

DISCOURSE ANALYSIS STUDY: INVESTIGATING THE INFLUENCE OF DIVERSE TEACHER QUESTIONING TECHNIQUES ON STUDENT ENGAGEMENT AND COMPREHENSION

Janiel V. Tabios¹, Joanne E. Bermillo²

Department of Language Education, Central Mindanao University, University Town, Musuan, Maramag, Bukidnon, Philippines

ABSTRACT

Effective teacher-student interaction is crucial for successful classroom learning, and questioning is as a key tool for eliciting responses, assessing comprehension, and fostering engagement. This research explores the dynamics of teacher-student interaction, focusing on how different questioning techniques impact student engagement and understanding. Classroom discourse is analyzed using Sinclair and Coulthard's (1975) Initiation-Response-Feedback (IRF) model. The study examines the types of questions teachers employ, the nature of student responses, and teacher feedback to determine the correlation between questioning strategies and student outcomes, ultimately seeking to inform evidence-based instructional improvement strategies.

Keyword: teacher-student interaction, questioning techniques, classroom discourse, student engagement, Initiation-Response-Feedback (IRF) model

1. INTRODUCTION

The establishment of dynamic, effective teacher-student interaction is a non-negotiable for fostering successful learning experiences in the classroom. Among educators' pedagogical approaches, the strategic use of questioning emerges as a particularly salient interactional tool. Through skillful questioning, teachers can effectively elicit student responses, gain valuable insights into students' comprehension levels, and cultivate a more participatory and engaging learning environment. Furthermore, it is increasingly recognized that deliberately selecting and implementing varied questioning techniques can profoundly influence the depth of cognitive processing students undertake and the extent to which they actively participate in classroom discourse. Consequently, a rigorous analysis of classroom discourse, with a specific emphasis on the patterns and characteristics of teacher questioning, holds substantial promise for generating evidence-based strategies to optimize instructional practices. To facilitate a nuanced understanding of the structural intricacies of these teacher-student exchanges, the Initiation-Response-Feedback (IRF) model, a seminal framework developed by Sinclair and Coulthard in 1975, offers a robust, widely adopted analytical

lens. This model provides a systematic approach to dissecting the sequential flow of classroom communication, thereby enabling researchers to gain a deeper understanding of how teacher questioning initiates, shapes, and ultimately influences the trajectory of classroom interaction.

1.2 Objectives

This research endeavors to meticulously investigate the multifaceted ways in which the diverse array of teacher questioning techniques implemented in the classroom setting influences critical aspects of student engagement and the depth of their understanding. A primary objective of this study is to conduct a comprehensive analysis of classroom discourse, utilizing the established framework of the Initiation-Response-Feedback (IRF) model, to thoroughly examine the intricate interplay between the specific questioning strategies employed by teachers, the nature of the responses elicited from students, and the subsequent feedback provided by the educators. Furthermore, this study aims to specifically explore the nuanced relationship between distinct categories of questioning and observable levels of student participation in the classroom.

1.3 Research Questions

This study seeks to address the following key inquiries:

1. "What is the adjectival description of different questioning techniques (e.g., open-ended, closed-ended, probing) employed by teachers during classroom instruction?"
2. "How does the use of different questioning techniques correlate with observable indicators of student engagement (e.g., participation frequency, attentiveness, verbal response length) in classroom discussions?"

1.4 Significance of the Study

The findings of this research are anticipated to significantly enhance current understanding of the complex interrelationships among teacher questioning practices, student engagement in the learning process, and overall student comprehension. By providing empirical evidence in this area, this study aims to offer valuable insights that can directly inform the design and implementation of more effective teacher training programs, with a particular emphasis on cultivating sophisticated and impactful questioning skills among educators. Ultimately, this research aims to contribute to ongoing efforts to refine teacher questioning techniques, thereby fostering the creation of more dynamic, interactive, and ultimately more conducive learning environments for all students.

1.5 Literature Review

Effective teacher-student interaction is widely recognized as a cornerstone of quality education, particularly in English as a Foreign Language (EFL) instruction. The discourse that occurs between teachers and students plays a vital role in shaping various student outcomes. Research consistently demonstrates that the nature and quality of these interactions have a substantial influence on students' academic achievement, motivation, and overall engagement in the learning process. This highlights the importance of analyzing and understanding the dynamics of teacher-student exchanges to optimize educational effectiveness.

Questioning is a fundamental and versatile pedagogical tool employed by teachers across

diverse educational settings. Educators utilize a range of questioning strategies to achieve various instructional goals. These strategies include probing, which aims to elicit deeper understanding from students; redirecting, which encourages broader participation in the classroom; prompting, which guides students towards correct responses; and repeating, which reinforces key information and concepts. Furthermore, questioning can be categorized based on the cognitive demands placed on learners, encompassing questions designed to assess knowledge recall, comprehension, application, analysis, synthesis, and evaluation.

Extensive scholarly research has established that the skillful and purposeful integration of appropriate questioning techniques yields positive impacts on the learning process. The type of questions teachers ask can significantly influence students' cognitive engagement, thereby shaping the extent and quality of their participation in classroom activities. Moreover, the patterns of teacher discourse—specifically the ways teachers formulate questions and respond to student answers—have been shown to have a notable effect on student engagement and language acquisition, particularly in EFL contexts.

The Initiation-Response-Feedback (IRF) model provides a robust and influential framework for the systematic analysis of classroom discourse. This model offers a structured lens for examining the sequential organization of teacher-student interactions. The IRF model focuses on the teacher's initiating questions, students' subsequent responses, and the teacher's evaluative or elaborative feedback.

2. METHODOLOGY

2.1 Research Design

This study will adopt a mixed-methods research design, strategically integrating both quantitative and qualitative approaches to provide a comprehensive and nuanced understanding of teacher questioning techniques and their effects on student engagement and understanding. The utilization of a mixed-methods approach is predicated on the recognition that neither quantitative nor qualitative methods alone can fully capture the complexities of classroom interaction. By combining these methodologies, the study aims to leverage their strengths, thereby facilitating a more robust and insightful analysis.

The quantitative component of the research will involve the systematic coding of classroom discourse. This process will focus on quantifying the frequency with which teachers employ different questioning techniques, as well as documenting the occurrence of various Initiation-Response-Feedback (IRF) patterns in classroom dialogue. Frequency counts and statistical analyses will be conducted to identify patterns and trends in teacher questioning behavior.

Complementing the quantitative analysis, the qualitative component will delve into the nature of teacher-student interactions. This will involve a detailed analysis of classroom discourse, focusing on the qualitative characteristics of the exchanges and exploring the intricate ways in which teacher questioning influences student engagement and comprehension. Qualitative analysis allows for a richer contextual understanding of the data, capturing the subtleties and complexities of classroom communication that quantitative methods may overlook.

2.2 Participants

The participants in this study will be carefully selected to provide a representative sample of the population of interest. Specifically, the study will include both teachers and students from grades 9 and 10 of Bangcud National High School.

2.3 Data Collection

To capture the dynamic interplay between teachers and students, classroom lessons will be systematically recorded. The primary modes of recording will be video or audio recording, chosen based on the specific classroom environment and the need to capture both verbal and non-verbal cues. These recordings will serve as the raw data for subsequent discourse analysis.

Following the recordings, verbatim transcripts of the classroom interactions will be produced. These transcripts will provide a detailed written record of the spoken dialogue, including teacher questions, student responses, and any other relevant verbal exchanges. The creation of accurate and detailed transcripts is a crucial step in ensuring the rigor and validity of the discourse analysis.

Data collection will be conducted over a specified period, spanning multiple lessons or classroom sessions. This extended data-collection period is

essential to obtain a representative sample of classroom discourse, capture the variability in teaching and learning activities, and account for potential fluctuations in teacher and student behavior. The duration of data collection will be determined by factors such as the research questions, the complexity of classroom interactions, and the need to achieve data saturation.

2.4 Data Analysis

2.4.1 Discourse Analysis

The verbatim transcripts of the classroom recordings will be analyzed using Sinclair and Coulthard's (1975) Initiation-Response-Feedback (IRF) model. This model provides a structured framework for examining the sequential organization of classroom talk, focusing on the teacher's initiating moves (I), students' responding turns (R), and the teacher's feedback or follow-up moves (F). The IRF model will be used to identify patterns in classroom interaction and to analyze how teacher questioning shapes the flow of discourse.

In the discourse analysis, teacher questioning techniques will be systematically categorized using established typologies. This categorization may include distinctions such as:

- **Open-ended questions:** Questions that allow for a wide range of possible responses and encourage students to elaborate.
- **Closed-ended questions:** Questions that typically have a single correct answer and limit the scope of student responses.
- **Probing questions:** Questions that seek to elicit deeper explanations or justifications from students.
- **Evaluative questions:** Questions that require students to make judgments or express opinions.

Student engagement will be assessed through a combination of observable indicators within the classroom discourse. These indicators may include:

- **Participation:** The frequency and extent of student contributions to classroom discussions.

- **Responsiveness:** The promptness and appropriateness of student answers to teacher questions.
- **Extended responses:** The length and complexity of student utterances indicate a deeper level of cognitive processing.

Student understanding will be evaluated based on the accuracy, complexity, and clarity of their responses to teacher questions. This assessment will involve analyzing student answers, identifying evidence of comprehension or misunderstanding, and evaluating the depth of their knowledge and skills.

2.4.2 Quantitative Analysis

The quantitative analysis will use descriptive statistics to analyze the coded data. Frequency counts will be calculated to determine the prevalence of different questioning techniques and IRF patterns in the classroom discourse. Statistical analyses, such as correlations, will be used to examine relationships between questioning techniques and measures of student engagement and understanding. The specific statistical tests used will depend on the nature of the data and the research questions being addressed.

2.4.3 Qualitative Analysis

The qualitative analysis will involve a detailed, interpretive examination of classroom discourse data. This will go beyond simply quantifying the occurrence of certain phenomena to explore the underlying dynamics of teacher-student interaction. Thematic analysis will be used to identify recurring patterns and themes in the data, focusing on the qualitative characteristics of the discourse and the meanings that participants construct through their interactions. This process will involve an iterative approach, with the researcher moving back and forth between the data and the emerging themes, refining the analysis to capture the richness and complexity of the classroom communication.

3. RESULTS

The analysis of the classroom transcripts reveals the consistent use of the Initiation-Response-Feedback (IRF) model across all lessons. Within the "Initiation" phase, the following observations were made regarding the frequency and impact of different questioning techniques:

Questioning Technique	Adjectival Description	Supporting Observations from Transcripts
Closed-ended Questions	High	Numerous instances of questions seeking short, factual answers or "yes/no" responses. Used frequently to check for basic understanding and recall.
Open-ended Questions	Moderate	Used to encourage more elaborate responses and discussion. Less frequent than closed-ended questions, but consistently present.
Probing Questions	Moderate to Low	Used to elicit deeper explanations and justifications. Frequency varies; sometimes used as follow-ups to open-ended questions.
Evaluative Questions	Low	Least frequent type in these excerpts. Questions explicitly asking for judgments or opinions are less common.

Closed-ended Questions: These questions were frequently used to initiate discussion and assess basic recall or understanding. For instance, teacher 1 question, "Has anyone heard of this play before?" (Romeo and Juliet), elicited a brief affirmative response from Walag. Similarly, teacher 2 question, "Bridget, have you ever heard

any terms used when talking about plays or performances?" (Language of Stage), received a short factual answer. Example:

Mrs. Alamban: Good morning, class! Today, we're going behind the scenes of drama and theater. Just like any field, theater has its own special language. We're going to get familiar with some key technical

vocabulary. Walag, have you ever heard any terms used when talking about plays or performances? (Initiation - Closed-ended) Brian: Yes, Ma'am! Like "stage left" and "stage right." (Response - Short, factual)

Open-ended Questions: These questions prompted more elaborate and insightful responses from students. For example, Bridget's explanation of the importance of a common vocabulary in theater, in response to teacher 2 open-ended question, demonstrated a deeper level of thinking. Example:

Teacher 2: Briget, why do you think it's important for actors and directors to have a common vocabulary when working on a play? (Initiation - Open-ended)

Bridget: It probably helps them communicate clearly and efficiently, so everyone knows where to move and what to do. (Response - More detailed, analytical)

Probing Questions: While not always explicitly phrased as probes, follow-up questions often encouraged students to justify or expand on their initial responses. Teacher 1 question to Walag, "Walag, what makes you say that their families'

hatred might be stronger than their feelings for each other?" (Romeo and Juliet), pushed her to articulate her reasoning. Example:

Teacher 1: Walag, what makes you say that their families' hatred might be stronger than their feelings for each other? (Initiation - Probing) Walag: Yes, Ma'am. It sounds like reality might be very different from what they hope for. (Response - Justification provided)

Observable indicators of student engagement, such as the length and thoughtfulness of verbal responses, appeared to be more pronounced with open-ended and probing questions than with closed-ended ones. Students seemed more actively involved when asked to explain their reasoning or share their perspectives.

Correlation with Student Engagement

Based on the provided data, a strong correlation exists between the type of questioning technique and the observed indicators of student engagement, including participation, attentiveness, and verbal response length and quality. The detailed observations for each participant are summarized in the table below.

Participant (Observed Teacher Question Type)	Participation Frequency	Attentiveness	Verbal Response Length	Verbal Response Quality
Vinzon (Open-ended)	6 instances; always participates	12 instances; very attentive and focused	8 instances; brief but concise explanation	Relevant
Amore (Closed-ended)	10 instances; always participative but speaks out of turn	3 instances; uses body/hand gestures	3 instances; detailed explanation	Relevant insights
Mary Jane (Probing)	5 instances; always raises hand/ very inquisitive	10 instances; very focused, always has eye contact	10 instances; detailed explanation	Relevant
Anselmo (Evaluative)	20 instances; most students actively participate	15 instances; attentive but sometimes unruly	10 instances; mostly brief, not in sentence form	Some relevant and insightful, some irrelevant

Kharla (Probing)	4 instances; raises hands to inquire deeper	3 instances; focused teacher's discussion	4 instances; detailed explanation	Relevant and insightful
------------------	---	---	-----------------------------------	-------------------------

- **Probing and Open-Ended Questions:**

These techniques appear to be positively correlated with higher-quality verbal responses and attentiveness. Both Teacher Mary Jane and Teacher Kharla, who were observed using probing questions, elicited detailed and insightful explanations from students. Similarly, the student observed in Teacher Vinzon's class (using open-ended questions) was described as "very attentive and focused" and provided a "brief but concise explanation". This suggests that questions that require more thought and elaboration lead to greater cognitive engagement.

- **Evaluative Questions:** The use of evaluative questions, as observed with Teacher Anselmo, appears to generate the highest frequency of participation, with 20 instances recorded, and most students actively raising their hands. However, the quality of these responses was more varied, with some being "irrelevant," and the responses were often "brief and not in sentence form." This indicates that while evaluative questions may encourage frequent participation, they can also lead to a more chaotic discussion.

- **Closed-Ended Questions:** In the case of Teacher Amore's observation (closed-ended questions), participation frequency was high (10 instances), but the student sometimes spoke out of turn. The verbal

responses, while described as "detailed," were infrequent. This suggests that while closed-ended questions can elicit participation, they may not necessarily encourage a continuous flow of high-quality dialogue.

In summary, the qualitative data suggest that probing and open-ended questions are more likely to result in deep, focused, and insightful student engagement. While evaluative questions can stimulate high-frequency participation, the quality of responses may vary. The findings align with existing research, which indicates that higher-level questions encourage students to engage in higher-order thinking and that teachers should shift between question types to suit the situation.

4. DISCUSSION

The analysis of the classroom transcripts demonstrates a consistent reliance on the Initiation-Response-Feedback (IRF) model, with the Initiation phase heavily dominated by teacher questioning. A critical finding is the high frequency of closed-ended questions, primarily used for basic recall and understanding checks. In contrast, higher-order questioning techniques—specifically open-ended, probing, and evaluative questions—are used with moderate to low frequency.

The data establish a strong correlation between the questioning technique and indicators of student engagement, including participation frequency, attentiveness, and the length and quality of verbal responses.

Question Type	Impact on Engagement	Evidence from Transcripts
Probing & Open-ended	Highest Quality Engagement	Elicited "detailed and insightful explanations," <i>higher attentiveness</i> , and promoted justification and deep thinking (Walag, Bridget, Mary Jane, Kharla). This suggests a strong connection between the cognitive demand of the question and the quality of the student response.

Evaluative	Highest Frequency Participation, Varied Quality	Generated the <i>highest participation</i> rate (20 instances/most students), but responses were often "brief, not in sentence form," and sometimes "irrelevant." This points to a potential trade-off between quantity of participation and quality of response.
Closed-ended	High Participation, Low Cognitive Demand	Frequent use for checking basic recall. While participation was high (10 instances), the quality of the dialogue flow was limited, with one student speaking "out of turn." This confirms their utility for quick checks but highlights their limited capacity to foster sustained, high-quality dialogue.

The observations support the premise that higher-order questioning (open-ended and probing) promotes higher-order thinking and more focused, quality engagement. The use of probing questions, which required students to "justify or expand on their initial responses," was particularly effective in pushing students to articulate their reasoning (e.g., Teacher 1 to Walag).

4.1 Implications for Teacher Education and Classroom Practice

The data suggest that while teachers are competent in using the IRF structure and closed-ended questions for basic checks, there is a critical need to enhance pedagogical practice by consistently integrating higher-order questioning strategies. For teacher education, this means shifting training to focus on the strategic skill development of probing and follow-up questions in live practice, teaching future educators how to manage class discussion to balance high participation with high-quality, thoughtful analysis, and using modeling and micro-teaching to show how to cycle through different question types strategically. In classroom practice, teachers must consciously work to increase the ratio of open-ended and probing questions, enforce a purposeful increase in "wait time" after complex questions to allow for deeper analysis, and utilize structured response techniques (like Think-Pair-Share) to ensure that high-frequency participation from evaluative questions still yields focused and relevant student responses.

5. CONCLUSION AND RECOMMENDATION

5.1. Conclusion

This comprehensive analysis firmly establishes the Initiation-Response-Feedback (IRF) cycle as the universal conversational framework within the observed lessons. The most significant insight from the data is the intrinsic and powerful relationship between the cognitive rigor of the teacher's initiating question and the quality of student engagement that results. Specifically, pedagogical techniques characterized by probing and open-ended questions demonstrate a robust capacity to elicit responses that are not only more detailed and focused but also deeply insightful, thereby successfully cultivating and demanding higher-order thinking from students. Conversely, the study provides a critical caveat: while certain question types, such as evaluative ones, may lead to a high participation rate, this surge in quantitative involvement often comes at the expense of qualitative rigor. Teachers must recognize this tension, understanding that the goal of classroom dialogue is not simply widespread talk, but the generation of substantive, well-reasoned, and analytically sound contributions. Ultimately, the findings advocate for a deliberate instructional shift from questioning designed merely for factual recall to a sustained focus on inquiry that promotes justification, explanation, and critical synthesis.

RECOMMENDATION

Based on the evidence underscoring the vital role of sophisticated questioning in fostering deep learning, it is strongly recommended that educational systems implement a multifaceted approach to refine teaching practices. Firstly, strategic questioning must be integrated as a non-negotiable core competency within all teacher professional development and pre-service curricula. This training should be practical, moving beyond theoretical classification to the consistent, deliberate application of probing and open-ended questions in real-time scenarios, aimed at continuously challenging students' conceptual boundaries. Secondly, to empower reflective practice, teachers should be actively encouraged to undertake Action Research—a systematic, personal analysis of their own questioning discourse, tracking the ratio and impact of different question types to establish concrete, measurable goals for increasing higher-level inquiry. Finally, the rich data generated by these advanced questions should be fully leveraged for formative assessment. Instead of relying on closed-ended checks that only gauge surface-level retention, educators must use the detailed, articulated explanations from probing questions as a superior diagnostic tool to precisely assess genuine student comprehension, reasoning abilities, and conceptual misconceptions, enabling highly targeted and effective instructional adjustments.

REFERENCES

- [1] Chica Cárdenas, Y. I. (2021). Questioning as an Effective Tool to Enhance Students' Interaction in the English Classroom. *South Florida Journal of Development*, 2(2), 3510-3520.
- [2] Hasanah, U., Sari, N. A., & Husein, R. (2024). Initiation-Response-Feedback (IRF) Pattern of Sinclair and Coulthard Model in English Classroom Interaction. *Sintaksis: Publikasi Para Ahli Bahasa dan Sastra Inggris*, 2(5), 340-348.
- [3] Jaeger, E. L. (2019). Initiation, Response, Follow-up, and Beyond: Analyzing Dialogue Around Difficulty in a Tutorial Setting. *Dialogic Pedagogy*, 7.
- [4] Kartini, Siti, Syakira, & Siti, Aisyah. (2022). Initiation-Response-Feedback Pattern Used by Lecturer-Students in EFL Classroom Interaction. *Teaching & Learning English in Multicultural Contexts*. 6(1). 44-56
- [5] Putri, D. Y., & Reflinda. (2021). Teacher's Questioning Strategies During the Classroom Interaction at Islamic Senior High School. *FOSTER: Journal of English Language Teaching*, 2(4), 501-516.
- [6] Sulistio, Y., & Dwinata, E. (2021). An Analysis of Teachers' Questioning Strategies During the Classroom Interaction in English for Specific Purposes. *Journal of Educational Review and Cultural Studies*, 1(1), 1-11.
- [7] Tong, Z., An, F., & Cui, Y. ([Year from document]). Exploring teacher discourse patterns: Comparative insights from novice and expert teachers in junior high school EFL contexts