Empirical analysis of teacher-student interaction patterns in synchronous online learning: Teaching English as a Foreign Language in Vietnam

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Abstract

Synchronous online learning (SOL) is becoming a common learning modality among students in higher education. However, concerns remain about student loneliness, stress, anxiety, and social isolation arising from reduced face-to-face interaction. Students' language learning often depends on teacher-student interaction, an important element of language acquisition. While studies examine interaction types and their frequencies, how these occur in SOL needs more focus. This exploratory study explored various interaction patterns between a university teacher and students in an online English class delivered through Microsoft Teams. Interaction transcript data were extracted from fourteen SOL sessions and analyzed using Content and Thematic Analyses. The findings reveal five interaction patterns: Moving along, Coaxing, Degrading, Demanding, and Polling. Data were further analyzed for prevalence and frequencies. Moving along was the most prominent pattern observed in the data. In this pattern, the teacher tends to progress the learning activities after observing students performing satisfactorily on a given task. Coaxing was the second frequently observed pattern. It entails the teacher encouraging interaction among students when they sense students are delaying their response to particular activities, stimulating in-depth discussion. Degrading and Demanding were the least common patterns to students' unsatisfactory responses. Polling interaction patterns occurred fairly often when students were given time and space to respond to the teacher's query, intended to improve engagement. The study provides a generic and practical view of interaction patterns in SOL and implications for teaching and learning in SOL environments.

Keywords: Synchronous online learning, Interaction patterns, Teacher-student interaction

Introduction

Synchronous online learning (SOL) has become a common learning modality in universities, especially after the COVID-19 pandemic. SOL occurs in real time using audio, video, or text chat, typically when teachers and students are geographically separated (Martin et al., 2021). It provides flexible learning and is capable of supporting learning progress (Torun, 2013). SOL first appeared in education in the 1990s and has recently been utilized to teach different subjects via various digital learning technologies such as Zoom, Microsoft Teams, and Google Meet.

Despite the increasing attention and utilization of SOL, the literature has raised concerns about a decrease in the frequency and quality of teacher-student interaction (Aguilera-Hermida, 2020). Studies have revealed that learning in SOL can cause loneliness and stress (Dumitrache et al., 2021; Sambanis, 2024), and that certain subject domains cannot be effectively taught with inadequate or poor-quality interaction. For instance, in teaching English as a Foreign Language (EFL teaching), interaction is crucial in students' ability to acquire language (Savignon, 2018); such is more critical when learning language online (Ko, 2022; Zhang et al., 2022), where students' language development is primarily formed through verbal interaction with their teachers and peers (Hall & Verplaetse, 2000).

To better understand how interaction occurs in online learning, many researchers applied Moore's interaction model (Moore, 1989) to examine the communication between teacher-student, student-student, and student-content (Muñoz-Basols et al., 2023; Nguyen et al., 2022; Pan et al., 2024). From the nature of the interaction, Holden and Westfall (2007) distinguished asymmetrical interaction (i.e., instructor-led lecture) and symmetrical interaction (i.e., two-way communication, including student participation). Gilbert and Moore (1998) classify interaction into social or instructional dimensions. These classifications contributed to visualizing interaction during online teaching and learning, but there is still a dearth of studies on how interaction occurs. Researchers like Allen (1983), Novianti and Anugrawati (2023), and Sainyakit and Santoso (2024) counted the frequencies of teacher talk and student talk using frameworks such as the Flander Interaction Analysis Category System (FIACS) (Flanders, 1968) and the Communicative Orientation of Language Teaching (COLT) observation scheme (Allen, 1983). The FIACS provides a framework for analyzing teacher-student interaction while teaching. The coding system consists of ten categories of communication: seven for teacher talk, two for student talk, and one for silence or confusion. The COLT observation scheme comprises two parts: Part A is for classroom activities, and Part B is for the communication between teacher and student. Consequently, current studies adopted a quantitative perspective toward teacher-student interaction, while few focus on the nature of these interactions, especially how teachers facilitate interaction to enhance the quality of student participation.

When teaching English online synchronously, teachers play the leading role in developing students' communicative competence by using questions to motivate students and giving them opportunities to apply the language (Toscu, 2023). Belda-Medina (2021) and González-Lloret (2020) also emphasize the teacher's role in designing collaborative technology-mediated tasks so that interaction is being promoted. Teachers also need to be astute at using students' silence in their interaction strategy (Maher, 2021; Zembylas & Vrasidas, 2007). Bao and Ye (2020) added that silence in EFL teaching can be used when students' language competences and prior experiences are limited and unfamiliar with the content teachers are using. Opportunities for silence can help students feel more connected and motivated to study (Bao & Nguyen, 2020). As a result, analyzing the teacher-student interaction only based on counting interaction frequencies, though a common approach, fails to investigate the nature of the interaction process thoroughly.

In Vietnam, due to the influence of Confucianism, teachers tend to use lectures; consequently, Vietnamese students were reported to be passive (Hien & Loan, 2018). Based on the teachings of Confucius and his adherents, Confucianism is a philosophy and religion that originated in ancient China, emphasizing the goodness of people and the significance of ethical relationships, humanistic values, and hierarchy in maintaining social harmony (Tran, 2024). Additionally, Vietnamese teachers perceived themselves to need more knowledge and experience with using technology for course design, collaborative learning, knowledge construction, and facilitating interaction in the online classroom (Diep et al., 2019). Therefore, transitioning to online teaching due to the COVID-19 pandemic was challenging, especially when lacking human resources and technical facilities (Nguyen et al., 2022). According to Phan and Pham (2023), teachers' inability to hear or see students who tend to turn off their microphones and cameras frustrated teachers' efforts to stimulate interaction. Students may sometimes refrain from actively participating in courses via webcam due to shyness, unease with seeing their projected image or being conscious that they are wearing unsuitable outfits (Bedenlier et al., 2021). Other factors, such as students' perceived language competence (Ng et al., 2006), language anxiety (O'Reilly & García-Castro, 2022), boredom (Shimray & Wangdi, 2023), and technical problems during SOL, such as lagging wifi may also prevent them from interacting with their teachers.

The current study examined data about teacher-student interaction in Vietnam to address how SOL can be better supported in EFL teaching. The aim is to identify the nature of these interactions, their various forms and trajectories, and how they may influence teaching effectiveness in SOL environments.

Literature review

Interaction in SOL among different EFL teaching contexts

Van Lier (2014) defines interaction as the dynamic exchange between the teacher and students, as well as among students, based on their communicative purposes and abilities. Walsh (2013) similarly describes interaction as a form of communication that requires collective competence, where teachers guide students toward reciprocal engagement (Nunan, 1991). According to Moore and Kearsley (2012), interaction is critical for effective learning in various educational settings, regardless of technological involvement. Yu (2008) adds that interaction is indispensable for developing language and communication competence in EFL teaching. The constructivist approach to learning supports this by suggesting that interactive, active, relevant, and learner-centered experiences help students construct knowledge (Cao et al., 2009) and aid teachers in assessing their progress (Al-Zahrani & Al-Bargi, 2017).

Significant criticism has been directed at the lack of interaction during SOL, especially during and after the COVID-19 pandemic (Nguyen et al., 2022). This deficiency can lead to student dissatisfaction and psychological issues such as depression, loneliness, and boredom (Azmat & Ahmad, 2022). Consequently, numerous studies have examined interaction, focusing on participants, types, and patterns.

Nguyen et al. (2022) applied Moore's (1989) interaction model to analyze online teaching during the pandemic, identifying the presence of student-teacher and student-content interactions. They focused on lesson deployment, technological tools, and assignments. Entusiastik and Siregar (2022) investigated students' perceptions of classroom interaction in online learning but did not detail the interaction processes.

Abdusyukur et al. (2022) used the FIACS framework (Flanders, 1968) to quantify teacher and student talk frequencies, revealing a teacher-dominated interaction pattern. While this study provides insights into the current interaction state, it lacks specific strategies for improvement. Despite widespread use, the framework is outdated for facilitating practical teaching adjustments.

Muñoz-Basols et al. (2023) offered a fresh perspective by categorizing interaction initiations, such as Instructor Prompted Participation, Unprompted Oral Participation, and Unprompted Text Participation. Their findings indicate that interaction patterns are influenced by students' language proficiency and instructional activity types, with lower proficiency students engaging more frequently but struggling to sustain extended discourse.

While interaction involves reciprocal engagement, there is a notable research gap regarding the progression of interactions – how they are initiated, sustained, and developed over time. The literature highlights the need to understand teacher-student interaction in SOL environments and how this can be enhanced.

Methods

Research questions

This research aims to investigate the types of moves and interaction patterns in SOL by getting insights into the teacher's resourceful strategies and the impacts of student response time and quality on the nature of interaction patterns. The following research questions (RQ) will be addressed:

> RQ1. What types of moves are exhibited by the teacher and students during learning in synchronous online learning environments?
>
> RQ2. What types of interaction patterns are manifested between the teacher and students during learning in synchronous online learning environments?

Research design

Research context and the purposive sampling techniques

In Vietnam, English has emerged as a lingua franca and the dominant foreign language (Tran & Tanemura, 2020). Although other languages such as French, Chinese, Russian, Korean, and Japanese are offered in Vietnam, English dominates the national foreign language curriculum and is taught at all levels of education, being a compulsory subject for students from Grade 3 (Kirkpatrick, 2010; Nguyen, 2012). Thus, most university students in Vietnam have spent at least nine years learning English as a compulsory foreign language, according to the general education program.

The exploratory case study was conducted in an EFL classroom at a private university in Vietnam. The exploratory research design allowed the researcher to investigate the undefined problem with deeper insight without providing conclusive solutions to the existing phenomenon (Saunders et al., 2009). In the research context, all first-year students are required to take the English Preparation Program before they begin their specialized curriculum. The program comprises six levels. Students are assigned to appropriate levels after taking the placement test. Levels 1 and 2 are for students with Elementary-level English proficiency, who may encounter difficulties in speaking and listening comprehension due to their limited grammar and vocabulary. Therefore, the teacher must offer translation while teaching or stop and check regularly to make sure the students keep up with the lessons. Levels 3 and 4 are for students at the Intermediate level, who can communicate with the teacher and peers better but still require some support. Levels 5 and 6 are for Upper-intermediate learners who can understand longer texts and produce clear, well-structured, and detailed speech on complex subjects.

Each English level is taught in a blended online and face-to-face setting over seven weeks. Students study on the weekdays, including four days on-campus and one day on Microsoft Teams with the same teacher. There are two slots a day; each lasts 90 minutes. This is a textbook-based course where the teacher and students must follow the course implementation plan. Accordingly, the daily learning content must be completed to ensure students have sufficient lexical resources and practice time to pass the exam confidently. Attendance is mandatory, so students who are absent more than 20% of the required classes will be ineligible for the final exam. This highlights that learning the current English program demands students' strong determination, and the teacher needs to ensure that the class progresses according to the scheduled content.

Accordingly, data was collected once the ethics approval was granted. Participant recruitment involved sending an email to potential teachers in October 2023. Finally, the study got consent from a female teacher and her 25 students, including 10 female and 15 male students who are taking the class at Level 4. The teacher is 28 years old, completing a master's degree in Teaching English for Speaker of Other Languages while her students are all first-year students, aged between 18 to 25 years old. They communicate using audio, images, text, and emoticons. The teacher and students agreed upon this communication format according to their comfort level. In this setup, the teacher exclusively used all communication channels supported by Microsoft Teams. Meanwhile, students were instructed to keep their microphones muted and only unmute when necessary to communicate, thus minimizing noise and distractions.

Data collection and processing

The fourteen online sessions from the blended SOL and face-to-face course, conducted over seven weeks, were recorded, transcribed, and analyzed. To answer the first research question regarding the types of moves exhibited by the teacher and students, the first researcher read through the transcripts to identify these moves. A move is defined as a discrete and purposeful utterance taken by a teacher or a student within a learning activity, with each move constituting a unit of analysis. Using Content Analysis, which allowed the researcher to code the types of moves and count their frequencies (Weber, 1990), a total of 1689 moves were found. To ensure the reliability of the coding, the second coder coded two sessions randomly, including 289 moves (17%). According to O'Connor and Joffe (2020), the proportion is typical to ensure trustworthiness. The value for Cohen's kappa was derived as 0.83, ensuring a high level of inter-rater reliability coefficients. All differences were negotiated and resolved between the two coders, enabling the first coder to continue coding the rest of the recordings.

To address the second research question regarding the interaction patterns, the researchers grouped the teacher and student moves into episodes. Each episode consisted

of various moves, reflecting how the teacher initiated interaction and the subsequent responses from students. Thematic analysis was employed to categorize episodes sharing similar characteristics into interaction patterns (Terry et al., 2017). To discern a theme, we looked for the teacher's types of moves and students' response time and quality, whether their responses were immediate, delayed, or no responses, and whether their responses met the teacher's expectations or not.

Through the data analysis process, 558 episodes were derived. Thirty-two (6%) classroom administration issues in SOL were eliminated (i.e., the teacher checking attendance, students asking to hang up due to personal reasons, students asking the teacher's approval to enter the online class). The remaining 526 (94%) episodes were confirmed with the inter-rater, with a Cohen's kappa of 0.87.

Findings

RQ1. Types of moves

As seen in Table 1, the analysis of fourteen SOL sessions revealed a total recorded teaching time of 59,898 seconds, comprising 26,568 seconds (44%) of silent or waiting time and 33,330 seconds (56%) of teacher-student interaction. No student-student interaction was found, partly due to the limited group activities. Similarly, student-teacher interaction was also negligible (N=12, 1%), mainly due to students encountering technical problems such as screen sharing issues and asking the teacher to repeat the question. Table 1 details the duration of each type of teacher and student move.

Overall, the teacher dominated the interaction time in the SOL classroom (94%), implementing different types of interaction to provide Direct Instruction or Facilitate

Table 1 The teacher's and students' types of move

	N	Percentage	Duration (seconds)	Percentage
Student moves				
-Asking the teacher question	12	1	89	0
-Responding to the teacher question	412	24	1,836	6
Teacher moves				
Direct Instruction				
-Giving lectures and instructions	387	23	19,102	57
-Asking the student questions	479	28	6,604	20
-Responding to student question	12	1	964	3
Facilitate Conversation				
-Encouraging	218	13	642	2
-Simplifying	34	2	96	0
-Stimulating divergence	78	5	245	1
-Dramatizing	13	1	66	0
-Online polling	44	3	3,686	11
Total	1,689	100	33,330	100

Conversation. Students only participated in class by Answering the teacher's questions (N=412, 24%) or Asking the teacher questions (N=12, 1%). The SOL observation and analysis results show that students primarily engaged passively and responded through text chat, extending the waiting time. Responses to the teacher via microphone accounted for 1,836 seconds (6%) only when students were typically requested to do oral tasks such as reading vocabulary and conversations. Their asking the teacher only happens when they encounter technical problems (e.g., Sorry teacher, are you sharing the screen?), cannot keep up with the lecture content (e.g., Teacher, can you say that again?), or when the teacher asks for exercises they have previously done (e.g., Sorry teacher, it has been done already).

The teacher moves were focused on Direct Instruction or Facilitating Conversation. Direct instruction predominantly focused on Giving lectures and instructions (N=387, 23%) and Asking the students questions (N=479, 28%). These two types of moves accounted for more than half of the total moves, with 19,102 seconds (57%) and 6,604 seconds (20%) of the total interaction time, respectively. In the context of research, the teacher uses a microphone and screen sharing as part of direct instruction. The teacher may ask the questions verbally; students are required to answer by text, chat, or be silent and comply.

Regarding how to Facilitate Conversation with the student, the teacher used different moves, including Encouraging, Simplifying, Stimulating Divergence, Online Polling, and Dramatizing. Among them, Online Polling shows advantages in prolonging the interaction time with students (N=44, 3%, and 3,686 seconds, 11%). It describes the teacher reading out loud and giving feedback on students' textual responses. This process takes place quickly, with the teacher presiding over the teaching process by talking while students are listening and doing. For example, after getting the instruction to write at least five sentences about a favorite kind of music, the students hand in their answers; the teacher will read through her mic and comment: *'Student A, I'm into classical music... Perfect! Student B, I very love dance music... OK Student B, please don't say 'very love'. Let's say I really love dance music.'* The other moves aim to catalyze the interactive process to take place. Specifically:

Encouraging involves the teacher gently persuading or motivating students to interact, often by rephrasing, repeating, translating, rewarding, or reassuring students. In some situations, the teacher also uses language transfer – applying the rules and norms of Vietnamese to English – to help ease students' listening comprehension as they can feel English according to the grammar of their mother tongue. That often causes the teacher to intentionally make grammatical mistakes in exchange for students' understanding and confidence. For example, instead of asking students several times, *'What's he going to do after lunch?'*, the teacher will slow down and transfer: *'What... he... do... after... lunch?'*

Simplifying involves the teacher breaking down or altering the question's form, often transforming open-ended questions into multiple-choice or close-ended ones. The

objective is to elicit student interaction under any circumstances. The following snippet is taken from a teacher leading a discussion about daily habits:

> **The teacher asked (mic):** 'Now everyone, tell me about your typical day. How is your typical day?'*[Wait for 15 seconds, but no response]*
>
> **The teacher simplified the question (mic):** 'Alright, what do you do in the morning?'

Stimulating divergence occurs when the teacher wants to ask more to gain deeper and guide student responses to her expectation (*e.g., What else? Who else? What's next? Why do you think so? Can you read it aloud?).* In the current study, the teacher also asks for synonyms *(e.g., What other words can be used to describe it?)* and antonyms *(e.g., Which expression is the opposite of this one?).* Compared to Simplifying, and Stimulating divergence occurred more frequently and helped the teacher mine students' thinking deeper and recall more existing language knowledge.

Dramatizing appears to be the least frequent in the observed lessons (n=13, 1%). It is the teacher changing tones or voice, reprimanding, or calling students by their names when the students' silence exceeds her tolerance. For example, when inviting students to practice the conversation, she dramatizes:

> **The teacher asked (mic):** 'Student A, Can you hear me? Where are you*?' [Wait for 40 seconds but no response]*
>
> **The teacher changed her voice:** 'Oh my god, why do you keep silent? Are you there?'

RQ2. The teacher-student interaction patterns

Thematic analysis was used to single out different interaction patterns based on the teacher's types of moves and the students' prompt and satisfactory responses. As seen from Table 2, 526 episodes deriving from 1689 types of moves indicated five major patterns, including Moving along, Coaxing, Degrading, Demanding, and Polling.

Table 2 The interaction patterns in SOL

Interaction patterns	Descriptions	N	%
Moving along	The teacher moves on when getting satisfactory responses.	357	68
Coaxing	The teacher tries different encouragements (e.g., repeating, rephrasing, translating) to facilitate the interaction.	107	20
Degrading	The teacher simplifies or breaks down the question.	19	4
Demanding	The teacher insists that students respond.	13	2
Polling	The teacher gives instructions and assigns time for students to work before sending back the response by text chat.	30	6
Total		526	100

The Moving along pattern

Moving along was the most pervasive and dominant pattern observed in the data, constituting more than three-quarters of the total episodes (n=357, 68%). This pattern was identified whenever the students' responses were immediate and satisfactory, enabling the teacher to move on if she did not intend to challenge students or mine their ideas. Figure 1 illustrates the Moving along interaction pattern, where the teacher starts by Giving lectures or instructions, and students will listen and comply. For example, the teacher asked: *'Please read the instructions and do exercise A in five minutes.'* The student will listen and do, so the teacher moves on by waiting. After the assigned time, the teacher will have students correct the exercise so that she can give feedback.

   In the following instance, the teacher asks the students questions over the mic; students immediately and satisfactorily respond by mic or chat. Therefore, she quickly moves on to ask another question or give another instruction or lecture.

The teacher asked (mic): Conversation 1. Can you guess who the people are talking?
Student T answered immediately (chat): relatives
**Student N answered immediately (chat):** guests
The teacher gave feedback (mic): Alright, maybe they're relatives or guests. But we're sure they aren't the bride and groom.
The teacher moved on (mic): Now listen again and tell me what his name is.
….

(Extracted from a listening activity, Lesson 6).

   Overall, in the Moving along interaction pattern, both the teacher and students were generally proactive in managing their interactions, choosing to move forward in discussion with limited external prompting. However, the question of whether Moving along can lead to good teaching and learning outcomes has triggered controversy.

Fig. 1 The Moving along interaction pattern
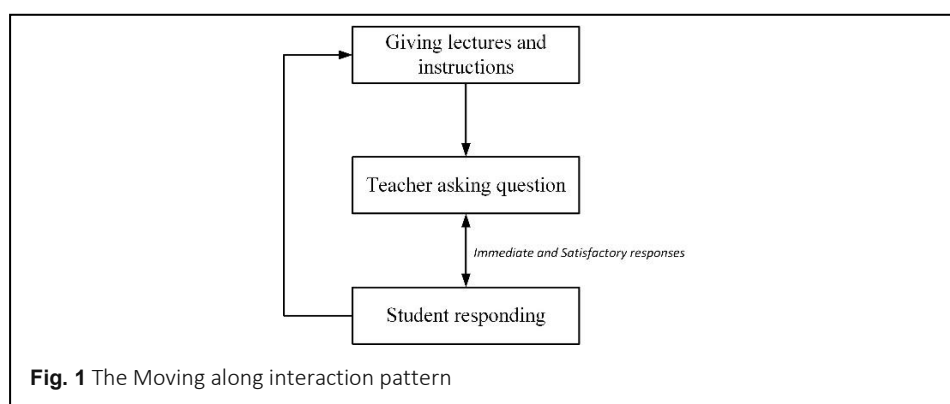
The Coaxing interaction pattern

Figure 2 illustrates the Coaxing interaction pattern, often occurring whenever students delay responding to the teacher's question. The teacher will then try different ways of *Encouraging*, such as translating, rephrasing, and repeating to facilitate the interaction. Fortunately, these help the teacher to encourage students' readiness and give satisfactory responses, enabling the teacher to stimulate divergence of the topic under discussion. *Stimulating divergence* in this context also helps the teacher mine students' thinking deeper and provides more opportunities for them to practice the target language. The following snippet is taken from a discussion about culture:

> **The teacher asked (mic):** Which sentences tell you that she preferred culture in the past? *[Wait for 12 seconds, but no response]*
>
> **The teacher repeated (mic):** Which sentences tell you about that? *[Wait for 8 seconds, then get a response from chat]*
>
> **Student T (chat):** In a lot of good ways. *[Delayed, but satisfactory]*
>
> **The teacher stimulated divergence (mic):** Where is that sentence, student T? In which paragraph?
>
> **Student T answered (mic):** The second sentence of paragraph 2, teacher. *[Immediate and satisfactory]*
>
> **The teacher continued asking (mic):** Can you read it aloud?
>
> **Student T read aloud the sentence (mic):** Yes, teacher!...
>
> *(Extracted from a reading comprehension activity, Lesson 2)*


Fig. 2 The Coaxing interaction pattern
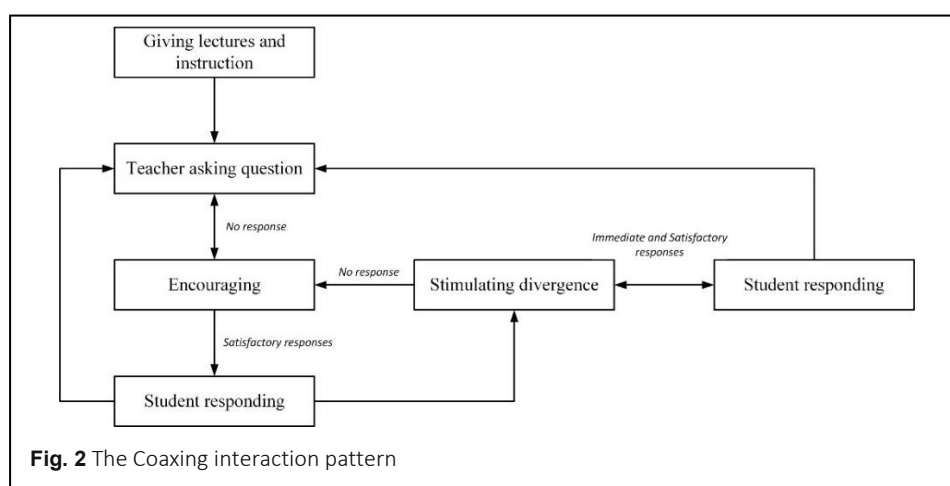
The Degrading interaction patterns

As shown in Figure 3, the Degrading pattern entails a combination of various interaction types. However, its purpose is to simplify or deconstruct the teacher's initial question, aiming to enhance student comprehension and serve as scaffolding for them to respond confidently. The Degrading pattern emerges when students delay their responses despite the teacher's encouragement. In such cases, the teacher maintains patience by simplifying the question or altering its format, persistently seeking student responses. Unfortunately, these efforts often break down the original question's content, leading to student responses that the teacher heavily drives. This high-effort questioning, observed in a negligible portion of the total learning sessions (n=19, 4%), underscores the challenges in achieving desired student engagement and comprehension.

In the Degrading pattern, across multiple episodes, once the teacher receives the students' simplified responses, she may further stimulate divergence to align with her original intent in asking the question. This illustrates the teacher's adaptability and willingness to adjust during the teaching process. Such actions enable the teacher to reinforce her intended instructional content even when students hesitate or delay in communication. The following instance is extracted from Lesson 1.

> **The teacher asked (mic):** Now look at picture 1; which medicines should she take? *[Wait 42 seconds, but no one responds]*
>
> **The teacher repeated (mic):** Which medicine should she take? *[Continue waiting for 12 seconds]*

Fig. 3 The Degrading interaction pattern
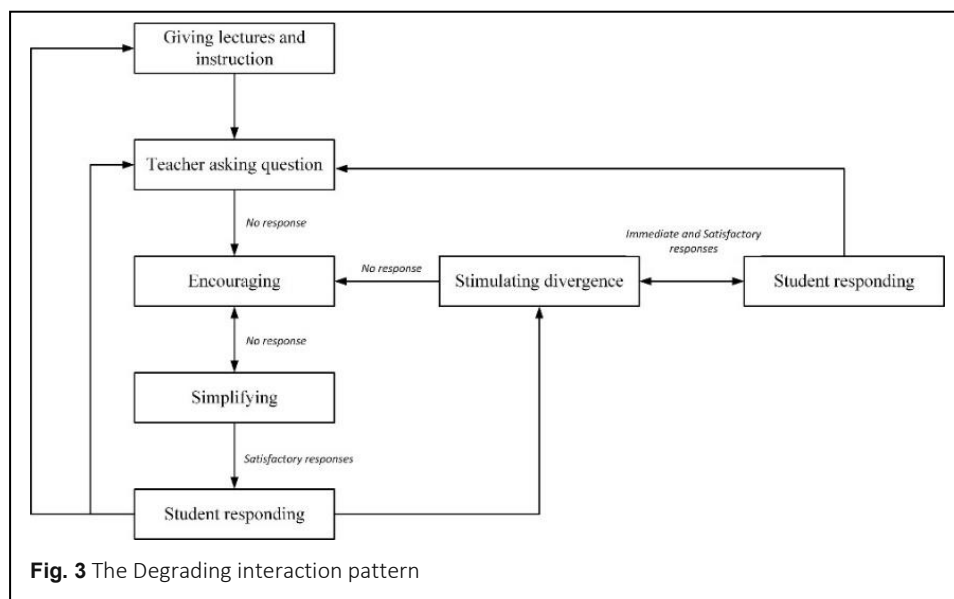
The teacher simplified the question (mic): OK. First, what's wrong with her? *[Wait 30 seconds]*

The teacher translated into Vietnamese: Cô ấy bị cái gì nè? *[Wait 10 seconds]*

The teacher repeated (mic): The first picture?

Students A and V answered (chat): headache *[Delayed and satisfactory responses]*

The teacher expanded the question (mic): Alright she has a headache, so which medicine should she take?

Students A and V answered (chat): painkiller *[Immediate and satisfactory responses]*

The teacher gave feedback (mic): So she should take painkillers, alright.

The Demanding pattern

As indicated in Figure 4, the pattern referred to as Demanding arises when the teacher's attempts at encouraging students prove ineffective. It occurs the least often among the patterns, known as the teacher's last resort, to deal with students' disengagement or hesitation. Consequently, some students feel intimidated and yield unexpected answers or remain unidentified. For example, students often make excuses, saying, *'Sorry teacher, I'm studying at a coffee shop. It's quite noisy here, and I can't hear from you well'; 'Teacher, it's raining heavily, can't hear your question'; 'Teacher, I'm unable to turn on the mic, maybe lag wifi.'*

Fig. 4 The Demanding patterns
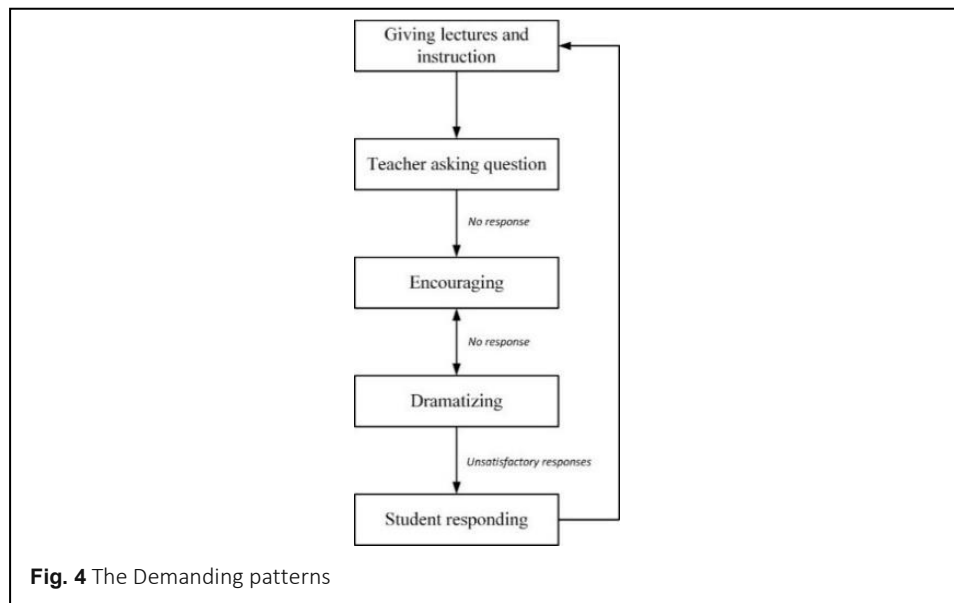
The following episode illustrated a situation the teacher dramatized when inviting students to practice the conversation in Lesson 9, but students delayed and seemed to lose track.

> **The teacher asked (mic):** Who can practice the conversation? *[Wait for volunteers in 37 seconds]*
>
> **The teacher repeated (mic):** Who can read it? *[Wait 12 seconds]*
>
> **The teacher called the student by his name (mic):** Student M. *[Silent]*
>
> **The teacher repeated (mic):** I would like to invite student M.
>
> **Student M answered (mic):** Yes, I am here, teacher. *[Delayed responses]*
>
> **The teacher asked (mic):** Who is your partner?
>
> **Student M answered (mic):** Yes, student K, but I'm not sure he's here now.
>
> **The teacher asked (mic):** Student K. Let's practice the conversation, please! *[Wait for the students in one minute]*
>
> **The teacher reprimanded (mic):** Oh my god! You all turned off the microphone. How can we hear from you? Haven't you prepared the conversation right?
>
> **Student K answered (mic):** I haven't finished yet.
>
> **Student M answered (mic):** Yes, teacher. I've made it for him already.
>
> **The teacher changed her tone (mic):** OK, please hurry up.

The Polling pattern

The Polling patterns are considered unique in our study's SOL environment. As illustrated in Figure 5, these episodes are defined as a combination of the teacher giving lectures or instructions, the student joining online polling, and the teacher giving feedback. These are deployed quite frequently (n=30, 6%). In such activities, the students are given clear instructions and assigned time to make the answers in their own space. Notably, their responses are always satisfactory, and the teacher's comments also go quite smoothly.

Fig. 5 The Polling pattern
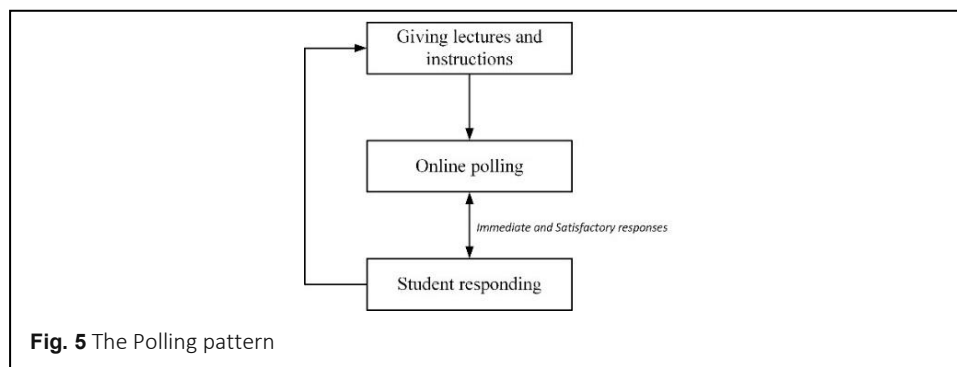
The following snippet is taken when the teacher instructed students in grammar: How to express intentions and plans that changed with 'was/ were going to' and 'would':

> **The teacher gave instructions (mic):** Alright, now write at least one sentence describing your dream job when you were a child. You'll have five minutes to prepare and send me the answer via chat.
>
> **Students listened to comply silently.**
>
> *After the waiting time, the teacher read aloud students' responses one by one with comments:*
>
> **The teacher read aloud (mic):** 'When I was a child, I thought I would be a doctor. I wanted to by my father's colleague.' Good job, V, but 'to be', not 'to by'.
>
> **The teacher moved on to another response (mic):** 'When I was a child, I thought I would be a superhero.' Oh it's interesting.
>
> **The teacher moved on to another response (mic):** 'When I was 10, I thought I would be a pilot.' Great!
>
> **The teacher moved on to another response (mic):** 'When I was a children, I thought I would be an artist.' Student A, it's 'a child', not 'a children'.
>
> **The teacher moved on another response (mic):** 'When I was a child, I thought I would be a actor.' An actor, not a actor.
>
> ....
>
> **The teacher complimented all students (mic):** Good job, everyone!

Discussion

SOL interaction patterns in EFL teaching: Theoretical and pedagogical insights

The study employed an empirical analysis to investigate the nature and types of interaction patterns between the teacher and students in SOL. Five interaction patterns emerged, including Moving along, Coaxing, Degrading, Demanding, and Polling, revealing the teacher's predominance and students' deference. Our research revisits prior findings highlighting the influence of teacher dominance on interactive dynamics (Abdusyukur et al., 2022; Hien & Loan, 2018; Moorhouse et al., 2023). Additionally, it elucidates the teacher's typical strategies to encourage students' engagement, such as online polling, patiently waiting for student responses, encouraging student participation, and occasionally dramatizing when students hesitate. The study builds upon Phan and Pham (2023)'s conclusion about the teacher's potential struggles when dealing with students' inaudibility and invisibility. In the research context, the absence of visibility from all parties may exacerbate the situation, potentially leading to more significant challenges. For example,

the SOL classroom in our study often experiences more periods of silence, prompting the teacher to encourage student participation actively. A possible explanation is that the blended format of weekly sessions, with a ratio of 4:1 between face-to-face and SOL, may lead to the potential for students' decreased motivation or superficial participation in online sessions. This arrangement may reduce efforts to maintain consistency across these two learning environments.

Our research introduced a distinct approach to analyzing and understanding the interaction patterns, contrasting with previous studies (Abdusyukur et al., 2022; Entusiastik & Siregar, 2022; Muñoz-Basols et al., 2023; Nguyen et al., 2022). While categorizing interaction types based on the purpose may bear similarities to Flanders (1968), we uniquely document and classify the interaction patterns based on their progression within each episode, revealing contexts often observed in classrooms but not extensively explored in prior studies. In the research context, teaching primarily relies on the textbook and the course implementation plan, which indicate the understandable predetermined lesson plans. However, the analysis of teacher-student interaction clearly shows that the teacher facilitates interaction through her intuition, depending on students' collaboration and progress. Based on the research findings, the discussion below highlights pedagogical lessons for teachers when teaching online synchronously, aiming to optimize both the interaction frequency and EFL students' response quality.

Students' immediate responses and the Moving along interaction patterns

The Moving along pattern accounts for quite a high frequency in the overall episodes. Although most responses are satisfactory, there are doubts about whether smooth interaction can help optimize student learning achievement. This interaction pattern ensures the completion of the teaching and learning process, which is safe for the teacher. However, according to Bloom's taxonomy (Krathwohl, 2002) and Krashen's second language acquisition theory (Krashen, 1981), if the teacher wants to improve student absorption, it is necessary to deploy many expansion and advanced operations. Accordingly, these practices may disrupt the Moving along, causing hesitation as learners try more time to find answers.

Students' delayed responses and the Coaxing, Degrading, and Demanding interaction patterns

When facing students' delayed responses, the teacher may try encouraging strategies, such as repeating, rephrasing, translating, or simplifying questions, to facilitate students' participation. In case students' silence exceeds the teacher's patience, more dynamic approaches, such as dramatizing, may be employed. These various approaches to dealing

with students' delayed responses created the Coaxing, Degrading, and Demanding interaction patterns.

The present study shows the typical contribution of the teacher encouraging when students hesitate to interact, forming the Coaxing pattern. This pattern testified to the significant role of the teacher and her talking time. As Toscu (2023) puts it, this is the teacher's leading role and provides adequate comprehensible input for learners to help them be confident and ready to produce the language. Coaxing may be essential for groups of students who are left behind, shy, or have low self-esteem and need the teacher's support to keep up with their learning progress and integrate with their peers. It may not be necessary for students who can study independently. In our study, Coaxing helped heal students' hesitation and encouraged them to respond satisfactorily.

Degrading in the present study occurs when the teacher makes extra effort to encourage students to answer. However, for university students and the nature of EFL teaching, Degrading seems inappropriate when the teacher significantly controls it. Similarly, Dramatizing may impose psychological pressure on students without bringing significant learning effects. In the SOL environment, Demanding patterns may cause students to stall because they can easily avoid direct gaze or questioning from the teacher. In summary, these two ways of stimulating interaction have not significantly contributed to improving the quality of learning and interaction in SOL.

Polling - the value of learning in students' own time and space in SOL

The research findings show a wide range of differences in the conception of interaction in SOL. While expecting students' immediate interaction may sometimes impose pressure or confusion, Polling gives students adequate time and space to possibly generate correct or relevant responses to questions, in addition to the teacher's immediate feedback, which, in turn, could help students feel more confident in communication. It can be understood that if students are placed in a face-to-face environment, they can seek support from their partners. When learning online in their own space with negative feelings like loneliness (Azmat & Ahmad, 2022), creating activities like Polling can neutralize the effects and make the online learning process more meaningful and closer to students.

Cultural influences on teacher-student interaction patterns in SOL

The research findings indicated the teacher's dominance in almost all learning activities. Specifically, the teacher's moves accounted for three-quarters of the total, occupying 96% of the speaking time. Students exhibited considerable passivity, only interacting by responding to questions or silence and following instructions. It is entirely understandable due to the cultural context in Vietnam, especially under the strong influence of Confucianism, even though the teaching and learning approaches have been shifting from

teacher-centered approaches rooted in behavioral psychology to student-centered models grounded in social constructivism (Nguyen & Le, 2024). While this suggested that classrooms where students remain silent and listen passively to the teacher should transform into those where students are actively engaging with both the teacher and peers to construct new knowledge, Vietnamese students are generally viewed as obedient, shy, and unwilling to question their teacher in class (Tran, 2013; Walker & Truong, 2017). This reinforces the persistence of the passive learning style, where students listen to the teacher, take notes, and reproduce memorized information in the exam (Stephen et al., 2006). Oanh (2021) further noted that Vietnamese students remain silent, rarely express their thinking, or raise their voices to debate with peers to avoid face-threatening acts. These observations echo Nguyen (2002)'s findings from the last two decades, showing that Vietnamese students tend to keep silent to respect their teacher while being talkative, interrupting, bragging, or challenging the teacher are not typical in Vietnamese culture. This factor greatly influences how students and teachers interact during SOL in our study.

Limitations and future studies

This study provides a novel perspective on the classroom interaction patterns in SOL, specifically in the EFL teaching environment. It offers a more practical understanding of common interactive situations and the teacher's strategies to initiate, facilitate, and maintain student interaction. However, there are still several limitations that require the continuity of further research. Firstly, the research focuses on analyzing teacher-student but has not yet explored the student-teacher and student-student interaction patterns due to their minimal occurrence. This will become the premise for further research to extend the investigation.

Secondly, this research was conducted in a blended SOL and face-to-face EFL classroom, with most in-class sessions. Some skepticism has been raised about its impact on the teacher and students' performance in the online environment. Therefore, the emerging interaction patterns in this study become typical and not sufficient to draw conclusions about the nature of interaction patterns in SOL. Future studies can provide more comprehensive perspectives by examining more balance ratios between SOL and face-to-face or even full SOL courses.

Thirdly, while targeting Vietnamese students whose English proficiency ranges from pre-intermediate to intermediate, the research findings can be applied to similar EFL online teaching contexts. However, they cannot be generalizable, as SOL remains relatively new, and various contextual factors may influence the results. For example, in this study, both the teacher and students interacted without cameras, with students primarily using text-based communication. Additionally, the small sample size – one class with a teacher and 25 students at a private university – does not represent the broader student population in

Vietnam. This limitation highlights the need for further research to assess whether interaction patterns and density differ when involving students from public universities with varying language proficiency levels and online learning behaviors.

Fourthly, this study was conducted in Vietnam, where Confucianism affects people's thinking and practices, so the research findings are typical of Vietnamese educational settings. Future studies should be conducted in different educational and cultural contexts to compare the interaction patterns in SOL comprehensively.

Finally, the study focuses on interaction patterns based on students' ability to respond promptly and satisfactorily and changes in the teacher's strategies to initiate and maintain interaction. This approach overlooks several important contextual factors, such as differences among instructional phases, teaching activities, and types of English language skills, which are very specific to EFL teaching. Further research can investigate those factors and their impact on the interaction patterns in SOL.

Conclusion

Our research explored specific types of moves in EFL teaching and the typical interaction patterns, including Moving along, Coaxing, Degrading, Demanding, and Polling. It is not surprising when perceiving the predominance of the teacher-initiated; however, it is valuable to testify how the teacher facilitates the interaction with students when they may provide immediate, delayed, or no response. Thus, the research pinpoints a preliminary conclusion about the usefulness of the teacher's Coaxing and Polling when dealing with the students' delay. Demanding and Degrading patterns seem inappropriate when they fail to foster student engagement. Moving along seems to be safe but may not sufficiently challenge students.

Regarding Vietnamese cultural influences, the findings suggested the need for teachers to implement more effective interventions to stimulate students' active participation, especially when Confucianism is deeply embedded in their mindsets and learning behaviors. Instead of bearing most teaching responsibilities traditionally, the teacher should design activities to encourage students to embrace their proactive role in the learning process. This approach can help bridge the gap between the teacher and students, fostering a more active learning style in the SOL environment. In summary, our research provides a reference for EFL teachers to seek appropriate strategies when dealing with student interaction in SOL. The findings are also important for future studies about SOL interaction, mainly when applied to different cultures and contexts or when examining student-teacher and student-student interaction, which have not been yet explored in the current study.

Abbreviations

COLT: Communicative Orientation of Language Teaching; EFL teaching: Teaching English as a Foreign Language; FIACS: Flander Interaction Analysis Category System; RQ: Research Question; SOL: Synchronous Online Learning.

Authors' contributions

VD conducted the research, collected and analyzed the data, and drafted the manuscript. JK and BD provided guidance on research design, contributed to data interpretation, and critically reviewed and revised the manuscript. All authors approved the final version of the manuscript.

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Availability of data and materials

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Declarations

Competing interests

The authors declare that they have no competing interests.

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