Research on Silence in Online Classroom and Its Countermeasures: A Conversational Analysis Approach

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Abstract: As an effective application of educational technology, online classrooms became the predominant teaching mode nationwide and globally during the pandemic and even after. In the post-pandemic era and future education landscape, their role is becoming increasingly vital. Both in-person and online classrooms exhibit widespread silence, with online classrooms showing particularly pronounced silence. However, this silence phenomenon in classroom teaching has not received adequate attention. This study employs conversation analysis to conduct case studies on silence phenomena in university English online classrooms, supplemented by empirical research through questionnaire surveys, providing feasible strategies to enhance teaching efficiency in higher education English courses.

Keywords: Online classroom; Conversation analysis; Silence phenomenon; English teaching

1. Introduction

For decades, the phenomenon of silence has remained largely overlooked in academic research. This cultural phenomenon has existed since ancient times, as evidenced by idioms about silence across different cultures. The Chinese proverb "Silence is golden" traces its origins to ancient Egypt and now appears in Chinese, English, and German idioms. In Chinese educational contexts and broader Asian culture, classroom silence was commonplace, particularly in traditional classrooms before the 1990s, where "quietness" symbolized students' attentive listening and marked classroom success. With evolving teaching philosophies and the implementation of Communicative Language Teaching (CLT), student engagement has become a priority. However, decades of silence cannot be reversed overnight. The recent pandemic shift from in-person to online learning has exacerbated this issue, with students citing more excuses like "I couldn't hear the teacher clearly" or "I'm too busy" as reasons for avoiding participation. Silence, as a form of discourse behavior, has emerged as an interdisciplinary subject. While traditional classroom silence and gender-related research are well-documented, studies on online classroom silence remain scarce. Teachers' questions often go unanswered, and students rarely volunteer responses. To

address this challenge effectively, we should first understand the dynamics of online classroom silence during and after the pandemic, enabling us to develop targeted solutions.

2. Research background and methods

The research project on classroom silence emerged during the COVID-19 pandemic, inspired by online learning experiences. Participants who completed four months of online courses recognized that traditional "classroom silence" went against modern language pedagogy and even challenged the concept of interactive teaching [1]. Collaborating with instructors, they developed this study focusing on online classroom silence, a phenomenon unprecedented in the pandemic era's digital learning landscape. Previous research focused on real classrooms, with no prior studies on online silence [2]. This paper employs two methodologies: conversation analysis and questionnaire surveys, combining theoretical explanation with empirical evidence. Through case studies and data-driven insights, it establishes a scientific foundation for enhancing online classroom effectiveness. The research comprises two components: classroom conversation analysis and questionnaire analysis [3].

3. Conversation analysis and results of the silence phenomenon

The following are three categories of silence phenomena obtained through conversation analysis, which have different results on classroom conversation and teaching strategies [4].

3.1. Case 1

At the beginning of an oral class, the teacher and students analyze a passage between A and B, and analyze the emphasis function of "echoing" in the dialogue:

Teacher: What does Echo mean?

Student: (S1)...... (6 seconds)

Teacher: What does "to echo something" mean?

Student: (S2)......(4 seconds) Echo.

Teacher: Yes, "echo", right? Is that what it is? You repeat something, or shout in a cave or near mountains. Echoing can be for technique to show interest in conversation or encourage people to say more......

When the teacher first posed a question, the students fell into a six-second silence. To break this silence, the teacher employed an "unfinished dialogue" teaching strategy by asking a follow-up question. This prompted students to actively complete the unfinished statements under the teacher's guidance, gradually introducing classroom content through a new dialogue structure of "questioning-silence-repetition-feedback", effectively resolving the silence [5].

3.2. Case 2

The following is a sample of an online English reading course:

Teacher: (S1) In this lesson, we also learned about another form of racial discrimination. What is it? Do you remember?... (7 seconds)

Student: Barrier.

Teacher (S2): It's a barrier, right? It's the "language barrier", isn't it? (Or) what else could it be called?...... (5 seconds)

(S3) A deep class divide. And right now, we have a new word, racial discrimination. (9 seconds)

Teacher: OK, that's all for this paragraph. I don't think this part is very difficult for you, so right now I want to share my screen with you.

The prolonged silence prompted the teacher to either conclude the discussion or shift focus. When the teacher elaborated on the term "barrier", the students remained silent despite a 9-second wait. After several seconds of quiet, the teacher responded to the question and initiated new content [6]. This silence signaled both the end of the speaking turn and the conclusion of the dialogue.

The analysis shows that in curriculum-centered classrooms, the guiding position of teachers will affect the occurrence of silence, especially when teachers have more classroom control, students' silence is more frequent, even if the teacher asks questions, they seldom respond or even do not respond.[7]

3.3. Case 3

In a writing class, the teacher and students comment on sentences that need to be revised. In this online class, the teacher asks questions to the students through the microphone, and the students type their feedback into the message panel.

Teacher: (S1) OK, any other mistakes you can find? Come on....... (16 seconds) Other students, can you contribute your answers in the message area?

Student 1: (S2)......(21 seconds) of after add phrase. (Reply)

Teacher: Right. Add a phrase after "of". And what else? As we mentioned before, pay attention to the changes in verb collocations. Can any other students find new mistakes?

Student 2:(S3)......(20 seconds) (gives the wrong answer)

Teacher: There is no problem in this sentence.

Student 3:(S4)......(14 seconds) brought due to something wrong? It seems to be repeated.

Teacher: Right. You got it.

In this scenario, the silence resulted from students' lack of understanding, leading to incorrect answers. When a student provided an incorrect response, the teacher rejected it and offered hints until they got it right. Although the lesson was teacher-led, students actively participated in discussions after receiving guidance. The student's subsequent inquiry about potential issues in the sentence demonstrated both attentive listening to feedback and expressing personal opinions.

When such silence occurs in the classroom, teachers can further explain the content of the question or change the way they ask it to help students correct their mistakes and get the desired response.

3.4. Case 4

Similar situations occurred in the same writing class. The teacher helped students answer questions by emphasizing the "key words" in the questions:

Teacher: Now, let us try to give some definitions to the words. "Pressure". What's the definition of Pressure? It's a concept in physics, right?

Student: (S1)......(27 seconds) Pressure may be defined as a mental emotion that makes people tired and upset.

Teacher: (reading answer) OK, as I mentioned, we just discussed pressure... in physics. Physics. You gave us a definition, but I'm waiting for the concept of pressure in physics. In physics, what does pressure mean? (8.5 seconds)

Student: (S2)......(8.5 seconds) Pressure is a force that comes from the height of the air.

Teacher: Is it just the pressure of the air? Maybe that's part of it. Yeah.

As demonstrated in the case study, when the teacher asked students to define "pressure" physically, the student appeared distracted and gave an incorrect response. To ensure accurate feedback, the teacher repeatedly emphasized key terms to help students grasp the missed content. After the teacher pointed out the error, the student spent approximately 8.5 seconds reflecting before revising their answer, after which the teacher continued providing feedback. This strategy effectively activated the classroom mechanism of "stimulus-response-feedback."

In the aforementioned cases, the causes of classroom silence are multifaceted. They may stem from students' failure to make sense of questions, problematic questioning techniques, poor teacher-student interactions, or network problems. Compared to traditional classrooms, online learning environments are more prone to silent moments, which hinder effective interaction. Moreover, teachers cannot "monitor" students' learning progress or understand their needs. The limitations of theoretical analysis become evident in this context. To address these issues, the phenomenon of classroom silence requires scientific analysis through methods like questionnaire surveys.

4. Questionnaire analysis and the results

This online survey was conducted from December 1 to January 3, 2020, targeting undergraduate students at science and engineering universities. The questionnaire comprised 16 single-choice questions, 3 multiple-choice questions, and 1 matrix scale item, covering aspects such as personal background, teacher-student relationships, teaching methodologies, question content, and questioning techniques [8]. Distributed through Wenjuanxing (a Chinese survey platform), the study collected over 160 valid responses from 61 male and 98 female university students. The majority (54.09%) were seniors (86 students), followed by freshmen (9 students), sophomores (15 students), and juniors (49 students). Notably, 109 respondents were non-English majors [9].

In addition to studying specific classroom cases through conversation analysis, this paper also analyzes the causes of the silence phenomenon based on questionnaire survey results. The main reasons are subjective and objective reasons of students themselves [10].

4.1. Issues with students

According to the survey results, they mainly involve learning habits, confidence, mentality, classroom learning, and even students' own personalities.

Since middle school, students have been used to passive learning, and they serve as containers, and a large class also limits their participation, fostering a culture of silent patterns. This classroom has deeply ingrained a passive learning mentality where students fail to recognize their active role [11]. The classroom silence persists even in online settings, where teachers struggle to monitor responses effectively. Whether submitting audio answers or written responses, students' names and class details become visible. Survey reports reveal that 65.41% of students lack confidence, viewing incorrect answers as personal humiliation. Many students exhibit incomplete frameworks and insufficient understanding of questions, leading to silence- no responses at all. Others choose silence due to personality, avoiding public exposure as much as possible.

4.2. Other issues

Online classroom teaching is complicated and is influenced by various other factors, including network conditions, the surrounding environment, teacher-student relationships, classroom atmosphere, and questioning methods. The survey report indicates that teachers' questioning styles, frequency, and types in online classrooms significantly impact classroom dynamics. Data shows 69.82% of respondents prefer group-wide questions, while only 10.69% favor selecting representatives for individual responses. Most participants noted moderate questioning frequency, with approximately 10% either over-questioning or never asking. Both excessive and insufficient questioning can lead to silence, as optimal classroom effectiveness requires balanced questioning. Teachers' questioning approaches also contribute to classroom silence. Compared to analytical questions, students show a preference for yes/no questions at 40.25%. Discordant teacher-student relationships create generational gaps, leading to student dissatisfaction and resistance, which further contributes to classroom silence. Other factors like network instability and platform lag also negatively impact learning outcomes [12].

5. Strategies for silence in online class using the voting function

During video conferences, teachers can effectively monitor students' learning process. Video platforms typically feature voting functions, allowing instructors to instantly display questions on the screen for real-time interaction. This approach not only facilitates student supervision but also enables teachers to assess comprehension levels, determine if concepts require re-explanation, and adjust question difficulty in real time. Participation rates through voting help identify active contributors, while teaching pace can be dynamically adjusted based on answer accuracy [13]. Furthermore, educators should invest time and effort in creating a relaxed and supportive environment that fosters meaningful teacher-student interactions, empowering students to fully engage as active participants. Timely encouragement and recognition of classroom contributions significantly enhance students' sense of belonging in the learning community.

5.2. Giving full play of language

In English classrooms, teachers can bridge the gap with students through language arts. Humorous remarks help lighten the atmosphere, while eye contact, body language, and facial expressions enhance teacher-student rapport. Educators should actively connect with students by offering encouragement and guidance, while providing timely feedback when they answer questions [14]. In online courses, teachers should adapt their roles, acting as both facilitators and collaborators. Maintaining equality, educators should encourage active participation and expressive engagement. Establishing incentive systems further motivates students to voice ideas, fostering enthusiastic classroom participation that achieves the "engaged learning" effect.

5.3. Combining teachers' guidance and students' participation

Students are the central participants in classroom learning and play a pivotal role in English education. Teachers' guidance is demonstrated through managing class dynamics, stimulating critical thinking, and maintaining student engagement. The key to student-centered learning lies in proactive preparation, ensuring thorough pre-class study. A positive teacher-student relationship fosters an effective classroom environment, which requires educators to understand each learner's uniqueness. Teachers should design questions tailored to students' current proficiency levels, encouraging open participation from every student [15]. They must avoid assuming an "authoritative" role, instead adopting a learner-centered approach that motivates students to talk, promotes communication, respects individuality, and allows challenges to classroom authority. This collaborative effort

helps build an equal and harmonious atmosphere where all students feel valued and would like to participate.

6. Conclusion

The phenomenon of classroom silence isn't entirely negative. Moderate silence may encourage students to listen attentively, engage in deep reflection, develop critical thinking, and form their own viewpoints. However, excessive silence often carries negative implications: students either remain passive participants or avoid asking questions. In online teaching, teachers should actively assume the role of "facilitators," initiating discussions, adjusting the pace and duration of dialogues, demonstrating both the wisdom to listen and the ability to adapt. By understanding the mechanisms behind silence and implementing scientific strategies, teachers may establish efficient classrooms. Simultaneously, students should actively collaborate, leveraging peer and group resources to build a student-centered community that enhances classroom interaction and discussion participation. Only through joint efforts can teachers and students create a harmonious learning environment.

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