



Valued in principle, constrained in practice: The critical thinking gap in theory-driven university courses



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ABSTRACT

Article History

Received: 16 July 2026

Revised: 18 September 2026

Accepted: 28 September 2026

Published: 22 October 2026

Keywords

Critical thinking
Higher education
Teacher cognition
Teaching practices
Theory-driven courses.

Critical thinking appears in the graduate attribute statements of universities almost everywhere. Yet, little is known about what becomes of it inside compulsory theory courses, where the syllabus is prescribed, and the aims are explicitly values-laden. This study asked how far lecturers' endorsement of critical thinking matches what they report doing in Ideological and Political Theory Courses (IPTC) in Chinese universities. An explanatory sequential mixed-methods design was used. A validated questionnaire was completed by 362 IPTC lecturers drawn from 20 universities in Anhui Province, and 34 lecturers took part in semi-structured interviews. Questionnaire responses were analysed using descriptive statistics and Pearson correlations, while interview transcripts were analysed thematically. Cognitive elements attracted the strongest endorsement, with logic and reasoning at the top of the scale and dialogic and dispositional elements at the bottom. Endorsement fell towards the scale midpoint as soon as critical thinking was tied to the theory course itself. Reported enactment was modest, with nine of the ten practice items at or below the midpoint. Conceptions bore no relationship to reported practices ($r = -0.006$, $p = 0.914$), while attitudes showed a small association that reached statistical significance ($r = 0.135$, $p = 0.010$). Interview accounts traced the shortfall to coverage pressure, large classes, assessment orientation, limited training, and the perceived sensitivity of open critique. The critical thinking gap in theory-driven courses therefore appears structural in origin. Narrowing it will require curriculum and assessment redesign alongside sustained professional development, since lecturer attitudes are already favourable.

Contribution/Originality: This study provides course-level evidence on critical thinking inside mandated theory courses, a setting that teacher cognition research has largely bypassed. It shows that lecturers' conceptions are decoupled from their reported practices and that the binding constraints are structural, offering transferable lessons for values-laden curricula in higher education systems beyond China.

1. INTRODUCTION

Critical thinking sits near the top of almost every list of graduate attributes, and meta-analytic evidence indicates that it responds to deliberate instruction (Abrami et al., 2015; Abrami et al., 2008). Classroom enactment is considerably less consistent than the policy commitment. Surveys of university instructors report that critical thinking is often taught implicitly, assessed only indirectly, and squeezed out by content demands, which leaves

students with uneven access to explicit instruction in reasoning (Bellaera, Weinstein-Jones, Ilie, & Baker, 2021). The practical question, then, is how critical thinking can be enacted credibly inside ordinary courses.

Much of what is known about this problem comes from subjects that accommodate discussion and open-ended tasks fairly easily, such as language education and the sciences. Teacher cognition research in those fields shows that instructors may endorse higher-order thinking while working from a narrow repertoire of familiar techniques (Liang & Fung, 2021; Ma & Liu, 2023; Zohar, Degani, & Vaaknin, 2001). Compulsory theory-driven courses have attracted far less attention. We use that term for lecture-based subjects organised around a mandated body of doctrine or principle. This category includes civic and citizenship education, professional ethics and religious instruction in various national curricula. Dense prescribed content, values-laden aims and large enrolments together make such courses a demanding test for critical thinking pedagogy, since open contestation sits awkwardly beside mandated conclusions.

Ideological and Political Theory Courses (IPTC) in Chinese universities offer a clear window on this problem. IPTC is compulsory for all undergraduates and combines explicit value-formation mandates with structured governance expectations (Deng & Guo, 2021; Liu, Xiantong, & Starkey, 2023), while national reform agendas have simultaneously pushed higher-order thinking up the policy agenda (Jiang, 2013; Sun, Sun, & Gu, 2020). Lecturers therefore work under two pulls at once, since reform discourse asks for student-centred engagement while curricular accountability rewards coverage and alignment with sanctioned interpretations (Ouyang et al., 2024; Zhao, Zheng, & Gao, 2022). Softer versions of the same tension appear wherever mandated theory is taught under examination pressure, which is why evidence from IPTC speaks to a wider readership.

Empirical evidence on how IPTC lecturers understand and enact critical thinking remains thin. Chinese work on teacher cognition has concentrated on English as a foreign language and on school settings (Ma & Liu, 2023; Tan, 2020), and broader analyses of critical thinking in China rarely descend to the level of a particular course (Fan & See, 2022; Zhang, Liu, & Shen, 2023). In the absence of such evidence, professional development risks importing generic frameworks that ignore the disciplinary purposes of theory courses and the accountability pressures under which they operate (Pnevmatikos, Christodoulou, Georgiadou, & Lithoxoidou, 2023). The available evidence is also largely descriptive. Few studies test whether conceptions or attitudes are associated with reported practice, yet that association is what tells reformers where to aim. Sophisticated conceptions alongside constrained practice would point towards structural causes. Positive attitudes alongside traditional practice would point instead towards perceived risk or weak capability.

We addressed these gaps through an explanatory sequential mixed-methods study involving 362 IPTC lecturers from 20 universities in Anhui Province, China, followed by interviews with 34 lecturers drawn from the same population. Six research questions guided the investigation.

RQ1: How do IPTC lecturers conceive of critical thinking across the measured subdimensions?

RQ2: What attitudes do IPTC lecturers hold towards critical thinking in general and within IPTC?

RQ3: How do IPTC lecturers implement classroom and assessment practices to foster critical thinking?

RQ4: Which contextual enablers and constraints shape the teaching of critical thinking in IPTC?

RQ5: Is there a relationship between lecturers' conceptions of critical thinking and their reported practices?

RQ6: Is there a relationship between lecturers' attitudes towards critical thinking and their reported practices?

2. LITERATURE REVIEW

2.1. Conceptualising Critical Thinking

Facione (1990) Delphi consensus remains the most widely cited definition, characterising critical thinking as purposeful, self-regulatory judgement involving interpretation, analysis, evaluation and inference, together with an account of the considerations on which that judgement rests. Two features matter for teaching. The definition reaches beyond formal logic to the weighing of evidence and the justification of conclusions in context. It also pairs cognitive

skills with dispositions such as open-mindedness and fair-mindedness, which govern when and how those skills are deployed. Higher education has tended to absorb only the first of these. A review of systematic reviews concludes that the construct is routinely reduced to a skills inventory, narrowing what is taught and assessed and weakening transfer to authentic settings (Andreucci-Annunziata et al., 2023). Instructor surveys corroborate the point, with analysis and evaluation prioritised over dispositions and over explicit teaching of reasoning standards (Bellaera et al., 2021). These two literatures converge on a diagnosis of construct narrowing. Neither establishes whether the narrowing originates in teachers' own conceptions or in the assessment regimes they work under, and that unresolved question bears directly on where reform effort should be directed.

Cultural specificity is the most persistent unsettled debate in this field. One line of work reports that students and teachers in different traditions weight the elements of critical thinking differently, while finding no support for the stronger claim that any tradition lacks the capacity for it (Fan & See, 2022; Manalo, Kusumi, Koyasu, Michita, & Tanaka, 2015). Tan (2017) shows that critical thinking can be taught within examination-oriented systems once it is aligned with local purposes, although cultural scripts still shape which forms of critique feel legitimate. The disagreement now centres on the conditions under which critique is treated as permissible. Capacity itself is no longer seriously in dispute. Comparative studies have mostly operated at the national or system level, which leaves the mechanism unobserved and points to the need for course-level evidence.

2.2. Teacher Cognition and the Gap Between Endorsement and Enactment

Teachers' beliefs have long been treated as a gatekeeper for higher-order instruction. Zohar et al. (2001) found that many teachers considered higher-order thinking suitable mainly for high-achieving students, a belief with direct consequences for who is given demanding work. Chinese studies point in a similar direction. Tan (2020) documented conceptions among school teachers that were partial or slogan-like, and Ma and Liu (2023) found that English teachers' beliefs about integrating critical thinking connected only loosely to their classroom routines. Undergraduates hold similarly uneven conceptualisations (Pnevmatikos et al., 2023), so the ambiguity extends beyond teachers. Attitudes behave much the same way. Favourable evaluations predict intentions more readily than behaviour, and attitudes appear to shift once teachers have experienced structured practice in teaching and assessing critical thinking (Janssen et al., 2019). These studies share a documented discrepancy between belief and practice. The source of that discrepancy remains unsettled. Zohar et al. (2001) locate it in beliefs about learners, Ma and Liu (2023) in weak translation from belief into routine, and Janssen et al. (2019) in the absence of enacted experience. Since these studies rarely report the association between measured beliefs and measured practice, the competing explanations have not been adjudicated against each other.

The instructional literature is clearer about what enactment requires. Meta-analyses report that problem-based learning can improve critical thinking, with effects varying by design feature (Liu & Pásztor, 2022), and that concept mapping yields moderate gains for skills and dispositions when repeated over time (Barta, Fodor, Tamas, & Szamoskozi, 2022). A systematic review of peer feedback reports gains where scaffolds and criteria are made explicit (Zeng & Ravindran, 2025), and work on asynchronous online discussion shows that strategy-specific prompts outperform generic open questions (Zhang, Zhang, Liu, & Han, 2024). Across these otherwise unrelated strands, the same two conditions recur: structure and repetition. Occasional debate or discussion, by implication, is unlikely to move outcomes. Professional learning research reinforces the same reading, since coaching and job-embedded support are associated with much larger changes in practice than one-off workshops (Kraft, Blazar, & Hogan, 2018). One qualification deserves note. Almost all of this evidence comes from courses whose content is itself open to challenge, so its portability to mandated theory courses has been assumed more often than demonstrated.

2.3. Theory-Driven Courses and the IPTC Context

IPTC forms a compulsory component of Chinese higher education, designed to develop students' moral character and political literacy while fostering a sense of social responsibility (Deng & Guo, 2021; Zhao et al., 2022). Liu et al. (2023) describe the structures through which these courses are organised, noting explicit governance expectations alongside value-formation mandates. Thematic reviews report persistent difficulties, among them student disengagement and didactic delivery, together with sustained pressure on teaching quality (Ouyang et al., 2024). General education reform in China has promoted critical thinking for more than two decades (Jiang, 2013; Pang, Cheng, Yu, & Wu, 2020). Analyses nonetheless continue to identify examination orientation and curricular density as obstacles to its cultivation, with large class sizes a further constraint (Sun et al., 2020; Zhang et al., 2023). This literature is largely policy-facing and commentary-based. It describes the obstacles convincingly yet rarely measures them, and it seldom asks lecturers directly what they believe or what they do.

Comparable dilemmas arise internationally wherever a curriculum carries mandated interpretations. For instance, citizenship education in many systems must reconcile the encouragement of critique with social cohesion aims, and professional ethics courses must reconcile open inquiry with codified standards. Evidence from IPTC therefore carries lessons beyond its immediate setting, since it shows how far critical thinking can travel inside a course whose content is prescribed and whose aims are values-laden. To our knowledge, no prior study has linked IPTC lecturers' conceptions and attitudes to their reported critical thinking practices within a mixed-methods design.

2.4. The Present Study

We worked from a framework in which lecturers' conceptions of critical thinking and their attitudes towards it act as proximal influences on classroom and assessment practice, with contextual conditions operating as enablers or constraints on the translation from belief into action. The framework yields competing expectations that can be tested. Should beliefs drive practice, conceptions and attitudes ought to correlate with reported enactment. Should context dominate instead, those correlations should be weak while constraint items attract strong endorsement. Pairing survey and interview evidence allows the pattern and its explanation to be examined within a single study.

3. METHODOLOGY

3.1. Research Design

An explanatory sequential mixed methods design was adopted (Creswell & Plano, 2017). The questionnaire phase established the prevalence of conceptions, attitudes, practices, and perceived contextual factors among IPTC lecturers. Semi-structured interviews then probed how lecturers interpreted critical thinking, how they attempted to teach it, and why enactment fell short. Integration took place at the interpretation stage, where interview themes were used to account for the quantitative patterns.

3.2. Setting and Participants

Fieldwork was carried out in Hefei, the capital of Anhui Province in eastern China and one of the country's larger higher education hubs. Twenty universities located in Hefei were selected from the 47 undergraduate institutions in the province. Table 1 lists them alongside the number of IPTC lecturers at each, compiled by the first author from the official website of every institution. The set spans the range of institutional types present in the city, taking in comprehensive and research-intensive universities, universities of science and technology, medical and traditional Chinese medicine universities, agricultural and architectural universities, a normal (teacher education) university, private and applied institutions, and specialist colleges in the arts, economics and public security. Every sampled institution maintains a dedicated School or Department of Marxism responsible for IPTC delivery. Institutional records identified 1,042 IPTC lecturers with more than two years of teaching experience across these universities. Purposive sampling targeted this population. A minimum sample of 281 was calculated for a 95% confidence level

and a 5% margin of error, and 362 valid questionnaires were returned, exceeding the required threshold and strengthening statistical power.

Table 1. The twenty sample universities in Hefei and their IPTC lecturer numbers.

No.	University	IPTC lecturers
1	Anhui University	117
2	University of Science and Technology of China	61
3	Hefei University of Technology	83
4	Anhui Agricultural University	70
5	Anhui Medical University	77
6	Anhui University of Traditional Chinese Medicine	56
7	Chaohu University	49
8	Anhui Jianzhu University	58
9	Anhui Sanlian University	21
10	Hefei University	53
11	Anhui Xinhua University	67
12	Anhui Wenda Institute of Information Engineering	40
13	Anhui University of Foreign Chinese	41
14	Hefei Institute of Technology	28
15	Hefei City College	34
16	Hefei University of Economics	25
17	School of Clinical Medicine, Anhui Medical University	66
18	Hefei Normal University	67
19	Anhui University of the Arts	17
20	Anhui Public Security College	12
	Total	1,042

Respondents were 216 women (59.7%) and 146 men (40.3%). The largest age band was 31 to 40 years (30.1%). Teaching experience ranged from two years to more than thirty years, with 32.6% reporting between two and five years. A master's degree was the most common qualification (62.2%), followed by a doctorate (29.0%). Class sizes were large across the sample, since 51.7% of respondents taught cohorts of more than 80 students and a further 32.3% taught cohorts of 50 to 80 students.

Thirty-four lecturers took part in the interview phase: 19 men and 15 women, aged between 29 and 62. Their teaching experience spanned 3 to 31 years, and all of them taught classes of at least 50 students. They were drawn from the same set of institutions as the survey respondents. Recruitment continued until further interviews stopped yielding new themes.

3.3. Instruments

The questionnaire drew on instruments developed by Li (2016) and Shell (2001). Alongside a demographic section, it carried 12 items on conceptions of critical thinking, 11 on attitudes, 10 on classroom and assessment practices, and 11 on contextual enablers and constraints, each rated on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Cronbach's alpha in the present sample was .83 for conceptions, .81 for attitudes, .79 for practices, and .85 for contextual factors, values that fall in the acceptable to good range (Tavakol & Dennick, 2011). The interview guide, adapted from Ma and Luo (2021), covered lecturers' understanding of critical thinking, their attitudes towards its place in IPTC, their teaching and assessment approaches, and the conditions that helped or hindered implementation.

3.4. Data Collection and Analysis

Questionnaires were distributed through university administrators using snowball referral within the eligible population, and written informed consent was obtained from every participant. Analysis was carried out in IBM SPSS Statistics. Item-level descriptive statistics were computed, and Pearson correlations were then run between

conceptions and practices and between attitudes and practices, following Shapiro-Wilk checks on the normality of the composite scores. Interviews were conducted in Chinese, audio-recorded with permission, and transcribed. Thematic analysis followed Braun and Clarke (2012), with coding conducted inductively within the areas defined by the research questions and themes refined against the transcripts over successive passes. Key excerpts were translated into English and back-checked for accuracy.

3.5. Ethical Considerations

Ethical approval for the study was granted by the UNIMAS Human Research Ethics Committee (approval code HREC(NM)/2024(3)/71, approval date 1 September 2024). Institutional permission to approach lecturers was obtained separately from each participating university. Participation was voluntary, and withdrawal was permitted at any point. All responses were anonymised before analysis, and interviewees were identified by codes (L1 to L34) throughout.

4. RESULTS

4.1. Lecturers' Conceptions of Critical Thinking

Table 2 reports descriptive statistics for the 12 conception items. Logic attracted the strongest agreement ($M = 4.56$, $SD = 0.56$), followed by reasoning ($M = 4.42$, $SD = 0.53$) and then intelligence ($M = 4.36$, $SD = 0.68$). Evaluative and metacognitive elements also fared well, with being critical at $M = 4.25$ and awareness of one's own learning process at $M = 4.21$, both with low dispersion. Memorisation skills and techniques drew a high rating ($M = 4.16$, $SD = 0.59$) despite falling outside canonical definitions of the construct. Two readings are possible here. Retention may be treated locally as a prerequisite for analysis, or critical thinking may be conflated to some degree with competent learning in general. The lowest ratings went to openness and flexibility ($M = 3.57$, $SD = 0.50$) and to learning to learn together ($M = 3.16$, $SD = 0.58$). The resulting profile is cognitively weighted, centred on formal reasoning and defensible argument, with dialogic and dispositional elements at the periphery.

Table 2. Descriptive statistics for lecturers' conceptions of critical thinking ($N = 362$).

Item	Mean	SD
Logic	4.56	0.56
Reasoning	4.42	0.53
Intelligence	4.36	0.68
Being critical	4.25	0.44
Aware of one's learning process	4.21	0.42
Memorisation skills and techniques	4.16	0.59
Changing perspectives	4.14	0.49
Making appropriate argument	4.13	0.37
Problem solving	4.10	0.36
Being creative	3.98	0.70
Openness and flexibility (Ready to accept new ideas and different perspectives)	3.57	0.50
Learning to learn together	3.16	0.58

4.2. Lecturers' Attitudes towards Critical Thinking

Table 3 shows a favourable orientation towards critical thinking taken as a general educational aim. The highest means were attached to broad value statements. Importance for personal development and learning was rated at $M = 4.38$ ($SD = 0.73$), and the belief that students can develop critical thinking in various ways at $M = 4.30$ ($SD = 0.70$). Lecturers also agreed that critical thinking is shaped by social and cultural contexts ($M = 4.25$, $SD = 0.72$), which suggests some sensitivity to situated norms of reasoning. Dispersion widened on the more contentious claims. The statement that critical thinking matters for learning in all disciplines recorded a high mean ($M = 4.21$) alongside one of the larger standard deviations in the set ($SD = 0.88$), and the belief that every student's critical thinking can be

cultivated fell to $M = 3.97$ ($SD = 0.92$). Positions on universal cultivability were therefore heterogeneous. Support weakened again once a concrete reform lever was named, with the addition of critical thinking activities to textbooks rated at $M = 3.86$ ($SD = 0.84$).

The sharpest fall came on the two items tied to the theory course itself. Promotion of critical thinking in IPTC ($M = 3.22$, $SD = 0.86$) and its position as a core part of IPTC ($M = 3.18$, $SD = 0.76$) both sat close to the scale midpoint, well below every other statement in the section. Dispersion on these items was unexceptional, so the weaker endorsement was spread broadly across respondents and does not reflect a dissenting minority. Read alongside the general-aim items, the pattern indicates that support for critical thinking among these lecturers is conditional on course context.

Table 3. Descriptive statistics for lecturers' attitudes towards critical thinking ($N = 362$).

Item	Mean	SD
Critical thinking skills are important for personal development and learning	4.38	0.73
Students can develop critical thinking skills in various ways	4.30	0.70
Some students have stronger critical thinking skills than others	4.27	0.74
Critical thinking skills are greatly influenced by social and cultural contexts	4.25	0.72
Critical thinking skills are important for learning in all disciplines	4.21	0.88
Critical thinking skills should be cultivated from an early stage	4.19	0.83
Critical thinking skills are crucial for improving students' mastery of knowledge	4.13	0.81
All students' critical thinking skills can be cultivated	3.97	0.92
More critical thinking activities should be added to textbooks	3.86	0.84
Critical thinking skills should be promoted in ideological and political theory courses	3.22	0.86
Critical thinking skills should be a core part of ideological and political theory courses	3.18	0.76

4.3. Reported Classroom and Assessment Practices

Reported practices, summarised in Table 4, were dominated by one strongly endorsed constraint item. Lecturers agreed that time for critical thinking activities is limited by the need to cover course content ($M = 4.10$, $SD = 0.66$). The other nine items clustered at or below the scale midpoint, ranging from $M = 2.65$ to $M = 3.06$. Encouraging unexpected answers ($M = 3.06$) and openness to new ideas ($M = 2.99$) sat at the top of that cluster, with provision of collaborative problem solving ($M = 2.98$) and adequate class time for critical thinking ($M = 2.96$) just below the midpoint. Open-ended questioning is the item worth pausing on. Its mean was low to moderate ($M = 2.90$), while its standard deviation was by far the largest in the instrument ($SD = 1.24$), which indicates highly uneven adoption across the sample. The lowest ratings concerned capability and preparation: knowledge of different teaching methods ($M = 2.78$), classroom opportunities for critical thinking ($M = 2.73$), encouragement of critical thinking on IPTC topics ($M = 2.72$), and perceived sufficiency of training ($M = 2.65$). Modest enactment therefore coincides with widely shared time pressure and low perceived preparedness.

Table 4. Descriptive statistics for lecturers' reported practices of teaching critical thinking ($N = 362$).

Item	Mean	SD
Due to the need to cover all course content, time for critical thinking activities in class is limited	4.10	0.66
I encourage students to give unexpected answers and make good use of possible learning opportunities	3.06	0.82
I encourage students to be open to new ideas	2.99	0.81
I provide opportunities for students to solve problems collaboratively in class	2.98	0.87
I allow students enough time in class to develop critical thinking	2.96	0.78
I cultivate critical thinking skills by asking open-ended questions	2.90	1.24
I know different teaching methods to promote students' critical thinking	2.78	0.67
My classes provide opportunities for students to develop critical thinking	2.73	0.70
I encourage students to think critically about various topics in ideological and political theory classes	2.72	0.73
I feel I have received sufficient training to effectively promote students' critical thinking	2.65	0.75

4.4. Contextual Enablers and Constraints

Contextual results in Table 5 point overwhelmingly towards constraints. Class size above 50 students was the most strongly endorsed item ($M = 4.21$, $SD = 0.57$), and its low dispersion signals a shared structural baseline; more than half the respondents taught cohorts exceeding 80 students. Students' orientation towards grades over learning followed closely ($M = 4.14$, $SD = 0.70$). Next came a cluster of coverage-related items. Lecturers found it difficult to combine content coverage with the promotion of critical thinking ($M = 4.08$) and reported both a lack of preparation time ($M = 4.06$) and an obligation to deliver large amounts of information ($M = 3.94$). Capability concerns were prominent as well, with uncertainty about one's own ability to teach critical thinking at $M = 3.96$ ($SD = 0.83$) and insufficient preparation at $M = 3.88$. Institutional and affective constraints drew weaker but non-trivial endorsement. Low institutional valuing of critical thinking averaged $M = 3.53$ ($SD = 0.96$), while fear of negative student feedback ($M = 3.25$, $SD = 1.04$) and interference from research demands ($M = 3.20$, $SD = 0.91$) recorded the lowest means in the section. Their wider dispersions suggest that these pressures bear heavily on some lecturers and hardly at all on others.

Table 5. Descriptive statistics for contextual factors affecting the teaching of critical thinking ($N = 362$).

Item	Mean	SD
Class size is too large (More than 50 students)	4.21	0.57
Students care more about grades than learning	4.14	0.70
I find it difficult to combine teaching for content coverage with teaching for the promotion of critical thinking skills	4.08	0.75
Lack of time to prepare and plan strategies for teaching critical thinking	4.06	0.65
I am not sure of my abilities to teach critical thinking skills	3.96	0.83
Need to deliver a large amount of information to cover content	3.94	0.72
Insufficient preparation for teaching critical thinking	3.88	0.72
My teaching workload hinders my ability to teach critical thinking skills	3.88	0.76
The development of critical thinking is not highly valued at my university	3.53	0.96
I do not teach critical thinking for fear of negative student feedback	3.25	1.04
My research activities interfere with my ability to teach critical thinking	3.20	0.91

4.5. Relationships Between Beliefs and Reported Practices

Shapiro-Wilk tests showed no significant departure from normality for the conception score ($W = 0.996$, $p = 0.183$) or the practice score ($W = 0.995$, $p = 0.109$). The attitude score was likewise approximately normal ($W = 0.995$, $p = 0.112$). Pearson correlations were therefore computed, and Table 6 reports them.

Conceptions of critical thinking were unrelated to reported practices ($r = -0.006$, $p = 0.914$, $N = 362$). Variation in how lecturers understood critical thinking told us nothing about variation in how they reported teaching it. Attitudes showed a small positive association with reported practices ($r = 0.135$, $p = 0.010$, $N = 362$). The coefficient is small, and with a sample of this size, its statistical significance should not be read as practical strength. Both measures were self-reported, so shared method variance and social desirability may account for part of the association. The cross-sectional design does not establish directionality.

Table 6. Pearson correlations between lecturers' beliefs and their reported critical thinking practices.

Variables	r	p	N
Conceptions of critical thinking $\times$ Reported practices	-0.006	0.914	362
Attitudes towards critical thinking $\times$ Reported practices	0.135**	0.010	362

Note: ** $p < 0.01$.

4.6. Qualitative Findings

The interviews help explain how the survey patterns came about. Four areas are reported here: how lecturers understood critical thinking, how willing they were to teach it, what constrained them, and what remedies they proposed.

4.6.1. *A Disciplined, Evidence-Centred Understanding*

Lecturers' definitions matched the cognitive emphasis visible in the survey. Rationality and evidence recurred throughout. As an illustration, one lecturer described critical thinking as “a way of thinking based on reason, logic, and evidence” (L25), while another stressed forming “reliable judgments” without blindly following “authority or established conclusions” (L1). A second strand centred on independent questioning, captured in the injunction to “dare to question” and to hold “independent thinking, unique opinions” (L12). Several lecturers were careful to separate disciplined critique from indiscriminate faultfinding, warning against the sophistry of “refuting for the sake of refutation”. Their accounts carried ethical and contextual dimensions that the questionnaire could not reach, presenting critical thinking as reasoning anchored in evidence yet answerable to social and disciplinary realities.

4.6.2. *Willingness Paired with Strategy*

Willingness to embed critical thinking in IPTC came through clearly, along with a fair range of approaches. Some lecturers used projects that “simulate reality” (L21) or activities such as “social surveys and volunteer services” (L16) to connect theory with application. Others emphasised modelling, being “open about your thought process” so as to “show how to question, analyse, and evaluate” (L21), or deliberately built “cognitive conflict” to unsettle assumptions (L27). A further group adapted the work to disciplinary context, combining critical thinking “with ideological and political content and the health profession scene” (L33). Modest enactment in the survey data therefore does not indicate indifference.

4.6.3. *Layered Constraints*

Constraints described in the interviews operated at several levels. Student readiness was the most immediate. Lecturers observed that students “are accustomed to accepting authoritative and standard answers, and rarely take the initiative to question or think independently” (L5) and are “accustomed to accepting the views of teachers or teaching materials” while lacking “active questioning and in-depth thinking” (L9). Teacher preparedness formed a second layer, echoing the low training ratings in the survey. Institutional conditions formed a third layer, spanning large classes and dense syllabi as well as assessment formats that reward reproduction. A fourth layer was particular to theory courses. Some content was perceived as sensitive, and one lecturer noted that “ideological and political courses have a strong theoretical and political nature ... and some cases are sensitive” (L33). Digital distraction surfaced as a further obstacle to sustained reasoning.

4.6.4. *System-Level Remedies*

Proposals from lecturers matched the layered diagnosis. They called for curriculum integration of critical thinking and for sustained professional development, with assessment reform raised repeatedly; several added technology-enabled options and cultural change. For example, one lecturer recommended “online discussion platforms, interactive tools” to “expand the space and time for thinking training” (L25), and another proposed a “special fund for critical thinking education” to support teaching materials and case databases (L33). Their reasoning treated isolated classroom fixes as insufficient and favoured coordinated reform joining curriculum and assessment with teacher development.

5. DISCUSSION

5.1. *A Narrowed Construct Inside Theory Courses*

The first contribution of these findings is conceptual. Lecturers' conceptions converged on formal reasoning and argument quality, leaving openness and collaborative learning at the margins. The profile resembles the skills-weighted picture documented among university instructors elsewhere (Bellaera et al., 2021) and illustrates the reduction that recent syntheses warn against (Andreucci-Annunziata et al., 2023). The high rating given to

memorisation is telling in a theory-driven course, where content retention is a visible marker of achievement. A construct weighted this way lends itself to teaching that rewards correct analysis of prescribed material more readily than open inquiry or the revision of belief through dialogue. Students taught under it may handle structured reasoning tasks well while gaining little practice in the dispositional and social dimensions that support transfer (Facione, 1990). We would not expect this pattern to be unique to China. A similar tilt towards “thinking correctly” over “thinking critically” seems likely in any course that privileges authoritative content.

5.2. Context-Conditional Endorsement

The attitude findings qualify a common assumption in the implementation literature. Lecturers were favourable towards critical thinking in general terms, yet noticeably cooler about anchoring it within IPTC. We read this divergence as contextual adaptation. IPTC operates under explicit value-formation mandates and governance expectations (Liu et al., 2023), and lecturers may well be unsure which forms of critique are appropriate or safe inside them. Comparable caution has been reported wherever cultural or institutional scripts constrain open contestation (Tan, 2017). The practical inference is that exhortation will achieve little on its own. Integration becomes credible once critical thinking is framed as disciplined reasoning in service of course purposes. For example, students might be asked to evaluate evidence and identify assumptions, or to distinguish argument from assertion, within sanctioned thematic boundaries.

5.3. A Structural Account of the Gap

The correlational results carry the sharpest lesson of the study. Conceptions bore no relationship to reported practices, and attitudes were only weakly associated with them. Knowing what critical thinking is, and valuing it, appears insufficient for teaching it under the conditions these lecturers described. The pattern is consistent with implementation research in which capability and resources, alongside incentive alignment, determine whether beliefs reach practice (Kraft et al., 2018) and with training studies in which attitudes shift once teachers have experienced structured practice (Janssen et al., 2019). Our contextual data locate the binding constraints: cohorts above 80 students, grade-oriented learners, dense mandated content, and self-reported gaps in training. Measurement caveats deserve acknowledgement, since self-reports may compress true variation and inflate socially desirable responding. Even allowing for that, survey and interview evidence converge on a structural reading. The critical thinking gap in this theory course context appears to be produced by the teaching system more than by the teachers, although the correlational design does not license a causal claim.

5.4. Implications Beyond China

Four design principles follow for any system teaching mandated theory under examination pressure. The first is to bound the inquiry. Critical thinking tasks gain legitimacy when they are anchored in course purposes and use sanctioned materials, asking students to weigh evidence and justify interpretations within defined limits. The second is to prefer high-structure routines. Peer feedback with explicit criteria (Zeng & Ravindran, 2025) and repeated concept mapping (Barta et al., 2022) remain feasible in large cohorts, as do strategy-specific discussion prompts in online forums (Zhang et al., 2024). Routines of this kind reduce reliance on improvised questioning, which our survey identified as the most unevenly adopted practice in the instrument. The third is to align assessment. In systems where examinations reward reproduction, students' grade orientation will continue to suppress exploratory reasoning, so assessment criteria need to reward justification and counterargument if classroom change is to hold. The fourth is to invest in sustained professional development. One-off workshops are unlikely to build the orchestration skills that dialogic teaching demands, whereas coaching and job-embedded support are associated with considerably larger changes in practice (Kraft et al., 2018).

6. CONCLUSION, LIMITATIONS AND FUTURE RESEARCH

This study examined how the critical thinking gap arises inside a compulsory theory-driven course. Lecturers in IPTC held cognitively weighted conceptions of critical thinking and endorsed it strongly in principle, yet reported enacting it modestly, with support falling towards the midpoint as soon as it was tied to the course itself. Conceptions were unrelated to reported practices, and attitudes were only weakly associated with them, while constraint items covering class size, coverage, assessment orientation and training all attracted strong endorsement. Interview evidence traced these patterns to a layered set of conditions running from student readiness through to institutional mandate.

Several limitations constrain these conclusions. The sample came from one provincial capital, so the findings describe IPTC lecturers in Hefei with more than two years of experience and may not extend to other regions or systems. All practice measures were self-reported, and neither classroom observation nor student outcome data were collected. The cross-sectional design rules out causal inference. Future research should widen sampling across regions and add observational and student-level measures. Intervention studies could then test whether professional development and assessment redesign shift what lecturers actually do. Comparative studies of mandated theory courses in other systems, for instance, citizenship or ethics curricula, would establish how far the structural account offered here travels.

For policy and practice, the encouraging finding is that goodwill is already present. Lecturers in this sample valued critical thinking and could articulate it. Narrowing the gap depends on redesigning the conditions of teaching: bounded inquiry tasks, high-structure routines, assessment that rewards reasoning, and sustained practice-based support for lecturers.

Funding: This study received no specific financial support.

Institutional Review Board Statement: This study was approved by the UNIMAS Human Research Ethics Committee (Approval Code: HREC(NM)/2024(3)/71) on [September 1, 2024]. Institutional permission to approach lecturers was obtained separately from each participating university in Anhui Province, China.

Informed Consent Statement: We confirm that written informed consent was obtained from all participants prior to data collection. Participation was voluntary, and participants were free to withdraw at any time. All data were anonymized to ensure participant confidentiality.

Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

Competing Interests: The authors declare that they have no competing interests.

Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

Disclosure of AI Use: The authors used ChatGPT (GPT-5.5, OpenAI) to assist with language editing and to check the consistency of section headings in earlier drafts of this manuscript. No AI tool was used to generate data, to conduct any part of the analysis or to produce the interpretations reported here. All text was subsequently rewritten, reviewed and verified by the authors, who take full responsibility for the content of the manuscript.

REFERENCES

- Abrami, P. C., Bernard, R. M., Borokhovski, E., Waddington, D. I., Wade, C. A., & Persson, T. (2015). Strategies for teaching students to think critically: A meta-analysis. *Review of Educational Research*, 85(2), 275-314. <https://doi.org/10.3102/0034654314551063>
- Abrami, P. C., Bernard, R. M., Borokhovski, E., Wade, A., Surkes, M. A., Tamim, R., & Zhang, D. (2008). Instructional interventions affecting critical thinking skills and dispositions: A stage 1 meta-analysis. *Review of Educational Research*, 78(4), 1102-1134. <https://doi.org/10.3102/0034654308326084>
- Andreucci-Annunziata, P., Riedemann, A., Cortés, S., Mellado, A., del Río, M. T., & Vega-Muñoz, A. (2023). Conceptualizations and instructional strategies on critical thinking in higher education: A systematic review of systematic reviews. *Frontiers in Education*, 8, 1141686. <https://doi.org/10.3389/feduc.2023.1141686>

- Barta, A., Fodor, L. A., Tamas, B., & Szamoskozi, I. (2022). The development of students critical thinking abilities and dispositions through the concept mapping learning method—A meta-analysis. *Educational Research Review*, 37, 100481. <https://doi.org/10.1016/j.edurev.2022.100481>
- Bellaera, L., Weinstein-Jones, Y., Ilie, S., & Baker, S. T. (2021). Critical thinking in practice: The priorities and practices of instructors teaching in higher education. *Thinking Skills and Creativity*, 41, 100856. <https://doi.org/10.1016/j.tsc.2021.100856>
- Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper (Ed.), *APA handbook of research methods in psychology*. In (Vol. 2, pp. 57–71). Washington, DC, USA: American Psychological Association.
- Creswell, J. W., & Plano, C. V. L. (2017). *Designing and conducting mixed methods research* (3rd ed.). Thousand Oaks, CA: SAGE.
- Deng, Y., & Guo, Z. (2021). *Theoretical education: The core engine of the reform of ideological and political theory courses in higher education institutions*. Paper presented at the Proceedings of the 2020 International Conference on Modern Education Management, Innovation and Entrepreneurship and Social Science (MEMIESS 2020), Atlantis Press.
- Facione, P. A. (1990). *Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction (The Delphi Report)*. Millbrae, CA, USA: California Academic Press.
- Fan, K., & See, B. H. (2022). How do Chinese students' critical thinking compare with other students?: A structured review of the existing evidence. *Thinking Skills and Creativity*, 46, 101145. <https://doi.org/10.1016/j.tsc.2022.101145>
- Janssen, E. M., Mainhard, T., Buisman, R. S. M., Verkoeijen, P. P. J. L., Heijltjes, A. E. G., van Peppen, L. M., & van Gog, T. (2019). Training higher education teachers' critical thinking and attitudes towards teaching it. *Contemporary Educational Psychology*, 58, 310–322. <https://doi.org/10.1016/j.cedpsych.2019.03.007>
- Jiang, J. (2013). Critical thinking in general education in China. *International Journal of Chinese Education*, 2(1), 108–134.
- Kraft, M. A., Blazar, D., & Hogan, D. (2018). The effect of teacher coaching on instruction and achievement: A meta-analysis of the causal evidence. *Review of Educational Research*, 88(4), 547–588. <https://doi.org/10.3102/0034654318759268>
- Li, L. (2016). Integrating thinking skills in foreign language learning: What can we learn from teachers' perspectives? *Thinking Skills and Creativity*, 22, 273–288. <https://doi.org/10.1016/j.tsc.2016.09.008>
- Liang, W., & Fung, D. (2021). Fostering critical thinking in English-as-a-second-language classrooms: Challenges and opportunities. *Thinking Skills and Creativity*, 39, 100769. <https://doi.org/10.1016/j.tsc.2020.100769>
- Liu, X., Xiantong, Z., & Starkey, H. (2023). Ideological and political education in Chinese Universities: Structures and practices. *Asia Pacific Journal of Education*, 43(2), 586–598. <https://doi.org/10.1080/02188791.2021.1960484>
- Liu, Y., & Pásztor, A. (2022). Effects of problem-based learning instructional intervention on critical thinking in higher education: A meta-analysis. *Thinking Skills and Creativity*, 45, 101069. <https://doi.org/10.1016/j.tsc.2022.101069>
- Ma, L., & Liu, N. (2023). Teacher belief about integrating critical thinking in English teaching in China. *Journal of Education for Teaching*, 49(1), 137–152. <https://doi.org/10.1080/02607476.2022.2044267>
- Ma, L., & Luo, H. (2021). Chinese pre-service teachers' cognitions about cultivating critical thinking in teaching English as a foreign language. *Asia Pacific Journal of Education*, 41(3), 543–557. <https://doi.org/10.1080/02188791.2020.1793733>
- Manalo, E., Kusumi, T., Koyasu, M., Michita, Y., & Tanaka, Y. (2015). Do students from different cultures think differently about critical and other thinking skills? In M. Davies & R. Barnett (Eds.), *The Palgrave handbook of critical thinking in higher education*. In (pp. 299–316). New York: Palgrave Macmillan.
- Ouyang, S., Zhang, W., Xu, J., Rashid, A. M., How, S. P., & Hassan, A. B. (2024). RETRACTED: Unmasking the challenges in ideological and political education in China: A thematic review. *Heliyon*, 10(8), e29176. <https://doi.org/10.1016/j.heliyon.2024.e29176>
- Pang, H., Cheng, M., Yu, J., & Wu, J. (2020). Suzhi education and general education in China. *ECNU Review of Education*, 3(2), 380–395. <https://doi.org/10.1177/2096531120913171>
- Pnevmatikos, D., Christodoulou, P., Georgiadou, T., & Lithoxoidou, A. (2023). Undergraduate students' conceptualization of critical thinking and their ideas for critical thinking acquisition. *Education Sciences*, 13(4), 416. <https://doi.org/10.3390/educsci13040416>

- Shell, R. (2001). Perceived barriers to teaching for critical thinking by BSN nursing faculty. *Nursing Education Perspectives*, 22(6), 286–291.
- Sun, W., Sun, H., & Gu, W. (2020). *Critical thinking of undergraduates and cultivating paths in Chinese universities*. Paper presented at the Proceedings of the International Conference on Advanced Education, Management and Social Science.
- Tan, C. (2017). Teaching critical thinking: Cultural challenges and strategies in Singapore. *British Educational Research Journal*, 43(5), 988–1002. <https://doi.org/10.1002/berj.3295>
- Tan, C. (2020). Conceptions and practices of critical thinking in Chinese schools: An example from Shanghai. *Educational Studies*, 56(4), 331–346. <https://doi.org/10.1080/00131946.2020.1757446>
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, 53–55. <https://doi.org/10.5116/ijme.4dfb.8dfd>
- Zeng, X., & Ravindran, L. (2025). Design, implementation, and evaluation of peer feedback to develop students' critical thinking: A systematic review from 2010 to 2023. *Thinking Skills and Creativity*, 55, 101691. <https://doi.org/10.1016/j.tsc.2024.101691>
- Zhang, Q., Liu, Z., & Shen, H. (2023). Challenges to improving higher education students' critical thinking capacity in China. *European Journal of Education*, 58(3), 387–406. <https://doi.org/10.1111/ejed.12570>
- Zhang, Z., Zhang, E., Liu, H., & Han, S. (2024). Examining the association between discussion strategies and learners' critical thinking in asynchronous online discussion. *Thinking Skills and Creativity*, 53, 101588. <https://doi.org/10.1016/j.tsc.2024.101588>
- Zhao, F., Zheng, W., & Gao, X. (2022). Research on the cooperative education effect of “ideological and political curriculum” and ideological and political theory courses. *BCP Social Sciences & Humanities*, 16, 53–60.
- Zohar, A., Degani, A., & Vaaknin, E. (2001). Teachers' beliefs about low-achieving students and higher order thinking. *Teaching and Teacher Education*, 17(4), 469–485. [https://doi.org/10.1016/S0742-051X\(01\)00007-5](https://doi.org/10.1016/S0742-051X(01)00007-5)