



Perspective

A Pedagogical Model for Commonsense and Logical Reasoning Toward Coherence in Academic Writing

Hongqin Zhao ^{1,*} and Yaqian Li ² 

¹ The School of International Studies, Zhejiang University, Hangzhou 310000, China

² Department of Social & Policy Sciences, University of Bath, Bath BA2 7AY, UK; y14452@bath.ac.uk

* Correspondence: hongqinzhao@zju.edu.cn

Abstract

Academic writing is often perceived as unfamiliar and overly formal, partly due to a lack of explicit cognition and instruction regarding coherence. This article contends that such perceptions obscure a fundamental connection between everyday reasoning and the epistemic reasoning characteristic of academic writing. The inductive and deductive logics of reasoning that underpin the coherence of academic genres are closely aligned with commonsense reasoning structures that students routinely use, such as asking and answering questions, inferring explanations, forming categories, and recognizing patterns. These practices are all critical for students to understand the central role of coherence in academic writing. Drawing on writing studies, cognitive psychology, and research methodology, this critique positions coherence as a central yet underarticulated concern in the instruction of academic writing. It presents a pedagogical framework in which coherence is understood and taught as the alignment between commonsense and epistemic logics of reasoning. Two classroom-based examples—a quantitative questionnaire excerpt and a qualitative narrative reanalysis—illustrate how coherence can be taught through reasoning structures, conceptual alignment, the integration of inquiry logics, and interpretation in academic writing. This pedagogical model scaffolds the steps needed to integrate commonsense and epistemic reasoning so that students can develop core skills of coherence for epistemic competence, including explicit command of logical and reasoning processes, genre-based analysis, conceptual mapping of inquiry-driven writing tasks.

Keywords: coherence; academic writing; commonsense and epistemic reasoning; inductive and deductive logics; writing pedagogy



Academic Editor: Alain Morin

Received: 15 January 2026

Revised: 4 March 2026

Accepted: 5 March 2026

Published: 9 March 2026

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1. Introduction

Many students perceive academic writing as a foreign form—a rigid, formal, and rule-bound genre that stands apart from their everyday thinking and from the sense of coherence they have developed through familiar meaning-making practices (Johns, 1986; Zhao, 2023). This genre-based perception of coherence poses a significant pedagogical challenge, due to the lack of explicit guidance on how coherence can be effectively taught. As Johns (1986, p. 247) notes, coherence in writing is a complex construct, involving “a multitude of reader- and text-based features.” Consequently, students often view academic writing and discourse coherence as inaccessible because they are often taught to believe that academic genres require a fundamentally different mode of reasoning from the commonsense logic they rely on to navigate the world and interpret texts.

In reality, while academic writing does foreground more explicit and formalized logical reasoning in the pursuit of deliberate coherence particular to academic discourse, it is often overlooked that this reasoning is in fact closely connected to the commonsense cognitive processes with which students are already familiar.

Coherence, understood as the function of topic development (Johns, 1986) and as the foundation of persuasiveness and credibility in academic writing is often seen as dependent on formal reasoning and internal logical consistency (Farkas, 1985). However, discourse coherence and logical consistency also draw on practical cognition—for example, asking questions, generating explanations, identifying relationships, and evaluating alternatives—processes that are closely aligned with students' everyday reasoning in academic writing (Smith, 1995; Oaksford & Chater, 2002; Widodo et al., 2017; Jenkins, 2021). Recognizing the overlap and linkage between commonsense and scientific logic can provide a crucial pedagogical entry point for orienting students more effectively toward greater coherence in their academic writing, particularly through inquiry-based learning and instruction (Zhao, 2024; Gray, 2025).

Learning academic writing, therefore, requires instructional support to help students understand that conceptual consistency and explicit logic—the foundation of coherence—do not replace everyday reasoning but rather extend it into academic contexts. This article advances a theoretical framework that not only makes explicit the connections between epistemic logics and the pedagogy of coherence in academic writing, but also identifies the basic links and steps through which instruction can support students' cognition and develop their coherent writing skills.

This orientation aims to foster students' cognitive development toward the epistemic agency necessary for learning academic writing. As Woleński (2016) and McHugh (2025) argue, when learners think and write with logical reasoning, they engage in the “contentful activity” of cognitive transformation toward becoming more epistemic agents; Bronkhorst et al. (2019) likewise contend that students' use of formal representations and formalization across diverse contexts benefits from the normative significance of logic. This is especially pertinent for achieving coherence in academic writing. Yet, for students to use normative logic in the context of learning to write remains undervalued, as other concerns—such as linguistic features and citational practices tend to dominate the attention of both teachers and learners (Zhao & Li, 2025).

In an AI-mediated educational environment, writing is no longer merely the endpoint of learning, it functions as a means of cognitive development. In this context, academic writing can be reasonably privileged as a key vehicle of epistemic agency through which students learn to create knowledge. Students must act as cognitive and epistemic agents (Pollock, 1995; Jenkins, 2021; Woleński, 2016) who can command, evaluate, and respond to large-scale models of knowledge and language. Learning academic writing situates them in writerly tasks and roles, in which they are expected to manage discourse consistency and rationality of their reasoning (Jenkins, 2021; Worsnip, 2022).

Furthermore, teaching writing through both formal and commonsense logics should be understood not as drawing on opposing systems but as mobilizing inseparable resources for co-generating coherent discourse (Tanskanen, 2006; Zhao, 2023; Wale & Bogale, 2021). Learning academic writing thus requires students not only to recognize the logical subtleties that underpin academic discourse, but also to understand how coherence and consistency central to topic development and idea formation depend on multiple forms of reasoning. Consequently, students must be introduced to scaffold entry strategies that explicitly link commonsense reasoning with the comprehension and application of scientific logic.

The aim of this article is to articulate a pedagogical framework for teaching and learning coherence of academic writing as a core cognitive and epistemic skill through

inquiry-based instruction. Drawing on scholarship from writing studies (e.g., [Farkas, 1985](#); [Johns, 1986](#); [Zhao, 2023](#)), cognitive science (e.g., [Smith, 1995](#); [Woleński, 2016](#); [Jenkins, 2021](#)), qualitative and quantitative research methodology (e.g., [Ritchie et al., 2013](#); [Teig & Scherer, 2016](#); [Miles & Huberman, 2018](#)), we validate how commonsense can scaffold coherence within the sphere of scientific logic, and how explicit instruction of logical reasoning can support students in developing their own models of rational thinking for coherence in their writing.

2. A Literature Review on Commonsense and Scientific Logics for Academic Reasoning

Scientific logic and reasoning are often introduced in educational contexts as an abstract system of rules for deriving conclusions and transforming information, and are frequently treated as an autonomous mode of reasoning detached from commonsense reasoning or practical cognition ([Bronkhorst et al., 2019](#); [Teig & Scherer, 2016](#)). Such epistemic conducts are now core objectives of pedagogy. The pedagogy of academic writing therefore cannot avoid engaging with epistemic content ([Kirschner, 2009](#)), but it must do so through carefully scaffolded steps that enable students to learn, internalize and apply these forms of reasoning in their writing.

This form of epistemic reasoning is commonly referred to as formal logic ([McInerny, 2004](#); [Oaksford & Chater, 2002](#); [Pollock, 1995](#); [Remmen, 2024](#); [Wood, 2002](#)). In fact, [Wood \(2002, p. 41\)](#) regarded logic of induction and deduction as the “standard” systems of reasoning in relation to practical cognition or commonsense reasoning. However, a substantial body of philosophical and cognitive scholarship emphasizes that the origins of standard or formal logic are closely aligned with commonsense reasoning—that is, with the everyday practices of cognition that structure human understanding of the world ([McHugh, 2025, p. 1](#); see also [Nigel, 1961](#); [Smith, 1995, p. 644](#); [Widodo et al., 2017](#); [Woleński, 2016](#)). As [Smith \(1995, p. 651\)](#), [Wood \(2002\)](#) and [McHugh \(2025\)](#) contend, commonsense governs “a great mass of our everyday cognitive experiences”, forming the experiential substrate from which the standard logic is abstracted, theorized, and systematized in epistemic conduct. This linkage offers a promising breakthrough for a pedagogy of coherence in academic writing, insofar as epistemic activities can be bridged with some forms of commonsense mechanisms observable not only to experts but also to learners of academic writing. While standard logical forms illustrate this continuity: deductive reasoning applies general principles to particular cases, while inductive reasoning generalizes from experience and observation ([McHugh, 2025](#); [Oaksford & Chater, 2002](#); [Wood, 2002](#)).

Although commonsense and practical reasoning emerge spontaneously in conversation, problem-solving, and developmental contexts, they have long served as the empirical basis for scientific inquiry and theoretical normalization ([Nigel, 1961](#); [Remmen, 2024](#); [Smith, 1995](#); [Wood, 2002](#); [Widodo et al., 2017](#)), as [McInerny \(2004\)](#) argues, logic is fundamentally concerned with truth because it tracks the structure of reality—how entities relate, how causes generate effects, and how claims must cohere with evidence. This is not detached from commonsense understanding in academic writing.

Formalized expressions of commonsense reasoning surface in the pursuit of coherence for unity in academic texts, making the relationship between everyday cognition and scientific inquiry critical for students’ understanding of coherence in academic writing. This linkage is evident not only in the ways data are identified and evidence is justified—whether derived from carefully designed experiments or from structured interpretations of everyday experience through normative reasoning—but also as in the commonsense structures that shape how topics are introduced, developed, and concluded for coherent discourse.

2.1. Commonsense Reasoning: Question–Answer Structures and the Principles of the Alike

Commonsense can be understood both as a set of natural cognitive processes—speaking, perceiving, reasoning—and as a system of folk physics and folk psychology (Oaksford & Chater, 2002; Smith, 1995; Wood, 2002; Worsnip, 2022). Reasoning regulated by commonsense, often described as informal or practical, governs everyday action, choice and judgment (Bronkhorst et al., 2019; McInerney, 2004; Pollock, 1995; Remmen, 2024; Wood, 2002; Widodo et al., 2017; Woleński, 2016). Importantly, commonsense reasoning presupposes a shared world of familiar objects and relations to which these cognitive processes are directed for conceptual thinking and more formal reasoning; such everyday reasoning often functions as epistemic agency in learning the norms of scientific thinking and epistemic reasoning (Woleński, 2016; Teig & Scherer, 2016; Jenkins, 2021).

Thus, the epistemic reasoning involved in conceptualization and theorization in writing can be regarded as sound when it is grounded in facts and instances that are perceivable in lived reality and coherently related to established knowledge and beliefs (Smith, 1995; Woleński, 2016; Jenkins, 2021).

One of the most deeply embedded manifestations of commonsense is question asking, organized by the question–answer structures in communication (The National Academies of Sciences, 1998; Agee, 2009; Carruthers, 2018; Veazie, 2018; Zhao, 2023). According to Carruthers (2018), questions arise from gaps in understanding, and the pursuit of answers organizes learning and meaning-making in everyday life. Likewise, Veazie (2018, p. 4) defines questions “are requests for specific information”.

Carruthers (2018) characterizes question-asking as a cognitive comportment that expresses curiosity and a desire for knowledge rather than propositional content. However, questions themselves lack truth conditions, they function as epistemic openings that manifest inquiry aims (Smith, 1995; Agee, 2009; Carruthers, 2018; Jenkins, 2021). Over time, this everyday communication structure has been formalized as a central organizing mechanism of scientific inquiry (Agee, 2009). Veazie (2018) and Remmen (2024) equally emphasize that rational inquiry consists of the systematic raising and resolving of questions through inferential norms that guide the search for answers.

This question–answer structure has been widely used in academic writing and explicitly incorporated into academic writing pedagogy as a mechanism for cohering texts and providing epistemic direction (The National Academies of Sciences, 1998; Wale & Bogale, 2021). Zhao (2023) demonstrates that most research papers mirror this commonsense structure, featuring a sense of unity: research questions frame inquiry, generate epistemic tension, and sustain coherence by directing evidential reasoning and argumentative development (see also Paltridge, 1997; Agee, 2009). Pedagogically, this question-answer mechanism enables students to recognize and stabilize topics, delimit literature reviews, and organize evidence in support of coherent arguments. Students frequently experience conceptual breakthroughs when they begin to incorporate explicit inquiry questions to see that scholarly texts are structured as responses to carefully formulated problems and gaps in knowledge that need adequate reasoning for answers through writing for a sense of coherence (Bronkhorst et al., 2019).

This set of commonsense practices often structures scientific inquiry and is mobilized through pedagogical approaches to teaching academic writing. Formulations of academic writing developed by scholars such as Graff and Birkenstein (2010) and Zhao and Li (2025) have been widely adopted as guiding principles for writing pedagogy. In particular, Graff and Birkenstein (2010) have conceptualized academic writing as participation in ongoing conversations, structured through the “They Say/I Say” formula. This conversational unity equally helps students make sense of academic writing as a form of reasoned, reliable debate.

Within this model, “They say” represents the existing body of literature surrounding a given topic or problem, while “I say” marks the writer’s own position and contribution as they enter the scholarly conversation. Rather than treating academic writing as an opaque or alien practice for students, this approach foregrounds the informal logic that contextualizes scientific understanding and its dissemination. Such commonsense logic, when explicitly articulated, becomes essential for entailing and achieving coherence through scientific reasoning that is accessible pedagogically. The “They Say/I Say” formula thus provides a familiar organizational framework that can be applied through pedagogy across educational and training contexts (See also Woleński, 2016; Veazie, 2018; Zhao & Li, 2025).

Thus, the above-identified mechanisms of question–answer and *They Say/I Say*, as a set of commonsense structures, function as forms of natural cognition through which students can process formal logic for coherence and for unity. It allows students to activate familiar patterns of organization unity within their cognitive facility while engaging with the inferential demands of maintaining consistency between bits of facts and the conception of ideas in writing, where coherence requires purposeful movements and development (Nigel, 1961; Zhao, 2024). This provides a notable instance of how coherence operates in writing practice.

The need for a coherent relation between facts and arguments is crucial. Therefore, coherence does not result from abandoning commonsense but from aligning generalized claims—developed through epistemic reasoning—with the evidential and experiential basis that commonsense supplies (Smith, 1995; Remmen, 2024; McHugh, 2025). As McHugh (2025, p. 1) asserts: “logic gives norms for reasoning” for coherence, and these norms become highly salient when applied through commonsense-based patterns of unity. Those commonsense structures of unity dwell not only in natural cognition but also serve as bridges to the practice of epistemic reasoning in academic writing.

2.2. Cognitive Familiarity and the Dual Logic of Scientific Reasoning

Commonsense reasoning and structures cultivated in writing pedagogy functions as essential bridging knowledge, enabling students to operate simultaneously with standard systems of formal reasoning (Smith, 1995; Graff & Birkenstein, 2010; Teig & Scherer, 2016; Woleński, 2016). In this way, epistemic reasoning does not stand in opposition to such commonsense reasoning structures or natural cognition; rather, it refines and systematizes them to meet disciplinary standards of textual coherence and knowledge validation (Smith, 1995; Steinberger, 2019; Remmen, 2024; McHugh, 2025). For example, Franklin’s (2012) analysis of AI and legal reasoning illustrates the challenge of formalizing ordinary reasoning, noting that commonsense generalizations possess intuitive statistical structures that resist complete formalization. Nevertheless, each discipline formalizes and organizes commonsense knowledge through specific argumentative frameworks that can be represented and taught in forms of genres, subject matters, qualitative and quantitative approaches that show how formal logic is employed in reasoning and in writing for coherence. Pedagogy has increasingly focused on modelling this interdependence of commonsense mechanisms and epistemic logic to help novice writers approach epistemic reasoning with scientific logic through the agency of commonsense (Nigel, 1961; Pollock, 1995; Teig & Scherer, 2016; Woleński, 2016; Zhao, 2024). Students must learn to recognize the normative authority of inductive and deductive logic while simultaneously mobilizing experiential commonsense.

2.3. Inductive and Deductive Reasoning in Academic Writing

Inductive reasoning—central to writing of grounded theory and qualitative inquiry—relies on systematic observation, pattern recognition, and conceptual abstraction from lived experience or purposeful evidence (Nigel, 1961; Smith, 1995; Wood, 2002; Miles & Huber-

man, 2018). Wood (2002, p. 105) describes induction as an “ampliative mode” of reasoning, in which “the conclusion contains information that goes beyond the information conveyed by the premises.” In other words, the reasoning justifies abstractions from specifics. The generalization or the prediction is abstracted from observed instances through inductive inference. The principle is to strengthen inference by increasing the likelihood and probability of the instances on which it is based. Wood (2002) argues that inductive reasoning constitutes a complex model of inference that must be actively managed by individual agents, and that *question beginnings* and *question-answer* structures usually help to justify and organize this model of inference (see also Veazie, 2018). Thomas (2006) characterizes much qualitative inquiry, especially most question-specific inquiry as inductive, involving close engagement with raw data to generate themes, concepts, or theoretical statements. In a similar vein, Oaksford and Chater (2002, p. 9) contend that everyday reasoning is rarely deductive; in their words, “we argue that almost no commonsense inferences are deductive.” That is to say, inductive logic governs everyday reasoning and can be harnessed to formalize commonsense in qualitative inquiry, through the analysis of data collected from accounts of everyday life.

Deductive reasoning, by contrast, dominates hypothetical research proof and writing, applying general propositions to particular cases for verification (Nigel, 1961; Oaksford & Chater, 2002; Ritchie et al., 2013; Woleński, 2016). This *hypothetico-deductive* model has profoundly shaped empirical scientific writing and essay structures alike (Tariq, 2015; Zhao, 2023). According to Wood (2002, pp. 42, 46), deduction is regarded as the theory of “deductive argument”, often exemplified through the model of the “syllogism”, in which new assertions are explained on the basis of what has already been stated. Nigel (1961) further emphasizes that deductive explanations rely on premises that are “better known” or self-evident. In deductive discourse, hypotheses or propositions must be repeatedly and consistently revisited and evaluated against empirical evidence (Woleński, 2016). This has laid the foundation for textual coherence and consistency.

This principle translates into an understanding of how new ideas are communicated to readers through familiar concepts, experimental evidence, or commonsense (Johns, 1986; Wood, 2002; Zhao, 2024). In applied contexts, while essays and research articles differ as genres, both frequently employ deductive reasoning to promote “structural rationality” through logical consistency in support of argumentative coherence (Worsnip, 2022). Jenkins (2021, p. 420) credits such explicit thinking and logical reasoning as a form of “epistemic agency”, which aptly describes “aim-directed”, writing tasks that seek either to explain a new idea through an essay or to test a hypothesis through a research paper.

High-quality academic writing depends on logical regulations to achieve coherence, consistency, and discourse unity. These qualities are not only realized through commonsense structures—such as question–answer sequences and *They Say/I Say* simulations reviewed earlier—but also through epistemic relations between claims and arguments, and between inferences and evidence governed by norms of induction and deduction. The effectiveness of these combined logics, both commonsense and epistemic, lies not in their academic status per se, but in the fact that writing functions as a vehicle for reasoning, argumentation, and dissemination of ideas and knowledge. Readers expect scholarly texts to present claims that follow logically from evidence and that align with existing knowledge structures (Eng & Power, 2017; Zhao, 2023; Zhao & Li, 2025). This expectation reflects fundamental cognitive processes rather than merely disciplinary or epistemic conventions (Smith, 1995; Pollock, 1995; Woleński, 2016; Wale & Bogale, 2021; Gray, 2025).

Teaching and learning of academic writing thus depend on norms of both commonsense and standard reasoning in order for students to achieve coherence and unity across academic genres. Academic writing as a means of acquiring scientific structures and dis-

course coherence, aligns natural, informal reasoning with formal and standard logical systems, in doing so, it supports students' development as both cognitive and epistemic agents capable of understanding and producing with complex scientific literature and assume writerly roles with coherent, logically structured arguments (Gray, 2025; Pollock, 1995; Tanskanen, 2006; Woleński, 2016; Worsnip, 2022; Zhao & Li, 2025).

3. A Pedagogy of Coherence as Core Academic Writing Competence

The central pedagogical inference from the above review is that coherence and consistency, entailed and achieved through logical reasoning do not arise from mastering an alien system but from making explicit the logical structures and reasoning processes that students already employ implicitly—for example, in seeking answers to questions or attending to the scientific debates and dialogues. Much of the work of coherence consists of ordering these reasoning moves toward the development of arguments. Grounding academic writing instruction in commonsense reasoning supports students to develop the “epistemic agency” needed to write with epistemic confidence (Woleński, 2016; Jenkins, 2021, p. 413; Zhao, 2023, 2024). To that end, a theoretical framework that integrates epistemological foundations with pedagogy is not an optional but necessary in academic writing (Kirschner, 2009).

The Rational for Teaching Coherence of Academic Writing

The deeper question of what makes a research text coherent has been insufficiently tackled in pedagogy, where instruction often focuses on disciplinary language, citation conventions, and article structures as the primary illustrations of academic writing. Discourse coherence and unity are not merely matters of linear progression; they depend on the alignment among key elements of scientific inquiry—namely, the research question, theoretical conceptions, analytical procedures, and argumentative development. When these elements are weakly connected or inconsistently developed, student writing often appears disjointed or incoherent. Teaching coherence and consistency, therefore, requires making explicit how alignment among these elements constitutes the logical backbone of consistency and coherence across academic genres (Farkas, 1985). As Worsnip (2022) and Zhao (2023, 2024) stress, the inner rationality of a text—deeper than the formal parts—grounds the consistency and coherence of its content more fundamentally than surface-level rhetorical features. That is to say, it is the logical consistency and coherence that present readers a sense of unity in a written work.

Despite its centrality, coherence and consistency are yet to be taught explicitly in academic writing courses. Discourse coherence cannot be achieved unless writers make conscious and sustained connections across stages of inquiry and argument development (Johns, 1986; Jenkins, 2021; Worsnip, 2022; Zhao, 2023; Rosenwasser & Stephen, 2024). While the alignment between evidence and argument, or between the questions and answers is often emphasized, academic writing in fact demands multiple layers of consistency as the foundation of discourse coherence for persuasiveness, including those reasoning process curating data to patterned evidence, from evidence to claims, and from claims to overarching research questions (Farkas, 1985). These relationships must be made explicit in teaching through clearly articulated inductive and deductive rationales.

Taken together, the consistency of these elements and the coherence among the relationships suggest several pedagogical positions to guide classroom practice. A particularly effective entry point is to recognize the commonsense mechanisms already embodied for academic writing and discourse, such as the unity created by question–answer and by the *They Say/I Say* pattern. This perspective situates coherence in academic writing as dependent on students' familiarity with such unity structures, while also requiring epis-

temic reasoning to transform them into planning and organizing assembly of frameworks for writing (Graff & Birkenstein, 2010; Zhao & Li, 2025). Although these structures are not epistemically basic in a philosophical sense, they are cognitively familiar and can be formalized to guide inquiry-based reasoning and writing projects through instruction (Worsnip, 2022; Gray, 2025). Several pedagogical anchors can support this transitional process toward coherence. We address this movement from epistemology to a pedagogy of coherence in academic writing through the following points of consideration:

- Conceptual mapping: Students visually map relationships among the research question, literature, methods, data, and argument to identify gaps or inconsistencies.
- Genre analysis: Students examine published research articles to identify recurring patterns of inquiry, evidence, reasoning, and argumentation that sustain coherence.
- Logic-based revision: Students revise drafts by tracing logical connections across sections and conceptions, asking questions such as: Is this idea supported? Does this claim follow sufficient evidence? Is the conclusion consistent with the research question, etc.?
- Teaching the “because–therefore” chain: Students practice articulating claims in explicit causal or inferential sequences to clarify reasoning process.

These anchor points compose a pedagogical framework of academic writing to help students internalize logic as a functional tool for achieving consistency and coherence rather than as an abstract constraint detached from content or context. In inquiry-based academic writing courses and conceptual networks such as research questions and relevant topic literature are especially vital, as they provide the logical and entities in relations through which students learn to deconstruct and reconstruct discourse coherence within specific topic contexts. For instance, the discourse unity may be understood through the question–answer tradition, which often depends on inductive reasoning to sustain coherence (Agee, 2009; Zhao, 2023), while hypothetico-deductive reasoning offers a structural framework for verification procedures that also entail coherence. Within this pedagogy model, it is crucial to note that coherence is genre-specific: academic writing must collaborate with particular structures of unity and explicit logical patterns to make coherence and epistemic accountability visible. Reasoning in this framework is responsible for coherence exemplified in the following cases, which illustrate logical-reasoning-based approaches to, and challenges in, teaching and learning coherence: one drawn from questionnaire analysis and the other from qualitative narrative interpretation with inquiry-based instruction.

Example 1. *Teaching Logical Reasoning Through Questionnaire Analysis.*

Inquiry-based academic writing courses often involve designing small-scale research tasks (Gray, 2025). Constructing a questionnaire or interview protocol for a course assignment provides a concrete context in which to teach consistency and the logical foundations of conceptual reasoning essential to textual coherence. Students frequently assume that listing questions automatically produces a valid instrument. In practice, however, questionnaire design requires conceptual clarity, categorical consistency, and alignment with the research question and anticipated claims as the basis for coherence.

One illustrative classroom example is selected from a student project examining sources of stress among university students (Zhao, 2023; Yang, 2021). Following a literature review and preliminary email interviews with 14 students, the student developed a questionnaire containing 20 items (see Table 1. *Items of a Questionnaire from a Student Assignment*). While this number was sufficient for a small-scale inquiry, the analytical challenge lay in deriving a coherent argument from the collected data for the course assignment. Below, we

demonstrate part of the conceptual reasoning that supported this move from questionnaire responses to a coherent written analysis.

Table 1. Items of a Questionnaire from a Student Assignment (Yang, 2021).

exam/test
GPA worship
heavy workload
dislike the current major
application for graduate school
future employment
high expectations from parents
awful relationships with parents
no true friends
conflict with friends
conflict with roommates
fail to establish intimate relationships
conflict with partners
peer pressure
injuries/health issues
risk of health
appearance
worries of accidents
financial difficulties

To move from raw questionnaire items to research findings, the analysis required reducing the 20 numerically measured items into a smaller set of abstract concepts. Ordering this considerable variety of intuitive instances into an inferred categorical group requires explicit reasoning (Woleński, 2016).

This reasoning process describes inductive abstraction as an “ampliative mode” of reasoning that makes classification and conceptualization explicit (Wood, 2002, p. 105). The classificatory rule assigns conceptual labels that encompass items sharing relevant similarities, and all items must be grouped according to a consistent principle of similarity or analogy for the conceptual level of coherence. For example, several items may reflect issues related to friendship or, more broadly, interpersonal relationships. Under this rule, the selected concept functions to unify these items into a coherent and consistent analytical category. This episodic occurrence of reasoning reflects what Jenkins (2021, p. 421) perceives the constituency for epistemic agency: “Reasoning also involves constituent occurrences, such as judgments, inferences and acts of supposition.” It is in the event of this kind that epistemic agency examines, forms and revise reasoning.

In this categorization analysis, the concept of *interpersonal relationships* was selected, and eight items were plausibly classified under this category (see Table 2). This logical process had to be applied systematically across all items to ensure analytical consistency from both natural and epistemic cognition. This exemplar case illustrates how reasoning maintains alignment between empirically grounded items and conceptual abstraction for the statement of the main idea in development. Conceptual decisions both connect concrete data points and situate them within broader analytical moves that support the central claim and argument with coherence.

Importantly, the choice of *interpersonal relationships* over the narrower concept of *friendship* required explicit justification. Writers must articulate clear reasons for such conceptual decisions on the plausibility, particularly when alternative categorizations are likewise plausible, in addition to giving reasons for grouping these items into one category; while the decisions may reveal what kind of epistemic agent the reasoner is when the underlying

reasoning process is made explicit (Jenkins, 2021). In classroom reasoning exercises, students explored alternative frameworks and debated the appropriateness of different labels. Such discussions foreground the necessity of transparent reasoning to address ambiguities, resolve interpretive tensions, make and sustain coherence in persuading readers. This example demonstrates how pedagogy can structure reasoning activities that both depend on and entails student epistemic agency as a condition for argumentative coherence in the inquiry-based academic writing tasks.

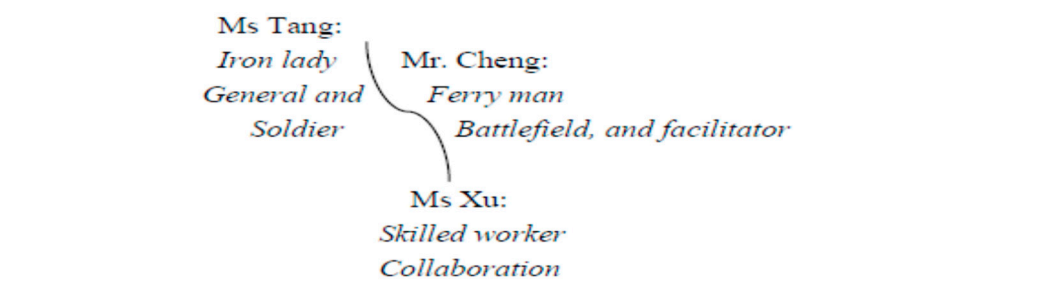
Table 2. The Exemplar Conceptual Categorization.

Interpersonal Relationship	awful relationships with parents
	no true friends
	conflict with friends
	conflict with roommates
	fail to establish intimate relationships
	conflict with partners
	peer pressure

Example 2. Teaching Logical Coherence in Qualitative Analysis.

Consistency in conceptualization becomes even more complex when research relies less on numerical data and more on descriptive or narrative sources common in the human sciences, such as accounts of lived experience (Van Manen, 1990). In such cases, identifying reasonable relational grounds for validity is less straightforward (Miles & Huberman, 2018). Nevertheless, the core coherence challenge remains: securing validation through consistency in both analytical outcomes and overall discourse coherence when working with textual or narrative data.

The second pedagogical example used in classroom exercises of reasoning on coherence is drawn from a narrative research case, which demonstrates how consistency and coherence can be challenging and achieved in qualitative interpretation and writing. This example involves a published study by Zhao et al. (2010) that examines teachers’ self-identity through biographical narratives used for reanalysis in the classroom. The study analyzes clusters of incidents and metaphors drawn from the narratives of teachers, supplemented by the researcher’s field observations. When working with highly narrative data, such triangulation is essential for analytical rigor and epistemic coherence. In this case, metaphors of self-identity from three intergenerational teachers were interpreted (see Figure 1) (Zhao et al., 2010). The metaphors were systematically coded and excerpted from extensive narratives to support interpretation and theoretical insight.



A chart of key metaphors of the three generational teachers

Figure 1. A Chart of Key Metaphors of the Three Intergenerational Teachers.

In classroom settings, this cluster of metaphors was presented to students for reanalysis and reinterpretation to examine how their reading might relate back to the argument made by the original publication. The classroom discussion generated multiple possible

interpretations, such as “teachers as diligent and responsible persons” or “teaching is hard work” etc. Some of which diverged from or contradicted the published analysis, which foregrounded systematic problems concerning teaching and teachers’ identity in China’s compulsory education (Zhao et al., 2010). This divergence provided a productive illustration of the interpretive challenges inherent in qualitative research writing, even when data has been processed through a clear inductive route. Because the consistency between the inference and the narrative data can support a range of plausible claims, qualitative reasoning can legitimately lead to multiple arguments.

In qualitative research writing, the researchers’ insight thus plays a critical and active role as epistemic agency in the reasoning and inferring decisions when drawing conclusion and formulating argument in response to research questions (Wood, 2002; Veazie, 2018; Jenkins, 2021). Persuasiveness lies in the consistency between evidence and inference, such that the writing achieves coherence in validating the argument while remaining open to secure alternative readings. As far as the written discourse is concerned, data processing and argument development must ultimately be guided by systematic reasoning and transparent analytical procedures to ensure consistency and coherence.

This kind of reasoning activities for practicing epistemic reasoning in the course of academic writing present a challenge to novice writers and researchers, who must learn to make sound inferences that cohere with the conceptual frameworks of narrative methods or metaphor analysis. Here inquiry procedures, logical reasoning, and disciplinary insights are all critical. Thus, classroom teaching of coherence therefore shows that academic writing should not be understood as an alien or purely technical system, but rather as a formalized process of exercises of logical reasoning that involves learners’ practical cognition as they acquire the ability to produce discourse with coherence and unity required by academic genres. Students are thus demanded to confront this complexity by extending their cognitive competence and acting as epistemic agents in the learning of academic writing.

4. Implications and Conclusions

Effective instruction and learning of coherence in academic writing therefore involves making visible the logical structures that underlie students’ writerly cognition of organizational unity—particularly those embodied in question-answer and They Say/I Say mechanisms that frame and contextualize epistemic reasoning (Graff & Birkenstein, 2010; Veazie, 2018; Jenkins, 2021; Worsnip, 2022; Zhao, 2023). When students come to terms with such unifying commonsense structures and are prepared to accommodate epistemic demands such as normative reasoning in activities of questioning, seeking evidence, recognizing patterns, and drawing and justifying inferences, they are better positioned to produce inquiry-based writing that is coherent, logically consistent, and intellectually meaningful.

Integrating explicit instruction on epistemic reasoning as the source and construction of coherence enables students to learn academic writing not as a ritual of compliance with logical conventions, but as a disciplined engagement with familiar commonsense resources to understand, explain, and produce coherence. In this way, academic writing becomes purposeful cognition and epistemic activities grounded in inquiry and reasoning rather than a purely formal exercise (Woleński, 2016).

Placing commonsense and epistemic reasoning at the center of writing instruction for coherence carries several important implications for the pedagogical model of academic writing conceptualized earlier. First, it calls for a shift toward reasoning-based pedagogy, in which epistemic thinking, argumentation, and conceptual alignment are foregrounded alongside linguistic accuracy (Rosenwasser & Stephen, 2024). Second, it highlights the need for explicit instruction in inquiry structures and reasoning procedures, treating the conceptual maps—such as research questions, hypotheses, claims, and interpretations—as

cognitive tools that guide writing purposes with deliberative coherence. Third, it underscores the importance of integrating recognizable and familiar structures that support students' task-readiness for normative reasoning and inference, recognizing that both depend on consistent reasoning and cohering alignment among questions, evidence, and argument to accomplish coherence and persuasiveness in writing (Veazie, 2018; Worsnip, 2022; Zhao, 2024).

Finally, we affirm that such a pedagogy model must actively mobilize commonsense mechanisms as a valuable intellectual resource: learners already employ commonsense in academic contexts, and effective pedagogy should build upon this foundation rather than attempting to bracket it off, aligning it with norms of epistemic reasoning for consistency and coherence.

Taken together, we reinforce this pedagogical framework and suggest that teaching and learning coherence in academic writing as practices of reasoning and logical structuring not only enhances students' writerly positions but also equips them, as epistemic agents, with transferable rational tools essential for scholarly insights and academic judgment in an increasingly complex, AI-mediated educational environment—one in which students more than ever need to build robust epistemic competence. To this end, pedagogy must back up students' epistemic development by drawing on familiar commonsense structures of unity as resources for deliberate coherence in academic writing.

Author Contributions: Conceptualization, H.Z. and Y.L.; methodology, H.Z.; data curation, Y.L.; writing—original draft preparation, Y.L.; validation, H.Z. and Y.L.; writing—review and editing, H.Z.; visualization, H.Z. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by Zhejiang University (grant number was 506002-F41701). And the APC was also covered by this grant.

Data Availability Statement: The data that support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest: The authors declare no conflict of interest.

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