering complex situations without demanding premature certainty, while still recognizing that decisions must eventually be made. In management and doctoral education, this capacity is especially important because problems are open systems: causal relations are partial, stakeholder interests conflict, and evidence changes over time. The responsible professional is not the person who always has an immediate answer, but the person who can convene a trustworthy process for reaching and revising judgment.

Research on active learning, classroom dialogue, peer discussion, questioning, and feedback provides a wider evidence base for this interpretation. Active learning is associated with improved performance, but its benefits depend on the quality and intensity of implementation (Freeman et al., 2014; Theobald et al., 2020). Dialogic studies likewise emphasize uptake, elaboration, and accountable reasoning rather than talk quantity alone (Howe et al., 2019; Michaels et al., 2008). These findings caution against a simplistic formula. Questions are not educational merely because they are questions; their value depends on how they mobilize knowledge, participation, feedback, and reflection.

For lecturers, the most useful reflective test is not 'Did the class talk?' but 'What intellectual work did the talk accomplish?' Evidence may include a refined definition, recognition of a boundary condition, rejection of a weak causal claim, integration of previously separate theories, or a more responsible decision. The teacher should be able to reconstruct the learning trajectory: the initial positions, pivotal questions, evidence introduced, revisions made, and issues left open. This reconstruction turns dialogue from an ephemeral performance into a cumulative scholarly practice that can be studied, improved, and connected to subsequent learning.

A Compact Guide to Socratic Question Families

Question family	Illustrative prompts
Clarification	What do you mean by this concept? Can you state the claim more precisely?

Evidence	What observations, data, or sources support the claim? How credible are they?
Assumptions	What must be true for this argument to hold? Which premise remains unexamined?
Causality	What alternative mechanism could explain the same pattern? What would disprove it?
Perspective	Who would describe this situation differently, and why? Whose knowledge is most relevant?
Counterexample	Can you identify a case in which the proposed rule fails? What boundary conditions apply?
Implications	If the claim is accepted, what consequences follow for action, ethics, and stakeholders?
Metacognition	What changed in your reasoning? What evidence would make you revise again?

Glossary

Accountable talk: Dialogue in which participants are accountable to the learning community, to accurate knowledge, and to rigorous reasoning.

Aporia: A state of productive puzzlement in which an earlier assumption or definition is recognized as inadequate.

Argument: A claim supported by reasons and evidence, not merely a disagreement or verbal conflict.

Boundary condition: A circumstance that limits when a theory, relationship, or recommendation is expected to apply.

Cognitive offloading: The transfer of mental work to an external tool; it can support performance but may weaken learning when judgment is surrendered.

Constructive alignment: The deliberate coordination of learning outcomes, teaching activities, and assessment.

Counterargument: A reasoned challenge to a claim or to the evidence and warrants used to support it.

Counterexample: A case that tests or disproves an overly broad generalization.

Dialogic pedagogy: An approach in which knowledge and understanding are developed through structured interaction among multiple voices.

Elenchus: Socratic cross-examination that tests a proposition for consistency, implications, and adequacy.

Epistemic agency: A learner's capacity to participate responsibly in producing, evaluating, and revising knowledge.

Epistemic humility: Recognition that one's knowledge is limited and open to correction without abandoning standards of evidence.

Facilitation: The deliberate guidance of a group's inquiry, participation, and synthesis.

Generative AI: Artificial intelligence capable of producing new text, images, audio, code, or other content in response to prompts.

Intellectual humility: A disposition to recognize fallibility, represent opposing views fairly, and revise beliefs when warranted.

Metacognition: Awareness and regulation of one's own thinking and learning processes.

Psychological safety: A shared condition in which people can take interpersonal and intellectual risks without humiliation or retaliation.

Scaffolding: Temporary guidance or structure that enables learners to perform reasoning they could not yet perform independently.

Socratic dialogue: Disciplined inquiry through questions and responses that clarify concepts, test assumptions, evaluate evidence, and support revision.

Uptake: A conversational move that explicitly connects to, develops, questions, or revokes a previous contribution.

Wait time: A deliberate pause after a question or response that allows participants to formulate more thoughtful contributions.

Warrant: The reasoning that explains why particular evidence supports a claim.

References

- Alexander, R. (2020). A dialogic teaching companion. Routledge. <https://doi.org/10.4324/9781351040143>
- Boghossian, P. (2012). Socratic pedagogy: Perplexity, humiliation, shame and a broken egg. *Educational Philosophy and Theory*, 44(7), 710–720. <https://doi.org/10.1111/j.1469-5812.2010.00711.x>
- Brookfield, S. D., & Preskill, S. (2016). *The discussion book: 50 great ways to get people talking*. Jossey-Bass.
- Chi, M. T. H. (2009). Active-constructive-interactive: A conceptual framework for differentiating learning activities. *Topics in Cognitive Science*, 1(1), 73–105. <https://doi.org/10.1111/j.1756-8765.2008.01005.x>
- Dallimore, E. J., Hertenstein, J. H., & Platt, M. B. (2004). Classroom participation and discussion effectiveness: Student-generated strategies. *Communication Education*, 53(1), 103–115. <https://doi.org/10.1080/0363452032000135805>
- Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, 111(23), 8410–8415. <https://doi.org/10.1073/pnas.1319030111>
- Gregorcic, B., Etкина, E., & Planinsic, G. (2024). ChatGPT as a tool for honing teachers' Socratic dialogue skills. *Physics Education*, 59(3), 035019. <https://doi.org/10.1088/1361-6552/ad3d21>
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81–112. <https://doi.org/10.3102/003465430298487>
- Hennessy, S., Rojas-Drummond, S., Higham, R., Márquez, A. M., Maine, F., Ríos, R. M., García-Carrión, R., Torreblanca, O., & Barrera, M. J. (2016). Developing a coding scheme for analysing classroom dialogue across educational contexts. *Learning, Culture and Social Interaction*, 9, 16–44. <https://doi.org/10.1016/j.lcsi.2015.12.001>
- Howe, C., Hennessy, S., Mercer, N., Vrikki, M., & Wheatley, L. (2019). Teacher–student dialogue during classroom teaching: Does it really impact on student outcomes? *Journal of the Learning Sciences*, 28(4–5), 462–512. <https://doi.org/10.1080/10508406.2019.1573730>
- Kanat, K., & Temel, Z. F. (2025). The use of questioning strategies in the development of critical thinking skills in children: A qualitative study of the Socratic method. *Early Childhood Education Journal*. <https://doi.org/10.1007/s10643-025-01864-4>

- King, A. (1994). Guiding knowledge construction in the classroom: Effects of teaching children how to question and how to explain. *American Educational Research Journal*, 31(2), 338–368.
<https://doi.org/10.3102/00028312031002338>
- Kuhn, D. (2015). Thinking together and alone. *Educational Researcher*, 44(1), 46–53.
<https://doi.org/10.3102/0013189X15569530>
- Mayer, R. E. (2004). Should there be a three-strikes rule against pure discovery learning? *American Psychologist*, 59(1), 14–19. <https://doi.org/10.1037/0003-066X.59.1.14>
- Mercer, N., Hennessey, S., & Warwick, P. (2019). Dialogue, thinking together and digital technology in the classroom: Some educational implications of a continuing line of inquiry. *International Journal of Educational Research*, 97, 187–199. <https://doi.org/10.1016/j.ijer.2017.08.007>
- Mezirow, J. (1997). Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education*, 197(74), 5–12. <https://doi.org/10.1002/ace.7401>
- Michaels, S., O'Connor, C., & Resnick, L. B. (2008). Deliberative discourse idealized and realized: Accountable talk in the classroom and in civic life. *Studies in Philosophy and Education*, 27, 283–297.
<https://doi.org/10.1007/s11217-007-9071-1>
- Oyler, D. R., & Romanelli, F. (2014). The fact of ignorance: Revisiting the Socratic method as a tool for teaching critical thinking. *American Journal of Pharmaceutical Education*, 78(7), Article 144. <https://doi.org/10.5688/ajpe787144>
- Reznitskaya, A., Kuo, L.-J., Clark, A.-M., Miller, B., Jadallah, M., Anderson, R. C., & Nguyen-Jahiel, K. (2009). Collaborative reasoning: A dialogic approach to group discussions. *Cambridge Journal of Education*, 39(1), 29–48. <https://doi.org/10.1080/03057640802701952>
- Reznitskaya, A., & Gregory, M. (2013). Student thought and classroom language: Examining the mechanisms of change in dialogic teaching. *Educational Psychologist*, 48(2), 114–133. <https://doi.org/10.1080/00461520.2013.775898>
- Smith, M. K., Wood, W. B., Adams, W. K., Wieman, C., Knight, J. K., Guild, N., & Su, T. T. (2009). Why peer discussion improves student performance on in-class concept questions. *Science*, 323(5910), 122–124.
<https://doi.org/10.1126/science.1165919>
- Theobald, E. J., Hill, M. J., Tran, E., Agrawal, S., Arroyo, E. N., Behling, S., Chambwe, N., Cintrón, D. L., Cooper, J. D., Dunster, G., Grummer, J. A., Hennessey, K., Hsiao, J., Iranon, N., Jones, L., Jordt, H., Keller, M., Lacey, M. E., Littlefield, C. E., ... Freeman, S. (2020). Active learning narrows achievement gaps for underrepresented students in undergraduate science, technology, engineering, and math. *Proceedings of the National Academy of Sciences*, 117(12), 6476–6483. <https://doi.org/10.1073/pnas.1916903117>
- Vrikki, M., Wheatley, L., Howe, C., Hennessey, S., & Mercer, N. (2019). Dialogic practices in primary school classrooms. *Language and Education*, 33(1), 85–100. <https://doi.org/10.1080/09500782.2018.1509988>
- Walsh, J. A., & Sattes, B. D. (2015). Questioning for classroom discussion: Purposeful speaking, engaged listening, deep thinking. ASCD.