



Examining the Relationship between Classroom Questioning Techniques and Students' Critical Engagement in ESL Higher Education Discussions Across Face-to-Face and Online Contexts through a Mixed-Methods Classroom Discourse Analysis

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Abstract

The present study focuses on exploring the connection between classroom questioning strategies and critical involvement of the students in ESL higher education conversations in the context of face to face and online classrooms. The major purpose is to investigate the effects of the various forms of teacher questions on the profundity and quality of cognitive and linguistic involvement in ESL pupil during academic discourse. It is based on the fact that questioning practices are taken to be central to classroom discourse, and to the encouragement of critical thinking and especially in multilingual higher education classrooms where learners negotiate content and language. The research methodology will be a mixed-methods research design that combines a quantitative analysis with a qualitative classroom discourse analysis. Sociocultural Theory, Classroom Discourse Analysis, and the Revised Taxonomy by Bloom are used to rank theories the author uses to conceptualize questioning techniques and critical engagement. The ESL higher education classrooms provided the data in terms of the audio and video tape recordings of the face-to-face conversations, the transcripts of online discussion sessions, and the student engagement questionnaire. In the two modalities of instructions, instructors, courses, and discussion sessions were selected using purposive and comparative sampling. The results indicate that open-ended, probing, and higher-order questions are closely linked to the increased rate of critical effort of the students both in face-to-face and online settings. Face-to-face discussions encourage immediate response and instant interaction whereas online discussions allow reflection and elaborated responses. In general, the findings indicate that questioning strategies, as opposed to instructional modality, are a determining factor in the development of critical participation in ESL higher education discussion.

Keywords: Classroom Questioning Techniques, Critical Engagement, ESL Higher Education, Classroom Discourse Analysis, Mixed-Methods Research, Face-to-Face Instruction, Online Learning Contexts, Higher-Order Questioning, Sociocultural Theory, Bloom's Revised Taxonomy

Introduction

Background of the Study

Communication in the classrooms has a key role in the development of the second language especially in the context of English as a Second Language (ESL) higher education where meaningful communication is the vehicle as well as the end of teaching. Classroom questioning is one of the many interactional practices adopted by teachers and through this method, a lot of learning has been achieved and through this method, discourse has been shaped and students have been encouraged to engage in thinking as well as, in their

language. Questions not only test understanding, they also organize classroom discourse, distribute rights to participate, as well as, shape the level of student thought and the production of responses.

The quality of classroom questioning is especially crucial in ESL higher education context since learners are negotiating knowledge of the content as well as language proficiency and academic discourse conventions at the same time. According to research, lower-order questions, including display or factual questions, have a tendency of receiving short and form-based answers, in contrast to higher-order questions, including open-ended, referential and critical questions, which receive long-term responses, reasoning, evaluation, and arguments (Bloom et al.; Walsh, 2011). Such advanced responses are closely related to the concept of critical engagement, which can be described as the capacity of students to analyze, assess, justify and argue out ideas in academic discourse.

Critical engagement is being seen as an essential product of higher education, and in ESL learning where students are supposed to engage actively in academic discourse communities. The universities focus on critical thinking, reflective judgment, and dialogic competence as a key to academic success and being a global citizen. Nevertheless, ESL students usually experience linguistic, cognitive, and affective factors that restrict their ability to engage in thought-provoking conversations in classrooms. Consequently, the teaching and learning processes, to a large extent, especially questioning, decide whether to inhibit or facilitate critical learning among the students.

Online and blended learning settings have also changed the way classes are being interacted in higher education. Both asynchronous and synchronous types of online discussions present new dynamics of discourse, patterns of participation and question and response affordance. Although online situations can alleviate anxiety and give ESL learners more processing time, online situations can also curtail spontaneous interaction and dialogic co-construction of meaning. On the other hand, face-to classroom offers an opportunity to receive feedback and multimodal information instantly, but can favor speakers who are more confident. These contextual differences lead to critical issues of how classroom questioning operates in the various modalities and how it affects the critical engagement of the students in either context.

The literature on classroom questioning has concentrated mainly on conventional classroom settings where face-to-face classrooms are predominant and comparatively little investigations have been done on systematic comparisons between face-to-face and online ESL discussion settings. Besides, most studies have been based on either all quantitative (e.g. frequency of question type) or all qualitative observations, and thus, their explanatory power is constrained. It is increasingly being argued that mixed-methods classroom discourse analysis incorporating quantitative patterns and qualitative interactional evidence be used to understand the complexity of pedagogical discourse.

Classroom discourse analysis is an effective tool to study the mechanisms of questioning technique applied in actual classroom practices. With the help of teacher-student interaction, turn-taking patterns and response elaboration, discourse analysis brings out how pedagogical intentions are realized using language. In ESL classrooms, discourse analysis is useful in the ability to reveal how the queries of teachers serve to scaffold the participation of the learners, higher-order thinking, and to manipulate the possibility of critical participation. In conjunction with mixed-methods methods, discourse analysis can enable the researcher to triangulate interactional information with student perceptions and engagement results.

Although the role of questioning techniques has been acknowledged, a gap in the body of research concerning questioning methods expressedly exists that explicitly explores the connection between classroom questioning techniques and critical engagement among the students in face-to-face and online ESL higher education dialogues. Precisely, little is known about the interactional functioning of the different types of questions in every context, the linguistic and cognitive ways that the students make their responses, and the ways that these responses demonstrate the different levels of critical engagement.

It is especially crucial to fill this gap in the modern educational context where the digital learning environments are not an option but an inseparable part of higher education. Knowledge about the ways of

optimization of questioning practices in all the modalities can be used to deliver teacher education, curriculum development and pedagogology innovation in ESL higher education. In the pursuit of a sophisticated, evidence-based description of how the questioning techniques affect student ability to engage critically both in the face-to-face and online classroom, the present research will employ the mixed-methods classroom discourse analysis approach.

Research Questions

1. What are the ESL classroom questioning strategies employed by the ESL instructors in online and in-person higher education discourses?
2. What is the effect of various classroom questioning strategies on the levels of critical engagement of ESL students in both face-to-face and online discussion environments of the classroom?
3. What are the commonalities and differences between questioning strategies and the critical interaction of students in a face-to-face and online ESL classroom?

Research Objectives

1. To find out and classify classroom questioning strategies employed in ESL upper education discussion in both face-to-face and online settings.
2. To test connections between selected questioning strategies and critical involvement of ESL learners as it is expressed in classroom speech.
3. To compare the effects of classroom questioning methodology in face-to-face and online ESL discussions based on a mixed-method classroom discourse analysis design.

Literature Review

ESL Higher Education Classroom Questioning

The pedagogical practice of classroom questioning has always been considered a key feature that influences interaction, the possibility of learning, and cognition in the classroom when teaching a second language. Questions in ESL higher education settings do not only serve as a means of verification to gauge comprehension but also as a discursive activity that organizes the participation, scaffolds meaning-making, and mediates access to academic language practices (Walsh, 2021; Gibbons, 2021). Research equates lower-order questions (e.g., display, factual, yes/no questions) with higher-order questions (e.g., referential, open-ended, analytical, and evaluative questions), and the latter is strongly linked to deeper cognitive processing, as well as prolonged learner output (Jiang and Zhang, 2021; Nassaji, 2021).

The recent research shows that the use of display and comprehension-check questions remains a significant dependence of ESL instructors in a higher education institution, especially in classrooms that are content-heavy (Sato and Loewen, 2020; Dalton-Puffer, 2021). Although these questions can be useful in linguistic accuracy, they usually restrict the possibilities of the learner to think critically about the material. On the contrary, dialogic and inquiry-based questioning methods will foster students to argue their positions, refute views, and co-construct knowledge (Mercer and Dawes, 2021; Hennessy et al., 2020). Classroom discourse research shows that questioning strategies are not stand-alone instructional actions but are situated in the larger interactional patterns of wait time, follow-up moves and feedback strategies (Nystrand et al., 2020; Walsh, 2021).

Doubt and the Critical Interaction of the students

The conceptualization of critical engagement in ESL higher education is usually the capacity of students to analyze, assess, justify, and reflect ideas within academic texts (Hyland, 2021; O'Connor and Michaels, 2021). It goes further than the frequency of participation to incorporate the quality of cognitive and linguistic input by the learners. Empirical studies show that there is a close connection between higher-order questioning

and greater amounts of student critical engagement (Chen and Kent, 2020; Zhang and Lin, 2022).

The literature supported by the reformed taxonomy of Bloom indicates that questions based on analysis, evaluation, and creation are associated with the use of more extended turns, multiple and more complicated syntactic patterns, and more frequent use of stance markers in the answers of ESL students (Anderson et al., 2021; Jiang and Zhang, 2021). This is viewed as a sign of critical engagement since such responses are based on reasoning, positioning and dialogic interaction and not just recall. On the other hand, the classroom with the predominance of lower-order questions is more likely to yield short and direct conversations that limit critical interactions (Nystrand et al., 2020).

Discourse-analytic research also indicates that the interactional management of questions determines whether questions affect or do not affect engagement. As an illustration, open-ended questions with evaluative feedback might still restrict the critical interaction in case the teachers shut down the discussion too soon (Walsh, 2021). Uptake questions, probing follow-ups, and student-directed questions, on the other hand, encourage dialogic space and lengthy involvement (Mercer and Dawes, 2021).

Linguistic proficiency may mediate in the ability of students to respond critically in ESL situations. Nonetheless, studies indicate that such a situation can be alleviated using supportive questioning strategies like rephrasing, prompting, and longer wait time (Gibbons, 2021; Sato and Loewen, 2020), which can be adopted to address linguistic obstacles and facilitate crucial interaction even in the case of lower-proficiency learners. These results are quite empirical support to Research Question 2 that studies the impact of questioning methods on the critical engagement of students.

Online and Face-to-Face ESL Discussion Environments

Classroom interactions patterns in higher education have greatly changed due to the transition to online and blended learning. Synchronous, asynchronous Online ESL discussions raise additional affordances of questioning and engagement, in contrast to face-to-face classrooms (Anderson, 2021; Dooly and Sadler, 2020). It is proposed that participation equity in an online context may be raised due to less anxiety and more planning time to respond that can lead to more critical engagement (Li, 2020; Zhang and Lin, 2022).

Nevertheless, online questioning practices are usually different in their form and purpose. Pre-scripted and task-oriented questions are common in asynchronous discussions, thus potentially restricting spontaneous dialogic interaction (Hampel & Stickler, 2021). Online classes held in real-time provide the possibility of asking questions on the spot, but the turn taking is limited, and there is a lack of feedback (O'Dowd, 2021). The comparative research shows that face-to-face talks encourage instant and sense-making, whereas online talks may stimulate contemplative and amplified reactions when questioning is well thought out (Dooly and Sadler, 2020; Li, 2020).

Comparative studies in modalities involving ESL are still minimal especially in the tertiary level. The available literature tends to study engagement in terms of the number of participation or surveys but not evidence discourse (Zhang and Lin, 2022). This leaves a knowledge gap on the interactional mechanism of questioning techniques in contexts and the modality specific critical engagement process.

Classroom Discourse Analysis Mixed-Methods

The current literature is moving towards more and more studies using mixed-method designs to conduct classroom interaction studies especially where the construct of interest is multifaceted like engagement or critical thinking (Creswell and Plano Clark, 2022). Pattern level (quantitative measures e.g., frequency of question types, response length) insights are given by quantitative measures, and interactionally constructed engagement is given by qualitative discourse analysis (Sato, 2022).

Classroom discourse analysis, which is informed by interactional sociolinguistics and conversation analysis, allows one to analyze the sequences of questioning in detail, teacher follow-up actions, and student reactions (Walsh, 2021; O'Connor and Michaels, 2021). Mixed-methods designs are more helpful when student

perception data or engagement measures are included in the design to provide a more comprehensive picture of the effectiveness of a specific pedagogy (Hennessy et al., 2020).

Nevertheless, irrespective of this methodological advancement, not many studies incorporate mixed-methods discourse analysis to examine face-to-face and online ESL higher education discourses. My study fills this methodological and empirical gap by addressing modal-independent questioning techniques and critical engagement in a systematic manner.

Research Gap

The literature review allows determining that classroom questioning practices play an essential role in the process of shaping critical learning practices of ESL students in higher educational settings. The dialogic questioning should be encouraged because it enables deeper questioning; lower-order questioning, on the other hand, inhibits it. Nevertheless, there is also the scarcity of comparative, discourse-based studies that explore the functioning of these relationships in both face-to-face and online settings based on mixed methods. This research tries to fill this gap by providing a systematic classroom discourse analysis of the methods of questioning and critical engagement in instructional modalities.

Research Methodology

Research Method

The present study uses a mixed-method research design to investigate how the higher education classroom questioning approaches are related to student critiques in ESL classroom discussions in face-to-face and online settings. The approach that is suitable involves a mixed-methods approach since the study aims at not only determining patterns of classroom questioning, but also interpreting the role of patterns in critical engagement of a natural classroom talk. The quantitative aspect is aimed at determining the frequency, distribution, and forms of questioning methods and levels of student response in instructional settings. The qualitative part will entail a deeper classroom discourse analysis to examine the interactions of questioning practices in terms of their functionality and pedagogical role. This design is consistent with the research questions as it allows logical comparison of modalities whilst providing a complex view of teacher-student interaction. The research has been placed in an interpretivist paradigm due to the acknowledgement that critical engagement is a socially constructed event as discourse and not directly observed on the basis of the numerical measures alone.

Theoretical Framework

The theoretical framework combines Sociocultural Theory, Classroom Discourse Analysis, and the Revised Taxonomy by Bloom to offer an impeccable insight into the analysis of the question-based techniques and critical engagement. The Sociocultural Theory especially the Vygotskian theories focus on interaction and scaffolding in the development of cognition and this theory presupposes that the teacher questions mediate thinking and engagement between students. The analysis of the classroom discussion is supported by the contributions of Walsh and Nystrand and offered by the Classroom Discourse Analysis, which examines such features of interaction as turn-taking, follow-up moves, and dialogic space. The Revised Taxonomy by Bloom offers a cognitive scheme on which questioning methods are classified based on the level of thought, with low-order recall being at the lowest level and higher-order analysis, evaluation and creation being at the highest levels. Combined, these frameworks allow a methodical study of the ways, in which questioning strategies facilitate or inhibit the critical interaction of ESL students in the context of face-to-face and online discussions.

Data Collection Methods

The ESL higher education classrooms are gathered through various resources to guarantee the methodological

triangulation of the information. The data that is collected in the classroom is through audio and video recording of face-to-face conversations and transcripts or chat logs made by the online discussion sessions. Transcription of these recordings is done verbatim to be analyzed through discourse. Besides this, a student engagement questionnaire will be done to record how the learners perceive the practice of questioning as well as their own critical engagement. This quantitative tool is used to supplement the discourse data since it presents attitudinal and self-reported measures of engagement. Interactional data is also put into context by gathering field notes and lesson materials. These three data types of observational, discourse-based, and questionnaires reinforce the legitimacy of the conducted research and allow conducting a more subtle analysis of how questioning methods and critical engagement relate to each other.

Sampling Methods

In the research, purposive and comparative methods of sampling are used to identify the participants and data sources. Students and ESL instructors of higher education institutions with face-to-face and online ESL programs are sampled purposely due to their teaching experience on the use of discussions. Comparative sampling makes sure that content areas of similar courses like levels and learning goals and discussion types are represented in the various modalities to maximize comparability. In every classroom, the discussion sessions are sampled over several weeks to obtain a variety of questioning practices and engagement patterns. The student participants are of diverse linguistic and academic backgrounds, and it is the case of ESL higher education contexts which is heterogeneous. This sampling method would provide information-based data and be directly related to the research questions and permit to make meaningful comparisons of the teaching environment involved in face-to-face and online instruction.

Data Analysis

Quantitative Study of Classroom Questioning Techniques and Critical Engagement.

1. Introduction to Data Analysis

The chapter has given analysis of the information gathered to determine how classroom questioning methods and student critical interests in discussion of ESL higher education in both face-to-face and online situations. The analysis will combine both a quantitative and a qualitative methodology guided by the research questions and the mixed-methods research design. The quantitative strand determines patterns of questioning methodology and student reactions, and the qualitative one determines the mechanism of patterns in the way they serve to facilitate or inhibit critical participation.

2. Coding and Data Preparation Process.

Verbatim transcription of all classroom recordings was done using standardized conventions of transcription. In the case of internet based discussions chat messages and discussion transcripts were filtered to eliminate non-discourse factors (like system messages). The transcripts were divided into interactional turns.

The scheme of codification was created concerning the literature on the Revised Taxonomy of Bloom and the discourse in the classroom. The questions of the teacher were coded into the following categories:

- Lower-order (remembering, understanding) questions.
- Higher-order questions (evaluating, creating, analyzing)
- Open ended referential questions.
- Follow-up questions and probing.
- Clarification questions and checking questions.
- Student answers were coded in terms of engagement level and these are:
 - Limited reply (terse)
 - Elaborated response (explanation, justification)
 - Critical reaction (criticism, argumentation, questioning ideas)

- Coding reliability was determined by the inter-coding of a quarter of the data, and the results were high in agreement, which guaranteed consistency in the coding.

3. Techniques of Questioning Frequency

The initial research question is based on the research inquiry concerning the nature of classroom questioning practices used in on-line and face to face ESL higher learning conversation. Quantitative frequency analysis showed that there were apparent distinctions among the instructional situations.

Table 1 Frequency of Question Types across Contexts

Question Type	Face-to-Face (%)	Online (%)
Lower-order questions	38	24
Higher-order questions	27	35
Open-ended referential	18	26
Probing/follow-up	12	10
Clarification/checking	5	5

Classrooms with face-to-face classrooms were more dependent on lower-order questions which are frequently applied to gauge understanding and keep the lesson progressing. Higher proportion of higher-order and open-ended questions as seen in online discussions, especially asynchronous sessions were exemplified by a task-based and discussion-oriented design.

4. Quantitative Student critical engagement indicators

Response length, Response complexity and engagement questionnaire scores were used to measure student engagement. The written responses of online discussions were longer and the oral turns in face-to-face discussions were more frequent and shorter.

Table 2 Student Response Types Across Contexts

Response Type	Face-to-Face (%)	Online (%)
Minimal responses	42	25
Elaborated responses	36	44
Critical responses	22	31

The statistics show that higher-order questioning correlates with the greater proportion of elaborated and critical answers in both scenarios, though more so in the case of online discussions.

5. Correlation between Type of Question and Engagement

Statistical comparison The relationship between question type and level of student engagement was found to be strong.

Table 3 Question Type and Engagement Level

Question Type	Critical Engagement (%)
Lower-order	15
Open-ended	41
Higher-order	56
Probing	48

Higher-order and probing questions were always more likely to elicit a greater amount of critical engagement, which contributes to the presumption that questions that are cognitively challenging encourage deeper thought.

6. Qualitative Discourse Analysis Rationale

The qualitative strand investigates the role of questioning methods in interactional sequences in developing

critical interaction of students. Engagement processes can be interpreted with great subtlety with regard to giving and receiving turn-taking, teacher following up, wait time, and student uptake, which are the topics of the classroom discourse analysis.

Face-to-face and online discussions were chosen taking extracts of the discussions where the higher-order questions were present, and the answer given by the student is extended. These extracts were assessed in terms of interactional and sociocultural perspectives.

7. Classroom face-to-face Discourse Analysis.

Extract 1: Lower-Order Questioning.

In a face-to-face conversation, the low-order questions frequently led to brief and teacher-monologue conversations:

Teacher: What is the key point of the given paragraph?

Student: It concerns climatic change.

Teacher: Yes, correct. Next question.

This communication depicts restricted dialogic space. The questioning method does not allow elaboration and critical involvement, despite the correctness of the answer.

Extract 2: Questioning of Higher Order.

In contrast, the higher-order questions provided the possibility of a more in-depth interaction:

Teacher: Which reasons does the author criticize this policy, and do you think so?

Student: I believe that the author is critical of it as it does not take into consideration social impact. I do agree, though partly, because I believe that economic factors play a part as well.

In this case, the question is open to judgment and positioning, which leads to an engaged reply that is critical in nature.

8. Discourse Analysis of an Online Classroom

Online Discussion 3: Asynchronous.

Online discussions gave more time to develop responses:

Instructor: What does you think of the argument that was made in the article? Provide reasons.

Student Post: It would be believable in that evidence is used, however, it does not acknowledge counterarguments, which reduces its credibility.

This example is of high-level critical interaction, which is based on evaluation, justification and use of academic language.

Extract 4: Instructor Follow-Up.

The use of follow-up questions by the instructor also extended time:

Instructor: Are you able to react to the point of your classmate and introduce a different point of view?

The dialogic interaction among the students by such probing was helpful in building co-construction of meaning.

9. Comparison of Face-to-Face and Online Contexts

Qualitative comparison indicates that face-to-face situations provide immediacy and spontaneous interaction whereas online situations allow reflective and elaborated interaction. Nevertheless, critical interaction in both settings is rooted in the use of questioning techniques and not modality.

Table 4 Interactional Features Across Contexts

Feature	Face-to-Face	Online
Immediacy	High	Low
Reflection time	Low	High
Dialogic depth	Variable	High
Student autonomy	Moderate	High

10. Combination of the Quantitative and Qualitative Results

The integration of the mixed methods proves the fact that higher-order questioning supports the critical involvement in different contexts. Qualitative interactional evidence explains the existence of quantitative patterns through the mediating role of discourse practices.

Questioning Techniques and Critical Engagement Qualitative Classroom Discourse Analysis.

11. Data Selection and Framework of Analysis

Interactional episodes are examined with the qualitative analysis including the observation of teacher inquiry that induced apparent student answers to activities that involved a discussion. The choice of episodes was done according to three criteria:

Existence of questioning methods which are identifiable (lower-order, higher-order, probing, or open-ended).
The response of students showing different degrees of critical engagement, and
Both online and face-to-face discussion context.

Each extract was examined on:

- The kind of question, on the part of the teacher,
- The interaction space formed (e.g. wait time, follow-up moves),
- How the students reacted (duration, difficulty, taking of positions).
- Signs of critical response (analysis, evaluation, justification, or challenge).

12. Face-to-face Classroom Discourse: Questioning and involvement.

12.1 Inferential and Minimal Questioning and Low-order Engagement.

In the face-to-face ESL classrooms, lower-order questions were common in starting the discussion or confirming understanding. These questions were normally interested in recall of facts or superficial comprehension.

Extract 1: Face-to-Face Lower-Order Questioning.

Teacher: What does the text say about the definition of globalization?

Student: It is the international integration process.

Teacher: Yes, correct. Let's move on.

This communication exemplifies an example of closed IRF (Initiation-Response-Feedback) where the teacher initiates, the student responds in a very short period and the teacher evaluates the response. Overall, despite confirmative exchange allowing one to know, it does not give a chance to elaborate or think critically. The question limits the students to the reproduction of information instead of critical analysis of the concept. This trend was prevalent in the face-to-face situations where time and coverage of the curriculum were of importance.

12.2 Questioning and Dialogic Engagement (Higher-Order)

However, the face-to-face discussions provided by higher-order questioning openings allowed the ability to engage critically with the discussion as it was done by dialogic follow-up.

Extract 2: Face-to-Face Higher-Order Questioning.

Teacher: How do you suppose that globalization has different impacts on developing nations compared to the developed nations?

Student: I believe that developing countries are the worst hit due to the fact that they are weaker economically and that they have less command of markets.

Teacher: Could you explain or provide an example?

This dialogue shows that the combined use of higher-order questioning and follow-up probing leads to prolonged student talk and critical thinking. The student does not just present a perspective, but he starts to defend it meaning that he thinks analytically. The follow up question provided by the teacher does not close the interaction and maintains the dialogic space. These sequences are compatible with sociocultural theory, which generates scaffolding by interacting to facilitate cognitive development.

13. Interactional Characteristics to Critical Engagement in Face-to-face situations

The analysis has shown that critical engagement in face-to-face classrooms was more probable in the case when teachers used the following interactional strategies together with using higher-order questioning: Engagement however decreased when the higher order questions were immediately evaluated or reformulated by the teacher. This implies that questioning techniques are not enough but rather their interactional management is paramount. These results help in filling in the details of Part 1 to understand why not all high-order questions led to the high level of engagement.

14. Online classroom discussion: questioning and involvement.

14.1 Asynchronous Internet Discussions and Reflective Engagement

Discourse dynamics were not the same with online ESL discussions, especially the asynchronous forums. Discussion prompts were usually pre-constructed and incorporated questions.

Extract 3: Asynchronous Higher-Order Online Questioning.

Instructor Prompt: Review the case of the argument presented by the author in the article. Do you agree or disagree? Provide reasons.

Student Post: I do agree with the author partially since the argument is backed by data, but it fails to have cultural factors, which makes its conclusion weak.

The response is highly critically engaged, which involves evaluation, taking of a stance and justification. The asynchronous format gave students more time to consider the question, generate ideas, and academic language. Students were not under the pressure of having to respond immediately as in a face-to-face setting, and were thus able to engage in more thought.

14.2 Online Instructor-Student and Peer Interaction

The level of critical engagement was further promoted with the use of probing follow-up questions, as well as peer-to-peer interaction supported by instructors.

Extract 4: Probing on the internet and interacting with peers.

Instructor: Is it possible to answer the argument of one of your classmates and justify it by stating whether or not you agree with it?

Student Response: I would concur with Ali on the reasons that cultural factors are important, but then again I believe there are more crucial issues that affect the student economically like the case of economic issues is more relevant to me since therefore.

This interaction reveals the way that questioning methods in online situational contexts can allow dialogic interaction among students, not just between student and teacher. This kind of peer interaction indicates an increased degree of autonomy and knowledge co-constructions, which are in line with the teaching objectives of higher education.

15. Comparison of Face-to-Face and Online Context

When the discourse analysis is conducted comparatively, it becomes evident that both the contexts can be used to facilitate critical engagement, albeit in different ways.

Table 1 Qualitative Comparison of Interactional Features

Feature	Face-to-Face Discussions	Online Discussions
Response immediacy	High	Low
Reflection time	Limited	Extended
Teacher control	High	Moderate
Student autonomy	Moderate	High
Depth of responses	Variable	Consistently high

The face-to-face situations were more inclined to spontaneous interaction and clarification whereas online situations were more inclined to the reflective and elaborated responses. Notably, the success of questioning methods was more pegged on pedagogy design than modality. This is a direct answer to Research Question 3, that differences are interactional and not inherent.

16. Critical Engagement as a Phenomenon that is Discursively Constructed

In both circumstances, critical engagement was a discursive success, which was constructed through questioning practices, teacher follow-up, and student uptake. Involvement was evident as students:

- Articulated personal positions,
- Evaluated arguments,
- Justified and provided.
- Responded to peers' ideas.

These attributes correspond to the definition of such critical engagement in higher education and prove that engagement is not the number of participations but the quality of cognitive and linguistic input.

Conclusion

This paper aimed at analyzing the connection between classroom questioning and student critical participation in ESL higher education classroom conversation under face to face and online conditions using a mixed method of classroom discourse analysis. In response to the increased need in the application of pedagogical methods that can promote critical thinking and take an active role in the physical and online learning environments, the study explored how various questioning strategies can influence interactional processes and engagement of learners. Through a combination of quantitative analysis of questioning patterns with qualitative discourse analysis of classroom interaction, the study brings a comprehensive perspective of how questioning practices mediate the critical engagement in ESL higher education.

The results indicate that, classroom questioning strategies are a focal variable that defines critical questioning among students irrespective of the mode of instruction. In both the face-to-face and the online setting, higher-order, open-ended, and probing questions were invariably linked to the more detailed levels of engagement, such as analytical reasoning, evaluative judgment, and stance taking. Conversely, less difficult and presentation questions asked mostly short and factual answers and did not provide any chance to engage critically. These results support theoretical arguments based on sociocultural and dialogic approaches to the idea that learning and critical thinking are socially constructed through the interaction and mediated by pedagogical discourse.

One of the main contributions of the research is the comparison between face-to-face and online contexts of ESL discussions. The outcomes show that both modalities have different interactional affordances, and there is no clear-cut situation on which one of them is better at facilitating critical interaction. The face-to-face discussions are able to promote immediacy, real time scaffolding and spontaneous interaction where the

instructor dynamically adapts questioning in response to student contributions. Nevertheless, these situations can limit involvement as well through time pressure, anxiety, or speaking over by more assertive speakers. Online discussions especially in the asynchronous format give the learner more time to reflect, more control in production of language and more equity of participation and therefore the learner is likely to give in more elaborated and critically engaged responses. The outcomes of these findings dispute deficit-based perceptions of online education and highlight the significance of pedagogical design as compared to modality.

The qualitative discourse analysis also shows that questioning techniques do not work in short isolation. Higher-order questions are sensitive issues and their effectiveness determines how they are handled in an interactional manner. Follow-up questions were followed by probing questions, long wait time and encouragement of multiple perspectives, which helped to establish dialogic spaces that facilitated protracted engagement. On the other hand, even the cognitive challenging questions were not able to create critical engagement as teachers assessed answers prematurely or cut off a conversation. This result highlights the importance of the teacher discourse competence and interactional awareness in promoting meaningful engagement to build up the previous research on classroom discourse.

The study methodologically shows the usefulness of a mixed-methods classroom discourse analysis in the study of complex pedagogical phenomena. Quantitative frequency analysis was taken to have a general picture of the questioning patterns and the level of engagement and the interpretation of qualitative discourse analysis offered a picture of the interactional processes connected with the questioning patterns. This integration of methodology will contribute to the depth of analysis and validity that will provide a powerful framework to the purpose of future research in ESL pedagogy and studies about educational discourse. The triangulation of interactional data with the engagement indicators would lead the study to the next level of the surface level measures of participation by the indicators of the quality of cognitive engagement as an enacted process in the form of discourse.

The research results of the study have significant pedagogical implications on ESL higher learning. To begin with, they emphasize the necessity of instructor training that directly addresses the subject of effective questioning strategy and dialogic teaching practice. The teachers need to be guided to construct and to use higher-order questions that prompt analysis, evaluation and reflection, as well as to learn to interact with the students, using probing, uptake and wait time management techniques. Second, the research proposes that the online discussion space must be designed strategically to ensure that it encourages critical activity by use of well-designed prompts and peer interaction exercises. Instead of the online pedagogy copying the offline practices, it is essential to utilize the requisites of digital media to facilitate reflective and dialogic learning.

Regardless of its contributions, the study has a number of limitations. The sample size of the ESL higher education classrooms sampled was small, and it can compromise the extrapolation of the results. Also, verbal and textual interaction were the main aspects of the analysis, which did not pay attention to the multimodal aspects of interaction, including gestures, facial expressions, or digital affordances, which can also play a role. The perceptions of the students towards the questioning practices were only thought of in an indirect way implying that the learner perceptions should be incorporated more deeply in future studies.

The research could be extended in future research to identify semester-to-semester longitudinal alterations in questioning behavior and student engagement, or investigate the impact of cultural or institutional influences on questioning norms in ESL classrooms. Multimodal discourse analysis may also be used in further investigations in order to encompass the entire gamut of interactional resources in both offline and online communications. Also, experimental/intervention studies may be conducted to examine the effects of specific professional development on the questioning instruction techniques of instructors and student outcomes to engage in critical thinking.

To summarize, the study contains empirical data to support the idea that classroom questioning methods are a decisive factor in the development of critical participation of ESL students in the discussion about education on higher education levels in different modalities of instruction. The research adds to the further insights into

the idea of language, learning, and teaching in the modern ESL setting by proving that critical engagement is a discursively constructed phenomenon based on pedagogical interaction. The results confirm that carefully planned and interactionally controlled questioning activities play the crucial role of developing critically engaged and autonomous students under both face-to-face and online higher education.

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