Arab World English Journal
INTERNATIONAL PEER REVIEWED JOURNAL ISSN: 2229-9327

Arab World English Journal (AWEJ) Special Issue on CALL Number 9. July 2023 Pp.87-104
. DOI: https://dx.doi.org/10.24093/awej/call9.6

# Classroom Discourse Analysis of Computer-Mediated Communication during COVID-19

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Received:04/05/2023 Accepted:06/24/2023 Published: 07/24/2023

**Abstract**
In March 2020, the Saudi government announced that school and university courses were to be held online to control the COVID-19 outbreak. A sudden yet smooth movement occurred from traditional face-to-face classrooms to online courses. This shift influenced the nature of classes, the nature of the interaction, and the participants' roles. Interaction in online classes is viewed as a form of computer-mediated communication. This paper explores the nature of computer-mediated communication in online courses at one of the major research universities in Riyadh during the COVID-19 pandemic. Using an in-depth qualitative analysis of Walsh's (2006) framework of Self-Evaluation of Teacher talk, this study examines the nature of classroom discourse and interactions among level six students who took a content course in English and lectures were transcribed for this study. Results answer questions regarding the common interaction modes and features and how efficient they are to encourage participation during Computerized Mediated Communication. Analysis reveals that using traditional interactional features is not suitable in virtual classes.Teacher dominated classes with excessive IRFs patterns do not cultivate interaction in Computerized Mediated Communication. New modes of communication and discursive features using more interactive tools and engaging features such as referential questions promote interaction. Results provide an insight into the nature of interaction in online university classrooms. It also adds to the current literature on Computerized Mediated Communication interaction to enhance the existing practices done in classrooms.
*Keywords*: classroom discourse analysis, Computer-Mediated Communication, Covid-19, interaction
**Cite as**: Alkahtani, M.B. (2023). Classroom Discourse Analysis of Computer Mediated Communication During COVID-19. *Arab World English Journal (AWEJ) Special Issue on CALL (9)* 87-104. DOI: https://dx.doi.org/10.24093/awej/call9.6

## Introduction

The quest to understand and maximize learning never ends. One way is to analyze classroom discourse. Exploring classroom discourses provides valuable insight into what goes on during the learning process because teachers usually control the flow of classrooms and the use of language as well (Johnson, 1995). Interaction is crucial for learning because it provides opportunities for comprehensible input, which forces learners to produce language (i.e., pushed output). The literature on classroom interaction focuses on the product rather than the actual process or factors influencing interaction. One such factor is classroom discourse learning. Thoms (2012) defined classroom discourse as the "oral interaction between teachers and their students and between students themselves that takes place in classroom context" (p. 51). The nature of the academic discourse is different from ordinary discourse. The power role, the context, and the dynamics among participants require unique frameworks and tools.

More than 1,200,000,000 students in186 countries were influenced by COVID-19, and schools and universities were closed. On March 8, 2020, there was a shift in Saudi Arabia from traditional classes to online classes usingtheMadrastiplatform for schools and Learning Management System (LMS) for universities. These digital platforms provided 8,000,000 teaching hours, 3,000,000 items of digital content, and 3,500,000 virtual classrooms (Alshehri, Mordhah, Alsibiani, Alsobhi, Alnazzawi, 2020). The Saudi Minister of Education declared that online instruction would be a valid option for learning even after the pandemic is over.

During the pandemic, Computer-Mediated Communication(CMC) became one of the most widely used forms of instruction. CMC is not extra or optional because it is the only way to communicate with students. Herring (1996) defined CMC as communication that takes place between people via computers. CMC can be synchronous (real-time interaction) or asynchronous (non-simultaneously). Synchronous Computer-Mediated Communication (SCMC) has attracted attention from teachers and researchers as a socially mediated form of instructional activity. With a new context (CMC), there is a need to explore the nature of teachers' and students' interactions and learning styles. Online classes may push some students to be less engaged. Teachers can create learning opportunities using the appropriate language to elicit participation and enhance engagement in CMC classes which leads to effective learning opportunities.

The current paper aims to investigate the nature of interactional patterns found in online content-based university lectures at a major research university in Riyadh during COVID-19. The results of this paper add to the current literature on interaction through CMC and it enhances the existing practices in virtual classrooms. It also raises awareness of the impact of teacher's talk on learning and students' engagement. Results answer questions regarding the common interaction modes and how efficient they are to encourage participation during CMC. Using qualitative data analysis, the present paper explores the potential relationships between the language used in virtual courses and its influence on interaction. This is done by analyzing classroom discourse using Walsh's SETT framework of interactional features and modes. These features and modes are examined in relation to whether learning opportunities are created or impeded in relation to students' engagement.

## Literature Review

### *Classroom Interaction*

Interaction in classrooms has been explored by many Second Language Acquisition (SLA) researchers since the 1980s(Long, 1983; Piaget, 1951; Swain, 1985; Vygotsky, 1978). The

significance of interaction in the learning process is supported by evidence from three SLA hypotheses: Krashen's (1982) input hypothesis, Long's (1983, 1985, 1990, 1996)interactional hypothesis, and Swain's (1985, 1995, 2005)output hypothesis. Ignoring the link between interaction and classroom discourse is becoming extremely difficult because everything in a classroom is mediated through interaction, including learning (Richards & Rodgers, 2001; Zuengler& Mori, 2002).Izzati(2021) explained that "language itself becomes the subject and also the medium in the learning" (2021, p.8).

Teachers play an important role in promoting interaction because they provide the comprehensible input that consequently shapes students' output (Almeneie, 2005; Hall, 2004; Morell, 2004; Thoms, 2012). Researchers have analyzed teacher talk because it is the vehicle for initiating interaction (Congmin, 2013; Mauer, 1997; Young, 1994). So, teacher talk is described as simple, unidirectional, or monologic, and long (Arishi, 1984; Bellack et al., 1966; Deroey, 2012; Gaies, 1977; Krashen,1982; Miller, 2002; Morell, 2007).

One way to understand the link between interaction and classroom discourse is by describing it. Three approaches to classroom discourse have stemmed from well-established theoretical backgrounds: the interactional approach of the 1960s(e.g., Bellack et al., 1966; Flanders,1970; Moskowitz, 1967), the discourse analysis approach of the 1970s(e.g.Sinclair&Coulthard,1975; Levinson,1983; Stubbs,1983), and the conversational analysis approach of the 1980s(e.g., Allwright, 1980; Edwards &Westgale, 1994; Hall & Walsh, 2002; Lörscher, 1986; McHoul, 1978; Sacks, Schegloff, & Jefferson, 1974). Each approach attempted to describe classroom discourse, but each had its limitations. Unlike the previous approaches that viewed classroom discourse within a single static context, the variable approach to classroom discourse was realistic because it views a classroom as a dynamic environment consisting of mini contexts (Cullen, 1998; Johnson, 1995; Seedhouse, 2004; Tsui,1998; Van Lier, 1988; Walsh, 2002).

### *Computerized Mediated Communication and Learning*

Computerized Mediated Communication(CMC) has existed since the 1960s, but it gained interest from researchers in the 1990s with the introduction of personal computers. Beatty (2013, p. 156) defined online/virtual classes as "a type of electronic classroom that can be expandable in time, space, and content". Virtual classrooms offer new forms of interaction through the utilization of media, chat rooms, break-out rooms, and discussion forums. Alahmadi and Alraddadi (2020) claim that ideally, virtual classrooms allow for more interaction, but this claim is questionable.

Researchers have explored the potential benefits of using virtual classrooms. They have claimed virtual classes benefit students, enhance learning, and that students were more engaged, less prohibited, and pleased with the experience (Bellack, Kliebard, Hyman, & Smith, 2019; Hussein, 2016; McBrien, Cheng, & Jones, 2009). Other researchers claim that virtual classrooms improve students' speaking and communication skills (Alhawiti, 2017; Al-Qahtani, 2019; Hamouda, 2020; Mathew, Sreehari, & Al-Rubaat,2019). Though virtual classes create new forms of interaction and discourse, they have limitations as well. One is the technical difficulties and the loss of actual face-to-face interaction (Al-Kathiri, 2015; Hussein, 2016; Kern, 1995; Olbertz-Siitonen, 2015).

***Classroom Interaction during COVID-19***

Izzati(2021) examined the use of teacher talk in three online English as a foreign language (EFL) high school classes during the COVID-19 pandemic using the Self-Evaluation of Teacher Talk (SETT)framework. They viewed this communication as a form of CMC. The results showed that only 10 of the 14 features were used during these classes, which shows teachers did not involve students as needed during these classes. They also claimed a new mode exists—the lecture mode with its interactional features.

Oraifand Elyas (2021) explored the engagement level of high school students in Saudi Arabia during COVID-19. They used the Student Course Engagement Questionnaire as the data-collection tool. Their results revealed a high level of engagement among Saudi EFL students during the pandemic. In addition, they showed a positive correlation between students' satisfaction and the level of engagement during classes. The positive results contradictedIzzati's(2021) results that showed a low level of engagement on the teachers' part.

Almossa (2021) analyzed students' engagement during COVID-19 using Twitter. Results showed the effect of the pandemic on students' engagement and the author stressed the importance of open communication between students and faculty members. Some students felt helpless, and they stated online communication with their professors was challenging compared to face-to-face communication because they often received no answers from their professors.

Alahmadi and Alraddadi (2020) explored the effect of virtual classrooms on second-language interaction among 90 Preparatory Year (PY) Saudi students. Results revealed students had a positive attitude toward the use of technology in second-language learning classes.

Thompson (2020)presented results from a survey conducted among 325 Saudi students that explored the effects of the COVID-19 pandemic on cognitive and behavioral engagement. According to Thompson (2020), students found online learning to be convenient, but they realized that educational quality had decreased, especially in terms of the amount of knowledge they had gained.

***Self-Evaluation of Teacher Talk Framework and COVID-19–Related Studies***

Hamdan andElandeef (2021) analyzed 10 English language classes in King Khaled University College of Science and Arts using Walsh's SETT framework and linking it to 21st-century learning skills. The study revealed teachers dominate the class discourse. They posited that teachers tend to minimize their dominance by asking questions.

Izzati (2021) examined teacher talk during the pandemic using Walsh's SETT framework to analyze seventh-grade students' interactions during three separate classes. The researcher suggested a new mode—the lecture mode—whereby teachers explain with almost no participation from the students. The results revealed that teachers used 10 out of the 14 modes suggested by the framework.

Ample research has explored many aspects of COVID-19 and its effects on learning, including useful techniques, teachers' and students' perceptions and attitudes, and the challenge of fostering an effective, engaging environment. Yet, to the best of my knowledge, no research has explored the interactional features using SETT of content-based university lectures in Saudi universities during the pandemic. Most of the current reviewed literature explored language classes during the pandemic (Alahmadi & Alraddadi,2020; Almossa, 2021; Hamdan & Elandeef, 2021; Izzati, 2021; Oraif & Elyas, 2021). Language classes focused on language per se, whereas content-based university lectures called for different forms of interaction.

In this paper, classroom discourse in virtual university courses is explored to shed light on the nature of the interaction during the pandemic. Unlike Izzati(2021), Oraif and Elyas (2021), Hamdan and Elandeef (2021), and Izzati (2021), who examined high school students in EFL classes during the COVID-19 pandemic, the current study explores university students specializing in English. The expected interactions in language classes and lectures differ from those of content-based interaction because the former depends on lecturing most of the time. Walsh (2006)argued that even if there is engagement, it is likely in the seminars and tutorials and not in the formal lectures.

## Methods

A qualitative approach was used to analyze the classroom discourse using Walsh's SETT framework as the primary framework. An in-depth analysis of the data was conducted using a revised version of the SETT framework and the NVivo software.

### *Participants*

The sample of the study was two recorded lectures (4 hours in total) of one of the content courses taught in the English Language and Literature Department at a major research university in Riyadh in 2021. Ten students were enrolled in this class. All of the classes were conducted using either the LMS Virtual Classroom toolortheZoomplatform. Due to cultural restrictions, all classes were audio only. Ethical procedures were verified using Silverman's (2013) methods of rigor. Silverman'smethod of establishing a code of ethics was followed (i.e., voluntary participation and the right to withdraw, protection of research participants, obtaining informed consent, and avoiding harm).

### *Research Instruments*

Audio recordings were collected automatically during the lectures. The LMS Virtual Classroom Tool and the Zoom platform both offer audio recordings of the lectures. Lectures were recorded by the instructor to be uploaded later on LMS for further reference.

*Walsh'sSelf-Evaluation Teacher Talk Framework*

Walsh's (2006) SETT framework was based on the variable view of classroom discourse. Unlike other approaches that view the classroom context as a single static context, the variable approach views classroom context as dynamic, consisting of a series of microcontexts. This multilayered view of classroom discourse was used to analyze the interaction among various contexts and participants. Walsh introduced SETT in 2003 and then a modified version in 2011. Walsh based SETT on the sociocultural perspective that learning opportunities can be created, and new knowledge is constructed when teachers and students interact.

Though SETT was originally used in EFL classes, it was extended to other contexts such as immersion education and higher education. Heritage and Greatbatch (1991) claimed that every context has unique goals, which they labeled a "unique fingerprint". However, understanding the structure of interaction in each context can be accomplished using a clear framework. Thus, Walsh introduced a modified, revised SETT framework to suit new contexts, such as higher education (see Table One in Appendix A).

SETT consists of four classroom modes and 14 interactional patterns. Classroom modes refer to microcontexts with clearly defined learning objectives and distinctive interactional

features. They are the managerial mode, material mode, skills and system mode, and the classroom context mode. *Interactional patterns* or *interactors* refer to specific language functions of teacher talk or student talk. They are direct repair, scaffolding, the extended teacher turns, display questions, teacher echo, clarification requests, form-focused feedback, extended learner turn, short teacher turns, minimal repair, content feedback, referential questions, and clarification requests.

***Research Procedures***

The audio recordings of the virtual classrooms were transcribed without any modification or correction to maintain the integrity of the data. This includes false starts, hesitations, long pauses, and incomplete sentences. Using NVivo, open coding was conducted using the interactional patterns and modes mentioned in SETT. Then, axial coding was conducted to find relationships between patterns and modes and to locate any new patterns.

**Results**

In this section, results from data analysis using NVIVO software are presented to examine the effectiveness of the interaction in CMC classrooms. Results were analyzed to identify the common modes and the interactional features in the sample selected. The results presented in this section are based on the frequencies of mode and interactional features. An in-depth qualitative analysis is presented in the discussion section.

Data shows the most common modes based on the frequencies of each mode according to Walsh's modified framework of SETT (Figure One). It was found that the most common modes are the material mode, followed by the managerial mode. The material mode was dominant and covered almost 92% of class time. Then, it was followed by the managerial mode which covered almost 16% of lecture time. The skills and system mode and the classroom context mode were less frequent and occurred in 7% to 10% of class time.

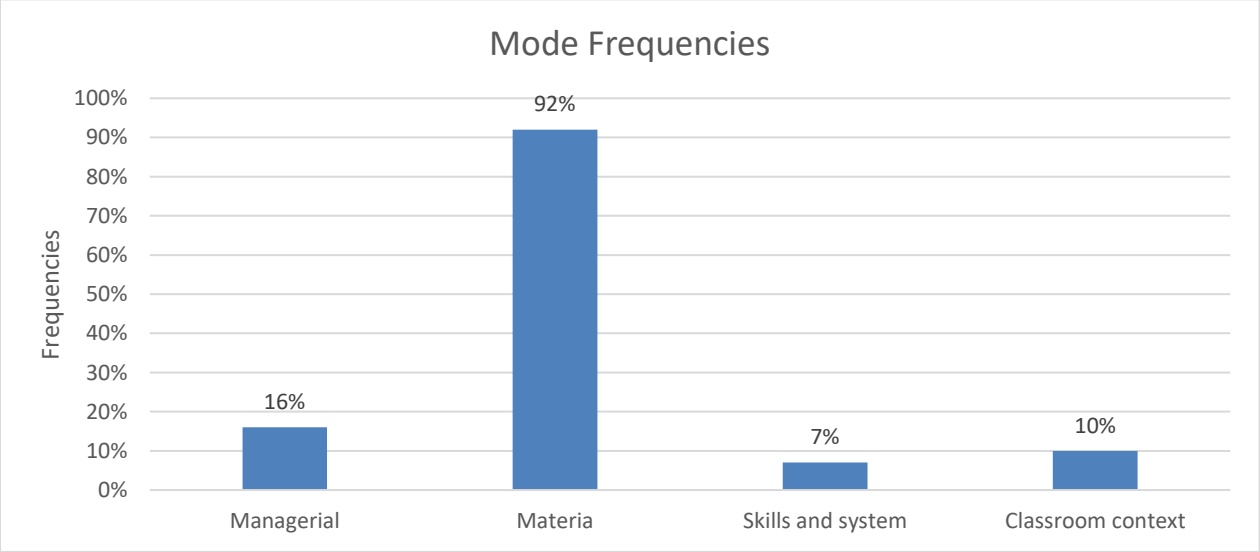


*Figure 1* The most common modes

The managerial mode included checkups on the students regarding technical issues they faced. This checkup becomes part of this context and part of managing learning as shown in the following example.

T: I'm good. How was your quiz?
S: It was good, Alhamdulillah. I changed my browser, just like you said, and it worked.
T: Perfect. [Student], which browser did you switch to?
S: Firefox?
T: This is the one that is working. Right? Firefox?
S: Yeah, it's working for me.
T: Okay, and the one before that was lagging, which one was that?
S: Oh, Google Chrome.
T: Ok, umm . . .

Students feelings were addressed in this mode. This differs from the classroom context mode because the latter is linked to the material at hand. Rather, the managerial mode is a checkup on students' feelings during difficult moments and constant changes in procedures. For example, the instructor here is asking students about their feelings after the exam dates were changed because of a royal decree as shown in the following excerpt.

T: How are you doing with the, you know, this change in the exam dates?
You'll be really slammed with all the assignments and projects.
S: Yeah, honestly, it's quite overwhelming.
T: It is. It is because it's supposed to start, I think, not next week but the
week after the general examinations. . . .

The skills and system mode in content-based classes revolve around the knowledge acquired and the discipline-specific skills. The online medium makes it challenging to engage students using a skills and system mode. This mode covered around 7% of all of the sessions. It was observed when the instructor used Web-based interactive exercises using a tool called MentiMenter. This tool allows students to answer questions anonymously using the QR code presented on the screen. Due to the number of responses popping on the screen, students are observed to be more engaged when they answer questions as a group. In the screenshot below (Figure Three), there are 16 responses produced by five students.

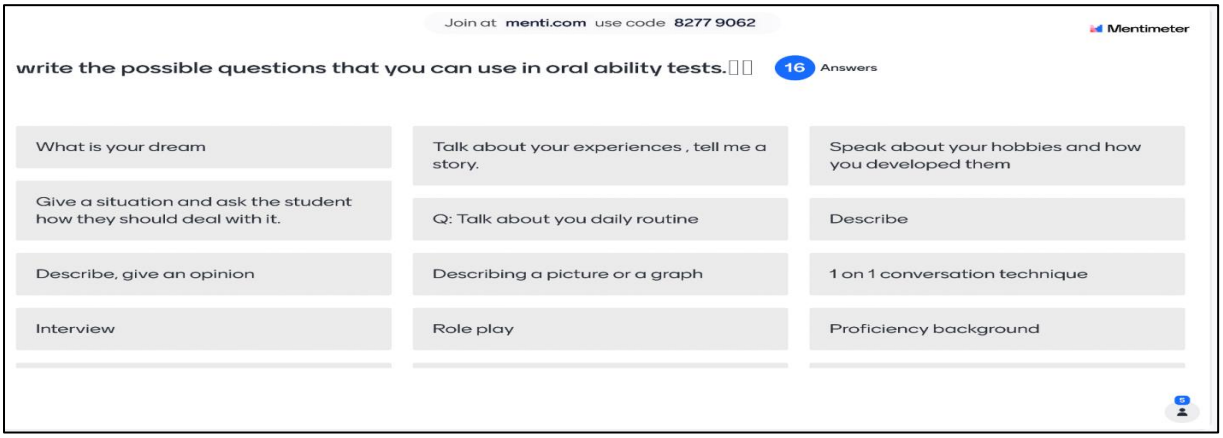


*Figure 2.* Screenshot of a question using Mentimeter

The skills and system mode is characterized by heavy reliance on Synchronized Computer-Mediated Communication (SCMC) IRFs. In this mode, the teacher provides feedback on the content because it is a content course. This mode is characterized by quick mode sliding in which participants slide from one mode to the other as shown in the example below.

T: Now, I'll give you time to try to guess them. What are the questions we can use when we test oral ability, using an interview? I'll give you 1 minute. We'll do it quickly. Try to do it on Menti.

[T reads the answers.]. Personal information, very good. What else in an interview? Daily routines. Very good. What else?

S: [01:02:46] S: Miss, I can't submit more than one answer.

T: Okay. Again, sorry, we go back to. . . .Yeah, I always forget to check this option. Yeah, okay, you can do it now.

Give a situation and ask students how they would act or react….as an icebreaker. Very good proficiency background: What does that mean? Proficiency background? I don't understand this one….talk about your skills and achievements. Okay, hmmm. Describe a picture. Very good. Very good. This is a good one. Right.

In the example above, the instructor directed the students to use Menti to perform an in-class activity, which was interrupted by a mode sliding to the managerial mode when one student asked about a technical issue. The instructor slid back to the skills and system mode and read answers popping up on the screen, commented on the content, and encouraged them. The instructor extended students' contributions and asked for clarification when she said that she does not understand one point. This is a new form of IRF specific to SCMC because the students' contributions are written. Thus, the teacher does all of the talking in this type of IRF exchange.

The classroom context mode covered 10% of the total sessions. It was not managed by students; rather, it was mostly managed and initiated by the teacher, except in very few instances. This mode was characterized by relatively long teacher turns, in which the teacher shared personal stories and linked them to the content.

The teacher tried to use vague language to include students such as "you know" and "I mean." Even in long teacher turns, the teacher engaged students by using vague language such as /ya?ni:/ [I mean] or /mathalan/ [for example].

In the example below, the instructor rephrased the questions four times to encourage students to participate. The instructor then did not interrupt the flow of the student's turns and commented on the content at the end.

T: What do you think? Do you agree or disagree? What is your opinion? Do you think we should give students, umm, an option? No? The book says you should not give them an option.[Student], what do you think?

S: Again, err, this goes back to /salfat/ [topic]. . . creativity. I believe /eno fi:/ [there is]. . . more, there is more. I am talking about myself, /fi: mawadee?/ [there are topics] I can talk about you, /fi: mawadee?/ [there are topics] I have no idea about.

T: Mm.

S: /?alahasab/ [depends on] students.I hope this makes sense.

T: Makes sense. But you're talking from the perspective of the student. So as a teacher, if you give them an option, what will happen? Think about it, ladies.

As for the interactional features, only nine of the 14 interactional features originally found in the framework were used (See Figure Three). The most common interactional features are single extended teacher turn, IRFs, clarification requests, transitional markers, content feedback, the extended teacher turns, extended learner turns, referential questions, display questions, and scaffolding. It is important to note that these frequencies are followed by an in-depth qualitative analysis to examine the effectiveness of each feature. Some features were used differently, such as the confirmation checks, and some were new, such as code-switching.

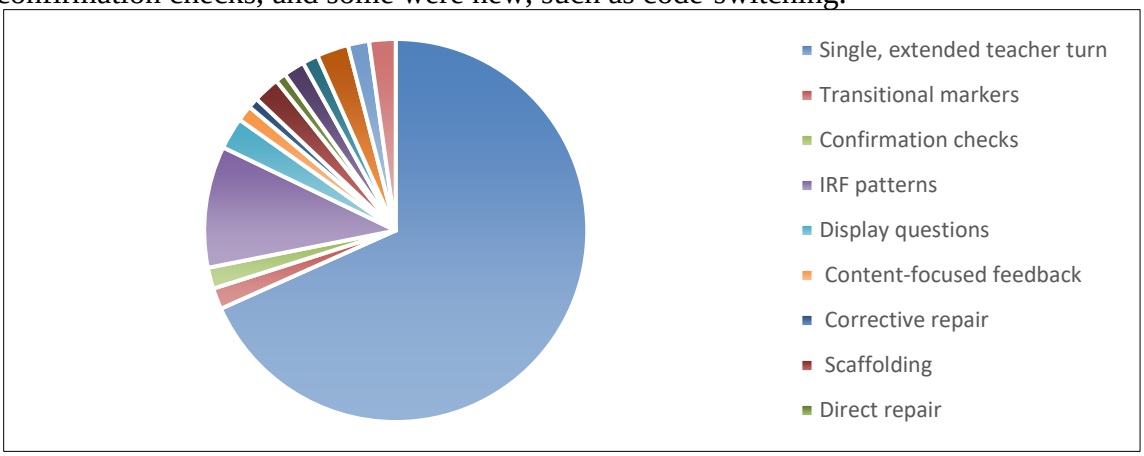


*Figure 3* The most common interactional features

IRFs are very common and cover about 12% of class time in the observed sessions. In addition to the traditional format of teacher initiation, student response, and then teacher feedback, other forms were observed in these virtual classes. IRFs in the managerial mode were used as a confirmation check to locate learning or check technical issues, whereas IRFs in the material mode were used to elicit information from students. Many variations exist in the purpose of IRFs: they can be used to elicit information about the content, check comprehension, or identify learning goals. In addition, variations existed in their form, such as IRFs and display questions, IRFs and referential questions, and extended IRFs.

Display questions used in IRFs have different forms and usage. The traditional IRF form is exemplified as follows.

T: Why are they different? Because one is what? Hmm. [Student]
S: One is for production, and we'll add that the other one is for comprehension
T: Very good.

One type of IRF is in the form of a rhetorical question, in which the instructor initiates the question and then answers it immediately with no wait time, as seen in the following example.

T: Which is what?...The transient nature of the spoken language. What does this mean? When I say transient, this means that when you listen to something, you cannot move backward and forward over what you heard.

In the example above, the instructor asked two consecutive questions and answered them immediately. The use of rhetorical questions instead of sharing information immediately can be seen as an attempt to attract students' attention during virtual classes.

Another form of IRF contains no student turns; rather, the student's responses are written in the skills and system mode, as seen in the following example.

T: That's it. Ladies, five answers. How about the rest? That's it? Mmm, alright, let's check them out. Okay, the teacher should not correct while the students pre.. representing. Interesting.

In this example, the teacher initiated the interaction, read the answers from the screen, and gave her feedback. Students are engaged through a different medium, which is chat, and use writing instead of spoken language to interact. Some students may feel liberated and less prohibited when they type in the chat rather than speaking up.

Extended IRFs are observed in these sessions, in which the teacher asked a follow-up question to extend the learner's contributions, as seen in the following example.

T: In one of the writing courses, in the last one, what kinds of topics did you use? What kinds of essays?
S: It's all about technology.
T: Not the topic. I mean, is it an argumentative essay? Is it a descriptive essay? Argumentative?
S: Argumentative.
T: Only argumentative? Did you use any others?
S: No. Informative, um, what else? There is more.
T: Informative, argumentative, and descriptive? To describe something?
S: Yes. Comparative essays, also.
T: Very good. In the final exam . . .
S: Comparative as well.
T: Comparative. Very good.

This exchange of IRF and scaffolding corresponds to what Bellacket al.(1966)called give and take in discourse, which is central for establishing shared space and allows students to try out their own ideas.

Another form of IRF is an extended one initiated by students, as exemplified in the following example.

S: Miss, I have a question. We said before that synonyms and antonyms will be on the reading test, but I have left [inaudible]a question, and the writing exam is to find or identify the synonyms and antonyms.
T: In a course?
S: Yeah, and I'm now a little bit confused, and which we have . . .
T: The question now is if you will have this question on your exam. Have you been trained during the semester to find synonyms and antonyms?
S: No, I don't think so.
T: Are they in the book, synonyms, and antonyms?
S: Yes
T: Mmm, they are in the book, but is it, like, what course is this? Is it likea paragraph essay or essays?
S: Essays.
T: Essays. Well, I don't know about that. Now, again, as I said,[Student's name], now, sometimes it's really difficult to draw a clear line. And if, for example, remember when we said that in reading, it cannot be anything we

> want it to be. It can be not only reading it—it can be reading, or it can be vocabulary. You need vocabulary knowledge, you need grammar knowledge to understand the reading's text, you need critical abilities, et cetera, et cetera. So, finding a synonym, I don't know. How is that relevant to a writing course? to be honest with you, I can't answer this question without reading the syllabus itself. But for me, I wouldn't have it in a writing test because it's a specialty.

In this example, one of the students initiated an extended IRF, but the goal here was different. This long exchange was not aimed at asking the students about their knowledge but rather had the opposite aim. Students initiated the learning and asked the teacher about points that they wanted to know about.

Confirmation checks were very frequent. They were used in English and Arabic. The teachers wanted to verify comprehension of the message. They could be in the form of a word with a raising tone (such as "Ok?"), a yes/no question (such as "Is it clear?" or "Any questions?"), or /sahwla la'/ [Correct?] or /wadheh/ [Clear?].

A common interactional feature is the use of transitional markers. Teachers tend to use transitional markers frequently during CMC as signposts to locate learning and attract attention. They were used in all of the modes and not only the managerial mode. They could be in the form of a single word, such as "so", "because", or "alright"; code-switch markers such as/tayb/ [OK] or /mathaálan/ [for example]; compound markers such as "Alright, now this . . . " or "OK, so also . . . "; or compound markers and code switches such as "So, but ya?ni:/ [as in]."

Code-switching was a new feature that was observed in more than 13% of the sessions. It is not identified in the original framework, but it is worth noting in the results. It was used as a transitional marker, confirmation check, or reference to the teacher's personal experience as well as to reformulate a point. Code-switching was common among both the teacher and students.

**Discussion**

In this section, results are examined in depth to answer the research questions of this paper linking the discussion to the previous research. First, the first question about the most common modes in relation to the effectiveness of interaction is discussed. Then, a discussion addressing the most common interactional features and whether they facilitate or hinder interaction.

The most common mode observed in these virtual classes is the material mode followed by the managerial mode. This is logical since teachers wanted to cover the material at hand and manage learning due to the sensitive timeframe, they have to finish the syllabus. The material mode was dominant which can be coded as what Izzati (2021) called the lecture mode, with no student interaction. The dominance of the material or lecture mode can be explained as the instructor falling back to the traditional teaching style of lecturing because it is a content course. This mode is characterized by excessively extended teacher turns, IRFs, and rhetorical questions.

The managerial mode is used frequently throughout the sessions, and it sometimes overlaps with the material mode. This is logical since teachers must locate learning frequently in an online lecture to attract students' attention. The instructor located learning spatially and temporally, a feature expected in CMC classes, to establish the learning goals and learning agenda. The managerial mode is characterized by frequent recapping, extended teacher turns, and minimal student involvement.

The skills and system mode is less frequent, especially in the sample selected since it is a content-based class that revolves around the knowledge acquired and the discipline-specific skills. Engaging students behind the screen with no interactive features such as the use of a camera makes it ideally difficult to communicate with students using traditional tools. However, using an interactive tool such as Mentimeter revealed interesting results. Students interacted more when they are engaged in written silent activities. This result is similar to that reported by Oraif and Elyas (2021) that online learners showed more engagement during classes and even timid students felt more confident to participate. Not putting pressure on students in online classes allows them to feel free and engage more in this case. This is a new form of engagement specific to SCMC because the students' contributions are written. Thus, the teacher does all of the talking reading off-screen which explains the long-extended teacher's turn frequencies in the sample selected.

Though the use of the classroom context mode is limited, the form is different from the one reported in the original framework. It was not managed by students; rather, it was mostly managed and initiated by the teacher, except in very few instances. This mode was characterized by relatively long teacher turns, in which the teacher shared personal stories and linked them to the content. This is expected because the instructor was trying to engage students so that they would share their opinions and personal stories about the topic at hand. It seems the classroom context mode was for teachers to share their personal experiences. It can be seen as a way to engage and connect with the students, to encourage them to participate using English and Arabic phrases. Also, the teacher tried to use vague language to include students. Vague language (O'Keefe, 2004) creates a shared space between the instructor and the students by using vague yet inclusive discourse markers.

The results suggest that extended long teacher turns is one of the most common interactional features observed. Teacher talk dominated most of the classes, thereby limiting opportunities for student participation (Almeniei, 2005; Al-Otaibi, 2004; Arishi, 1984). Izzati (2021) called this mode the dominant lecture mode, especially in university lectures. This corresponds with Oraif and Elyas's (2021) claim that teachers must change to suit the new platform. The teacher's role should not be just to present the material but also to teach students new, creative learning methods. Nevertheless, some of the teacher's turn involves the teacher reading written answers off the screen.

Moreover, IRFs are very common and were used extensively in the observed sessions. This coincides with previous research findings (Arifin, 2012; Cazden, 1988; Hall, 1995; Hall & Walsh, 2002; Hardman, Smith, & Wall, 2003; Vaish, 2008). Cazden (1988) and Bellack et al. (1966) pointed out that teachers talk for two-thirds of the time allocated in classes and that they use unidirectional communication, consisting of a triadic sequence of asking a question, which students answer, and then this answer is evaluated by the teacher. The use of IRF with referential questions was less frequent due to the need to finish the syllabus, the pressure to finish the syllabus, and the difficulty of engaging students online. These were found in the classroom context and overlapped with the material mode because they could be an extension of the students' experience regarding the issue discussed in the material presented.

Confirmation checks were very frequent. They are the teacher's way of ensuring that students are engaged and following up in the virtual medium. In addition, transitional markers are used to locate learning and also to attract students' attention. They are used as signposts to make the learners feel included and secure. It can be explained in Flowerdew and Tauroza (1995) claim that "lectures are informationally dense and micro markers could help to dilute the rate at which

the listener has to absorb information" (p. 437). Locating learning reappeared after each episode or segment in the lecture and was identified by the frequent use of discourse markers. A new addition to the framework is the use of code-switching. This can be explained in relation to the context since these classes are content-based classes, not language classes. This can be explained by the lack of face-to-face communication, which forced the teacher to explain topics using all available resources, including their native language. Not being able to see students' faces is another factor that added to the pressure to explain more and to rephrase the material using the students' native language.

Virtual classes' status has changed from an optional tool to an integral part of education nowadays. Further research is a need to explore and redefine how instructors see interaction in all classes, including in higher education. The lecturing mode that was prevalent in the past can be enhanced by adding interactional features that foster engagement and, hence learning. Teacher-dominated discourse in the classroom can jeopardize interaction by failing to create opportunities for students to speak. Analyzing classrooms qualitatively allows for a deeper look into the nature of interaction in detail. For example, extended teacher turn appears to be excessive depending on percentages only. However, IRF has a new form because it is now a teacher-teacher turn since some students prefer to write down their answers. This does not mean a lack of interaction. Moreover, students' feelings to elicit more engagement were focused on during virtual classes.

## Conclusion

This paper explored the interactional features observed in virtual content-based university classes during the COVID-19 pandemic. Virtual lectures observed in this paper were dominated by managerial and material modes. The instructor fell back into the lecturing mode, which was accompanied by excessive use of IRFs and extended teacher turns. The students had few opportunities to interact or practice the knowledge they acquired. In addition, new features were observed such as code-switching and new forms of IRFs.

Virtual classes present a different teaching format. Applying the same patterns to CMC classes as those used in traditional classes will decrease learning and engagement. Though virtual classes have their own challenges such are those identified by Alahmadi and Alraddadi (2020) such as technical difficulties and the lack of nonverbal communication. Nevertheless, teachers can create learning opportunities by using appropriate language and interaction features suitable for this context to elicit participation such as the use of interactive tools (e.g.Mentimeter).

While the sample and the medium (i.e. audio-only lectures) of this paper limit the generalizability of the results, it gives insights on how to improve the quality of teaching. Video lectures may reveal different results and forms of interaction. There is a need for regular peer discussions and reflective analysis using tools such as SETT to enhance teachers' awareness of how their talk affects participation. Teachers must reflect on their teaching practice, especially in virtual classes, and must think creatively to enhance their talks in online classrooms.

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## Appendices
## Appendix A: SETT MODIFIED framework

Table 1. *Modified SETT framework (Walsh, 2011)*

| | Pedagogical goals | Interactional features (interaction uses) |
|---|---|---|
| Managerial | - To transmit information<br>- To organize the physical environment<br>- To refer learners to materials<br>- To introduce or conclude any activity<br>- To change from one mode of learning to another | - A single, extended teacher turn used to explain actions and/or instructions<br>- The use of transitional markers<br>- The use of confirmation checks<br>- An absence of learner contribution |
| Material | - To provide input practices or practice around a piece of material<br>- To elicit responses related to the material<br>- To check and display answers<br>- To clarify when necessary<br>- To evaluate contributions | - Predominance of IRF patterns<br>- Extensive use of display questions<br>- Content-focused feedback<br>- Corrective repair<br>- The use of scaffolding |
| Skills and systems | - To enable learners to produce correct answers<br>- To enable learners to manipulate new concepts.<br>- To provide corrective feedback<br>- To provide learners with practice in sub-skills<br>- To display correct answers | - The use of direct repair<br>- The use of scaffolding<br>- Extended teacher turns<br>- Display questions<br>- Teacher echo<br>- Clarification requests<br>- Form-focused feedback |
| Classroom Context | - To enable learners to express themselves clearly<br>- To establish a context<br>- To promote dialogue and discussion. | - Extended learner turns<br>- Short teacher turns<br>- Minimal repair<br>- Content feedback<br>- Referential questions<br>- Scaffolding<br>- Clarification requests |