

EXPLORING THE RELATIONSHIP BETWEEN PRE-SERVICE EFL TEACHERS' QUESTIONING TECHNIQUES AND STUDENTS' CRITICAL THINKING: CASE STUDIES OF THREE PRE-SERVICE TEACHERS IN HIGH SCHOOL EFL CLASSES

Ms. Nguyen Thi Yen Nhi, Ms. Nguyen Ha Thu

1. INTRODUCTION

Teacher questioning is a fundamental instructional tool in English as a Foreign Language (EFL) classrooms, used for checking comprehension, eliciting language production, managing interaction, and stimulating critical thinking (CT). In Vietnam, the General Education Curriculum 2018 places a strong emphasis on developing learners' core competencies, such as autonomy, communication, collaboration, and problem-solving. This educational shift requires instructional practices that move beyond passive rote-learning toward active, reflective, and critical engagement. While a substantial body of research exists on teacher questioning, the vast majority of studies (76% in systematic reviews from 2010 to 2020) focus on experienced, in-service teachers, leaving pre-service teachers (only 16%) significantly underexplored. Furthermore, research on teacher questioning and CT in the Vietnamese high school context, which is typically characterized by large classes, exam-oriented curricula, and spoon-feeding learning cultures, remains highly scarce. To address this gap, this multiple-case study investigates the cognitive levels and delivery techniques of pre-service teachers' questions, examines how these techniques elicit student CT in real-time interaction, and explores teachers' underlying pedagogical perceptions.

2. RESEARCH QUESTIONS

- RQ1.** What cognitive levels (based on Bloom's Revised Taxonomy) and questioning techniques are employed by pre-service EFL teachers in classroom interaction?
- RQ2.** How do students' responses reflect different levels of critical thinking in relation to teachers' questioning techniques?
- RQ3.** How do pre-service EFL teachers perceive the role of questioning in fostering students' critical thinking

3. THEORETICAL FRAMEWORK

Stage I: Input

TEACHER QUESTIONING

Cognitive Demand Levels
(Anderson & Krathwohl, 2001)

LOTS (Lower-Order Thinking)

- Remember
- Understand
- Apply

HOTS (Higher-Order Thinking)

- Analyze
- Evaluate
- Create

Delivery & Feedback Techniques
(Yang, 2017)

- Probing
- Redirecting
- Prompting
- Praising
- Repeating
- Quoting

Pedagogical Mediation & Scaffolding

Stage 2: Process

CLASSROOM DISCOURSE & INTERACTION

Sociocultural Theory & ZPD
(Vygotsky, 1978)

Zone of Proximal Development
Dynamic Social Scaffolding bridging the gap between actual and potential cognitive development.

Classroom Discourse Analysis
(Walsh, 2011)

Initiation
Response
Feedback

Multi-turn Scaffolding Chains (IRFRF)

Observable Cognitive Talk Output

Stage 3: Output

STUDENT CRITICAL THINKING

Delphi CT Framework (Facione, 1990)

1. Interpretation

Clarifying & decoding meaning

3. Evaluation

Assessing credibility of claims & arguments

5. Explanation

Stating results & justifying procedures

2. Analysis

Identifying intentional inferential relationships

4. Inference

Drawing reasoned conclusions & conjectures

6. Self-Regulation

Monitoring & correcting cognitive activities

4. METHODOLOGY

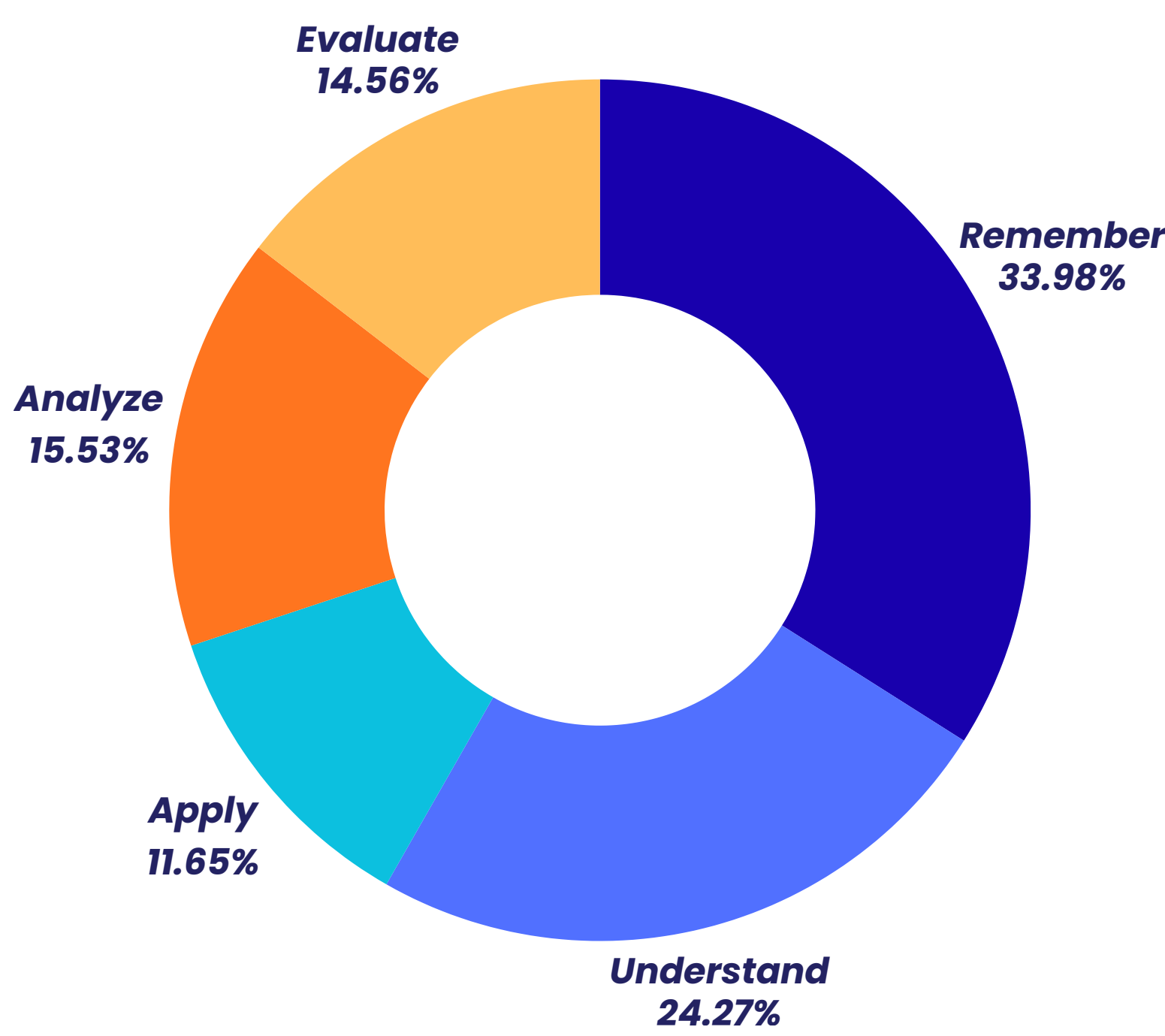
This study employed a qualitative, exploratory multiple-case study design using classroom discourse analysis as the primary analytical lens, triangulated with post-observation semi-structured interviews.

- Research design:** Qualitative multiple-case study design.
- Participants:** 3 pre-service EFL teachers from Hanoi National University of Education (HNUE) in the final phase of their Bachelor's programme in English Language Teaching.
- Research settings & context:**
 - School: a public high school in Hanoi, Vietnam.
 - Students: Upper secondary students (Ages 15–17) in 3 classes, two in Grade 10 and another in Grade 11. (n=30–38 students/class)
 - English Proficiency: ~ B1 level; L1 is Vietnamese
- Data Collection Instruments:**
 - Classroom video recordings: 1 speaking lesson per teacher (selected for high interaction density).
 - Semi-structured interviews: Post-practicum sessions (15–20 mins) evaluating teacher beliefs and challenges.
- Data Analysis:** Verbatim classroom transcripts were coded in MS Excel across four frameworks: **Revised Bloom (2001)** (cognitive level), **Yang (2017)** (questioning techniques), **IRF (1975; 2011)** (interactional structure), and **Facione (1990)** (critical thinking). Semi-structured interviews were analyzed via thematic analysis.

5. KEY FINDINGS

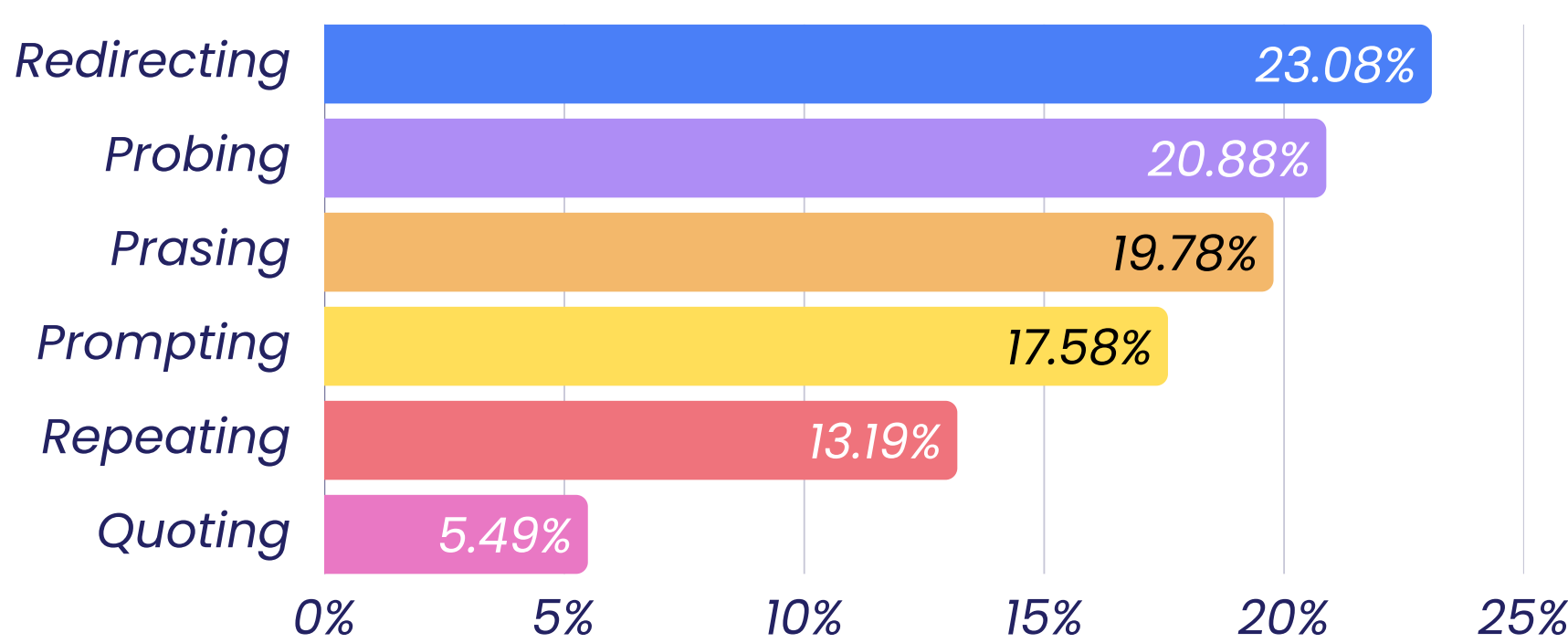
Finding 1: Cognitive imbalance & questioning techniques (RQ1)

Bloom's Cognitive Level Distribution



Questions were heavily skewed toward LOTs skills (69.90%). Lower-order recall (Remember: 33.98%) and comprehension checks (Understand: 24.27%) dominated classroom discourse. HOTS was constrained to Analyze (15.53%) and Evaluate (14.56%), while Create-level inquiries were completely absent (0.00%).

Question Techniques (Yang, 2017)



Pre-service teachers relied on Redirecting (23.08%) to distribute participation and Probing (20.88%) to prompt deeper answers.

Cross-Case Comparison

Participants	Questions (n)	LOTs	HOTs	Primary Questioning Techniques
Teacher A	11	81.81%	18.18%	Prompting (46.7%), Praising (26.7%)
Teacher B	50	68%	32%	Quoting (29.3%), Probing (19.5%)
Teacher C	42	69.05%	30.95%	Quoting (29.3%), Probing (19.5%)
Overall	103	69.9%	30.1%	Redirecting (23.1%) > Probing (20.9%)

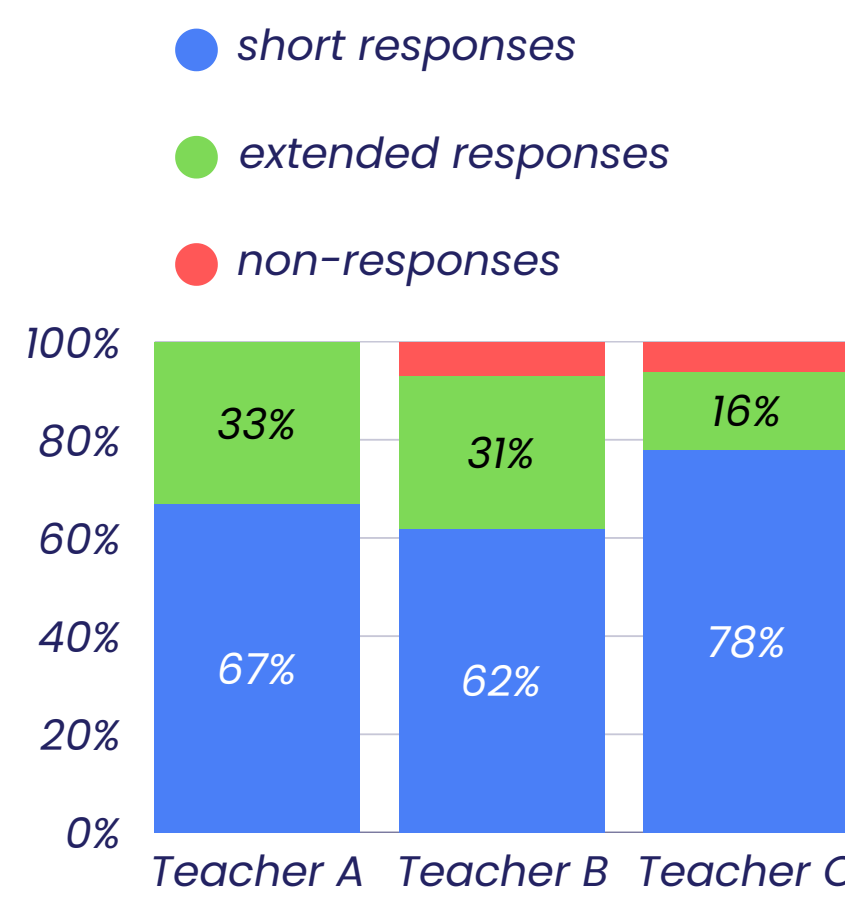
Teacher A exhibited the highest concentration of lower-order questions (81.82% LOTs), relying heavily on direct prompting. Teacher B and Teacher C integrated higher-order questions more frequently (32.00% and 30.95% HOTs respectively), primarily through probing and quoting strategies during speaking task setups.

Finding 2: Student critical thinking clustering and the potential of Probing (RQ2)

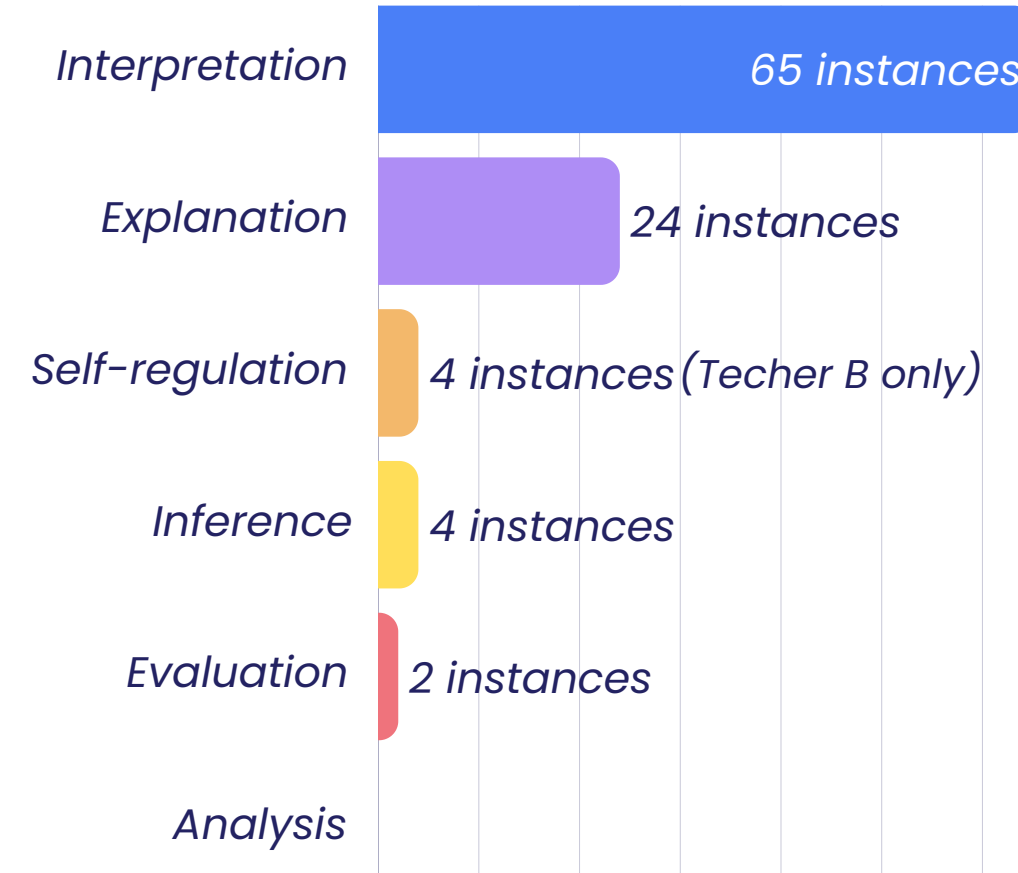
Student output was dominated by short, minimally elaborated responses (62%–78%), with extended reasoning appearing

secondarily (16%–33%). Demonstrations of CT were heavily clustered at lower levels, primarily Interpretation (n = 65) and Explanation (n = 24), while Inference (n = 4), Self-Regulation (n = 4), and Evaluation (n = 2) were rare, and Analysis was entirely absent (n = 0).

Types of Student Responses Observed



Facione (1990) Critical Thinking Distribution



Distribution of Student Critical Thinking Skills across Questioning Techniques

Questioning Technique (Yang, 2017)	Interpretation (n=65)	Explanation (n=24)	Higher-Order CT	Total Instances
Probing	8	6	3	17
Prompting	13	7	0	20
Redirecting	14	6	1	21
Praising	12	3	3	18
Repeating	10	1	3	14
Quoting	7	1	0	8

Notably, Probing was the only technique that elicited Evaluation (n = 2) and yielded the broadest spread of cognitive skills, though its higher-order impact was frequently curtailed when multi-turn scaffolding chains were not sustained.

Finding 3: Teacher cognition & the "performance gap" (RQ3)

In post-observation interviews, all three pre-service teachers expressed positive beliefs regarding critical thinking and recognized the importance of higher-order questions. However, an acute "Performance Gap" emerged in practice: teachers routinely converted planned higher-order inquiries into low-level display prompts during live interaction.

Stated pedagogical beliefs

- High valuation of critical thinking
- Theoretical awareness of HOTS vs LOTs
- Desire to encourage student reasoning

Mediating contextual constraints

- Student L2 language anxiety & silence
- Large class sizes (30–38 students)
- Pacing pressure & strict syllabus
- Student habits of spoon-fed recall

Enacted classroom reality

- Default to LOTs (69.90%)
- Turn-closing evaluative feedback
- Rapid simplification of complex prompts

6. IMPLICATIONS

01. Pedagogical practice

- Shift from isolated check questions to sustained IRFRF chains that require students to justify, evaluate, and elaborate claims.
- Replace simple evaluative feedback ("Good/Correct") with open-ended prompts (e.g., "Why do you think so?") to expand dialogic space.

02. Teacher education

- Shift practicum training from abstract planning to classroom interactional management to help trainees scaffold HOTS in real time.
- Train novice teachers to navigate student silence or hesitation without immediately downgrading cognitive demands to low-level recall tasks.

03. Research Implications

- Combine IRF interactional mapping with dual cognitive and questioning taxonomies to evaluate thinking-in-interaction.
- Pair classroom observations with stimulated recall protocols to examine students' internal, silent cognitive processing.

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