

## **Lack of Eye Gaze and its Effects on Spoken Interaction in Synchronous Online Communication**

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### **Abstract**

The importance of oral interaction in language learning is well recognised, and this paper examines the factors that hinder English as a Foreign Language (EFL) learners' active participation in online discussions during Synchronous Online Communication. Using focus groups with 51 Cypriot Greek-speaking students from three tertiary institutions in Cyprus, thematic analysis revealed that the perceived prominent factor inhibiting oral interaction in the online environment was the absence of eye gaze and its associated social functions. Specifically, eye gaze was identified as a signal for turn-taking, turn-yielding, and turn-denying, whose absence hindered learners' ability to interpret their peers' and teachers' intentions and expectations. The paper concludes with pedagogical implications for technologists, software developers, students, language teachers, and language teacher educators.

**Keywords:** Eye gaze, CMC, Spoken interaction, Turn-taking

It is accepted within the field of Second Language Acquisition (SLA) that providing Foreign Language (FL) learners with ample opportunities for classroom interaction with both, their peers and their teacher can trigger their increased and improved use of the target language and contribute to their overall second language (L2) development (Compernelle, 2015; Loewen & Sato, 2018; Somme-Guiebre, 2020). Interaction has long been acknowledged as one of the most influential factors contributing to language learning as it is an essential, if

not sufficient, condition for SLA (i.e. Long, 1996; Pica, 1994 among others). Nowadays, speaking is generally perceived as a fundamental skill to acquire and since the onset of the communicative era, it has been treated as the ultimate goal of language education and has become the focus of attention of both teachers and learners (Aleksandrak, 2011; Richards, 2006; Ur, 2000). In relation to oral interaction, Rivers (1987) also advocates that it is through conveying and receiving authentic messages that learners achieve facility in using a language, hence, someone's ability to interact orally does not merely entail the expression of their ideas but also comprehension of those of others. As she asserts, the interpretation of the messages exchanged by interlocutors during the process of interaction is understood, in a physical or experiential context, with non-verbal cues that can add aspects of meaning beyond the verbal. The nature of the context in which learning occurs appears, therefore, to determine learners' engagement and subsequently the language gains acquired.

Although e-learning was not even on the agenda of many institutions before COVID-19, following the pandemic, most educational institutions around the world were forced to abandon physical classrooms, while in the months that followed a host of research on the matter has emerged (Naidu, 2021; Xie et al., 2021). Teachers and students were compelled to move to emergency remote teaching while having to adapt, almost overnight, their mode of instructional delivery to the new learning requirements enforced by a radical increase in the use of video-conference platforms. Despite what felt like a sudden transition for many, online teaching and learning literature in CMC (computer-mediated communication) in language teaching is rich and longstanding, thus efforts were initially made for the integration of existing CMC practices into online teaching. However, this sudden shift to virtual classrooms and digital platforms has presented many teachers and students with a completely new learning context which has been reported to be uncomfortable for those who had not been previously exposed to it and had only been accustomed to more conventional ways of interacting with each other in the language classroom (Beattie, 2020).

Various studies have focused on written interaction during asynchronous or near-synchronous e-learning environments (e.g. Alghasab et al., 2019; Ioannou et al., 2015; Labadat, 2004) while others have looked into the effect of videoconferencing on the improvement of language learners' speaking proficiency (e.g. Alshahrani, 2016; Rassaei, 2017; Saito & Akiyama, 2017; Tecedor & Campos-Dintrans, 2019); nonetheless, ones that focus on spontaneous oral interaction in synchronous online audio-visual environments remain scarce, especially in the field of English Language Teaching (ELT). Given the central importance attributed to interaction in language learning, this paper seeks to answer the following question:

- What are the key factors that may inhibit Cypriot Greek-speaking students from engaging in oral synchronous interactions in their EFL online lessons?

The findings of this study, which draw on the importance of eye gaze, contribute to the emerging research on oral synchronous-computer-mediated-communication (SCMC) in ELT and provide recommendations that can prove useful to technologists, software developers, students, language teachers, or language teacher educators factoring them into their learning design or addressing them in other ways to achieve best practices in English language teaching and learning.

## SCMC in Language Learning

Recent research on SCMC has sought to explore the mediating effects of technology on language communication (Barley, 2021). Although in earlier studies the computer and internet were approached as an empty transport medium (Jung, 2005), the effects of technology on the communication that occurs through it as well as on the people involved in communication received further consideration (Chun et al., 2016; Levy & Stockwell, 2006). These effects are most notable in videoconferencing learning environments, which are multimodal in nature and promote oral interaction in ways that may resemble face-to-face environments because of the likelihood of using a webcam. The increasing availability of such SCMC environments allows interlocutors to see each other and observe non-verbal dimensions of communication critical for oral interaction (Gullberg, 2010).

While acknowledging the affordances of such online multimodal learning environments in allowing access to numerous non-verbal cues, research (Hodges, 2023; Lamy & Flewitt, 2011; Satar, 2013) reports on some of the challenges and limitations identified in online teaching in relation to the importance of eye gaze. In order to better understand these challenges and limitations, it is crucial to look into the literature on the role that eye gaze plays in social and classroom interactions.

### Gaze in social and classroom interactions

Interlocutors substantially rely on non-verbal cues when engaged in oral interactions with others, while the eyes represent a ‘simultaneous input-output device’ as they provide a considerable source of information that can communicate emotions, intentions, beliefs, and expectations (Jording et al., 2018, p. 1). Gaze constitutes a crucial part of oral interaction in itself, while its role as a non-linguistic visual cue in human communication has been extensively investigated for more than five decades in daily communicative encounters in general (i.e. Auer, 2021; Goffman, 1963; Ho et al., 2015; Latif et al., 2017) and in the classroom in particular (Heins et al., 2007; Volmink, 2015).

In his article, Goffman (1963) draws together the findings of a number of studies to indicate the crucial role played by the direction of gaze in initiating and maintaining a social encounter as well as in establishing openness to one another’s communication. When two or more people interact, they tend to express their ongoing commitment to it by positioning themselves in what he describes as an *eye-to-eye ecological huddle*, establishing in this way intermittent mutual gaze. More recent research (He et al., 2021; Ho et al., 2015; Hodges, 2023; Jokinen et al., 2010; Kompatsiari et al., 2018) has also discussed mutual gaze and averted gaze in reference to social interaction and has shown that gaze acts as a signaling mechanism that can be used to control turn-taking behaviour and evoke joint attention as it provides interlocutors with signals about when to take turns, when to interrupt, and how to catch each other’s attention (Bergmann et al., 2011; Kuhn et al., 2009). This, in turn, enables them to detect upcoming turn exchanges (Jokinen et al., 2013). As Latif et al. (2017) maintain, failure to use these cues to accurately identify instances of role-switching during conversation results in interruptions and long inter-turn latencies (i.e. silent pauses).

Other scholars have shown interest in mutual eye gaze with reference to classroom interaction, acknowledging it as a highly effective teaching mechanism. For example, Seedhouse (1996) advocates that if we are to consider classroom interaction as a natural conversation, certain conditions inherent in natural conversation have to be met; such conditions involve unrestricted

turn-taking and participation rights in conversations as well as a shared responsibility for managing and monitoring the progress of discourse. According to Ayesha et al., (2011), engagement in mutual eye gaze enhances learners' attention which subsequently facilitates the attainment of favourable academic results. Similarly, Knapp et al., (2014) assert that learners' participation in classroom discussions is strengthened when they remain within eye contact range with the teachers as the latter are likely to elicit responses from shy or hesitant students who may lack confidence in volunteering an answer (Hodges, 2023; Kendon, 1967; Zhang, 2006). Furthermore, eye contact made by the learner can be an indication of understanding the topic being discussed (Breed & Colaiuta, 2006) or a signal of assistance. Without such clues, on the one hand, students experience anxiety over whether their communication is being understood (Kurthen & Smith, 2006), inhibiting them from classroom engagement, while on the other, teachers become less able to make informed decisions as to whether they need to continue with further explanations, clarifications or elaborations (Zhang, 2006).

Conversely, online interactions lack such elements inherent in face-to-face interaction which are only possible in a typical classroom setup. Learners may have become accustomed to looking at each other's faces on the screen, but at the same time, they appear to be missing out on the crucial cues that come with life-like eye contact. Given the importance of gaze in face-to-face classroom interactions, it is not surprising that there has been an increase in studies that have sought to explore ways that can compensate for its absence in online teaching. Volmink (2015) explored the role of eye contact in promoting effective learning in natural science in secondary school through the use of eye-tracking technology, while Halawani et al. (2011) used a head-tracking system that aimed at building eye contact in e-learning sessions through head-eye coordination. In a similar vein, Stickler & Shi (2017) chose eye-tracking to capture information about learners' attention focus, areas of interest, frequency, and duration of gaze during an online tutorial, arguing that while such techniques provide information about what learners do, they can't tell us why they do it. More recently He et al., (2021) developed a simulated contemporary Web Video Conferencing (WVC) environment by incorporating pre-programmed avatars aiming at exploring the impact of simulated eye contact within WVC systems on students' attention, engagement, and sense of connection. While the findings illustrated that integrating eye contact can enhance interaction and engagement, a significant limitation is that the avatar may not be as realistic as the human face. Consequently, conversing with an animated head featuring artificial eyes might not provide participants with an equivalent sense of genuine eye contact as experienced in real-life interactions. Others have come up with solutions that involve hardware and software approaches aiming at achieving, what they refer to as an '*illusion*', '*perception*', or '*impression*' of mutual eye gaze (Bohannon et al., 2012, p. 8). The connotations carried by the use of such words assume that despite current technological innovations in detecting gaze and creating eye contact when interacting online, the outcome achieved is still not true to life and therefore inadequate in capturing the essence of eye gaze and its capacities. It appears that findings from controlled laboratory paradigms do not always translate to natural, real-world situations as gaze can operate differently when people are physically present (Ho et al., 2015).

Research related to gaze in online education has mainly focused on its mediating role in student-teacher interactions and not student-student interactions. While this may suffice in subjects where the fulfilment of the lesson objectives depends solely on students' concentration and understanding of the material being delivered, in the case of EFL, an artificially generated eye contact is likely to minimise rather than boost the potential for natural interaction between

participants, a pre-requisite for both language processing and learning. Although several studies have explored the role of eye gaze in social interactions, less is known about the extent to which lack of it may affect the effectiveness of spontaneous spoken interaction, especially in relation to foreign language teaching and learning. In language learning situations, some studies have explored the importance of gaze in technology-mediated learning. Lamy and Flewitt (2011) focused on videoconferencing interactions revealing that their participants could not establish eye contact while uneasiness was reported when they attempted to look straight into the webcam. In a similar vein, in a study focusing on Social Presence in videoconferencing interactions of teacher trainees studying English Language Teaching, Satar (2013) found that eye contact, one of the factors determining the degree of social presence, was practically impossible to establish. Although videoconferencing proved to be beneficial with regard to some aspects, for some of her participants it appeared to be insufficient for several reasons vis-à-vis eye gaze. For example, mutual gaze was found to be unnatural, direct attempts at eye contact could be considered intimidating, while lack of mutual gaze could have led to a decreased sense of trust online.

## **Method**

### **Contextual background**

As most educational institutions worldwide, universities in Cyprus were required to adapt fast to the lockdown of the coronavirus crisis. Before the pandemic, EFL instruction for the students in this study took place in traditional classroom settings which were characterised by face-to-face interactions, where physical presence played a significant role in communication and classroom dynamics. The classrooms were typically equipped with standard teaching aids such as whiteboards and projectors, and students were encouraged to participate in class discussions, group work, and presentations. These lessons whose instruction started in a traditional face-to-face manner were now moved online as synchronous sessions in real-time with set schedules and log-in times disrupting these established classroom dynamics. Both students and teachers, as per the instructions received from their departments, were now using either Microsoft Teams or Zoom installed on their laptops as the medium for conducting their lessons alongside various pre-existing learning management system platforms (LMS). Recorded videos, written instructions, and webinars on the use of CMC were organised for educators and students in an attempt to familiarise them with both the technical and pedagogical uses of the aforementioned software. Neither students nor teachers were forced to use the cameras although they were highly recommended, while the use of breakout rooms, file sharing, multiple-screen sharing, etc., was necessary. These e-learning environments can be effective for certain subjects, yet their suitability in EFL classrooms is dubious as spontaneous conversational exchanges are crucial elements in developing students' language skills (Hawkes, 2012).

In the subsequent weeks, following the shift from traditional classrooms to online instruction in three tertiary education institutions in Cyprus, a decline in oral interaction was noticed between EFL learners and teachers, as well as among the learners themselves during online lessons. To better understand the reasons behind this decrease in interaction, focus groups were organised to gather insights from the learners and support any interpretations of their perceptions.

### **Sample and ethical considerations**

Eight focus groups were conducted with fifty-one students, out of a total of 136 who attended

the teachers' EFL courses (about 25 students in each class) in three different universities in Cyprus. Students were enrolled in one of five courses taught by the teacher-researchers at either the B1 or B2 level of the Common European Framework of Reference for Languages. Participants were all (Cypriot Greek-speaking) Cypriots and were selected based on willingness to participate, availability, and interest in the study.

The cooperative disposition of the participants was perceived as a beneficial attribute to the study. These students, characterised by their interest in the subject matter, exhibited dedication, irrespective of their beliefs. Given the study's overarching aim to comprehend the factors impeding students from participating in synchronous oral interactions during EFL online lessons within a specific demographic, the resultant findings hold greater applicability to this targeted cohort. Thus, the transferability of these findings may be limited concerning the broader population of EFL students hailing from diverse cultural backgrounds and settings.

Each focus group, consisting of six or seven students, was conducted by their course instructor and lasted for about one hour each. Students were either in their first or second academic year (out of four), pursuing degrees in one of the following: Mathematics and Statistics, Business Administration, Accounting and Finance, Sociology, or Psychology. The participants provided written consent after they had been briefed on the purpose of the study and research procedures. Pseudonyms were assigned to them, while other ethical considerations such as confidentiality and permission to withdraw from the study were fully considered during the process of data collection, analysis, and interpretation (Cohen et al., 2018).

As the course teachers, the researchers established an excellent rapport with their students based on mutual respect and trust, which facilitated open and honest communication during the interviews. This positive relationship ensured that the participants felt comfortable and supported throughout the research process. Additionally, the researchers had a strong professional relationship with each other, having been former colleagues and research partners.

### **Data collection and analysis**

Focus group discussions (c.f. Gibbs, 2017) were carried out in Cypriot Greek, the participants' mother tongue. These aimed at investigating the reasons interaction decreased after they were smoothed into the discussion by focusing initially on their opinions and beliefs regarding the differences between their face-to-face and online learning experiences. As the discussions developed, when deemed appropriate or fitting after a certain comment or remark by the students, the teacher-researchers encouraged discussions by asking open-ended questions related to the topic under investigation following a tentative plan. Comments about other aspects of online teaching and learning, positive or negative, which were unrelated to interaction were not considered as they were beyond the scope of this paper. While the teacher-researchers guided the discourse towards the significance of interaction in language learning concerning online instruction, it is imperative to underscore that such guidance did not entail a deliberate orientation towards preconceived conclusions or predetermined outcomes.

Following the transcription and translation of the focus group discussions into English, a thorough examination was undertaken by proficient translators. This measure was implemented to preclude the risk of inadvertent loss of nuanced expressions or misinterpretations by the researchers. After the focus group discussions were transcribed and translated into English, they were sent to all participants for member-checking before being coded. Seeking additional clarifications and confirmations from the participants aimed at

enhancing credibility by minimising misinterpretations and ensuring that findings resonate with participants' experiences.

Given the research focus on attaining an interpretative comprehension of participants' experiences, beliefs, and perceptions related to online interaction, the adoption of thematic analysis (Clarke & Braun, 2016) seemed appropriate as it facilitated comprehensive explorations and interpretations of latent meanings inherent in recurrent patterns and divergences within the dataset. The researchers thoroughly read and re-read the transcriptions independently to become familiar with the content before assigning initial codes to segments of the data. These codes were intended to capture early impressions and identify significant features that stood out. An open coding process was employed, allowing codes to emerge directly from the data rather than fitting the data into preconceived categories. This safeguarded against researchers' biases influencing the analysis. Following collaborative discussions between the researchers, codes were collated into potential themes which were agreed upon based on their recurrence, significance to the research questions, and relevance to the participants' experiences.

In summarising the data and capturing its key themes, one aspect that was extensively discussed by the focus group participants was the lack of *real* eye gaze and the way interaction has been affected by it. As a frequent and dominant finding inherent in raw data, clear links started being established between the importance of eye contact and the research aims regarding decreased interaction. Direct quotations were used throughout the report in order to preserve the voices of the participants. Since the discussions were translated into English, what was originally said in English by the participants is presented in the analysis in italics.

## **Findings and Discussion**

During online instruction, what was perceived to be the main reason for students' limited interaction was their inability to establish eye gaze and the conversational functions it supports. These functions were conclusively divided into three distinct categories: (a) eye gaze as a turn-taking signal, (b) eye gaze as a turn-yielding signal, and (c) eye gaze as a turn-denying signal.

### **Eye gaze as a turn-taking signal**

This signal, which was reported to be lost during online lessons, seems to be related to the listener's attempts to take over the role of the speaker and contribute to the discussion. Characteristic were Maria's comments regarding the flow of the conversation in the two different learning contexts she has experienced:

'[i]n the classroom we can easily turn our heads and look at the person speaking, use our eyes to show we agree or disagree and show you [teacher-researcher] or the others [our classmates] that we want to say something (...); it's like interrupting, but it's *smooth*'. [Maria]

Similar to Maria's comments in terms of interruption or contribution were Costas' remarks who explained that interaction is less complicated and more natural in the classroom as one does not have to gain permission.

'In class, you understand when someone wants to interrupt you or add something to what you're saying by the way they will look at you, while here [online] you just see the screen

(...), and while you use the hand feature and wait for the teacher to give you permission to speak, someone else may pop up. It's frustrating'. [Costas]

Yet again, another participant, Marios, expressed the importance of eye gaze in taking permission to contribute to the discussion, whereas its absence often influences his eagerness to do so as more effort and time are needed making the regulation of communication more complicated or less natural:

'[i]n the classroom, if I want to say something, to add something, I would just look at you and say it. Now I might not make the effort to *unmute* the microphone, ask for permission, wait to take it, and say it. It's off-putting and annoying'. [Marios]

According to the participants, the possibility for a more natural and spontaneous turn-allocation in online classes was not plausible as they were deprived of those social functions associated with eye gaze. The importance of eye gaze in facilitating interruptions or contributions in discussions was highlighted, including aspects such as conversation flow, seeking permission to contribute, and using natural speech. A signal for turn-allocation correlated to the establishment of eye gaze appears to be a change in head direction towards the conversational partner which enables them to demonstrate their readiness to contribute to the conversation, pass the turn to the next speaker, or take the floor without having to get permission, a finding corroborating previous research (Ho et al., 2015; Jokinen et al., 2013). As a result, participants reported that the online learning environment felt more controlled, with less opportunity for simultaneous and spontaneous feedback exchange through eye gaze. Instead, the shifted role of the teacher from being a facilitator of the learning process to being a coordinator (in control of turn allocation during online classroom discourse) appears to have a significant impact on the degree of engagement between the instructor and students and among the students themselves. Engagement in conversational classroom encounters, therefore, is perceived by students as a strenuous process that requires more time, effort, and coordination from a third party whose involvement seems to negatively influence their eagerness to react (respond, comment, add, interrupt, etc.) to their instructors, or peers' contributions.

### **Eye gaze as a turn-yielding signal**

Interrelated to the interruption and contribution signals are those which facilitate turn-yielding and similarly to what was argued by the participants above is also a lost ability that would normally allow them to smoothly give the floor to someone else who wants to contribute to the discussion. Indicative were the comments of Angeliki who explained how turn-yielding would take place between herself and a friend sitting next to her:

'Normally [in the classroom as opposed to online] there was more *understanding* among ourselves, it was *natural*, I would finish talking and I would look at (classmate's name) and she would say what she wanted to say. For example, to support my great idea!' [laughter]. [Angeliki]

Such signals of interaction facilitating communication were commented on by another participant as well, who apart from the aspect of natural speech, also explained that online lessons appear to have more negative consequences in terms of turn-yielding: they are more monitored, they are more tiring, while at the same time, the excitement preceding the spur of speech is also confined. These resulted in them debating on whether or not they should take



the floor:

‘[w]hen we speak, for example, your [teacher-researcher’s] rule is when someone finishes talking, anyone can say something, without taking permission, *online* is more *controlled*, it’s tiring and the excitement is gone. And then you have second thoughts [literally: you rethink it] ‘will I make a mistake? Am I going to say something stupid?’ [Eleana]

Apart from creating feelings of doubt, the lack of eye gaze facilitating turn-yielding in the classroom creates a state of confusion for the online participants. Andreas expressed his concerns on the ambiguousness of silence without the possibility of eye gaze in online sessions and on whether silence is indicative of the speaker’s intention to give up the floor or a sign of thinking, hesitating, planning, etc:

‘[s]ometimes we can’t tell if somebody finished talking because all we experience is complete silence, we can’t see them even in *breakout rooms*. *Online*, it’s difficult to understand if they finished or just stopped to think because, in the classroom, we can use our eyes to tell the other [classmate]: ‘I’m done, [now] talk!’ [Andreas]

Inability to maintain eye gaze during online interaction is likely to lead to confusion as to the speaker’s intentions, overlapping talk, or long periods of silence. As some participants asserted, in a physical classroom, they would gaze towards their peers or their instructor signaling the end of their utterance and yielding the floor to the next speaker, achieving a smooth turn transition. This seems to be problematic in online interactions as such communicative signals that prompt a reaction and provide the listener with the right to speak are not detectable without explicit gaze information. Participants argued that there are times when someone stops talking but their intentions are not clear, since what they experience can be ambiguous as it is not clear whether it is a pause, or a prolonged period of silence which, according to Goodwin (1981), can be a signal of turn-holding marking hesitation or even time taken for planning the next utterance. These are often perceived as an indication of turn-yielding which may lead to interruptions or instances of overlapping talk obstructing the natural flow of the conversation. As this is not evident in online communication, possible interruptions on the part of the listeners hinder the possibility of a more natural and flexible conversation during tutorials. In an article on turn-allocation and gaze, Auer (2021, p.118) advocates that:

‘the question of how a current speaker can select a next speaker is so fundamentally linked to human gaze that any account of turn-taking that does not include it will run the risk of remaining incomplete and even be misleading’.

### **Eye gaze as a turn-denying signal**

Prevalent among participants’ comments was the correlation between the teacher’s inability to maintain direct eye contact with students in online lessons and the latter’s reluctance to respond to the teacher’s queries or contribute to the lesson in any way. As students explained, in the classroom the teacher would look directly into the eyes of an individual student in an attempt to induce a response. This, as they admitted, exerted some pressure on them to reply, a pressure that cannot be imposed on them in online classes, as illustrated in the following comments.

‘You are less exposed behind the screen so it is much easier not to participate if you don’t want to. In the classroom, you are there and you are looking at me so I feel the pressure to

pay attention, to reply. Online this is lost'. [Giorgos]

'If we were in the classroom, we would probably answer most of your questions because you would be looking at us. We certainly wouldn't be able to get away with it' [laughter]. [Spyros]

Another factor that seems to prevent several participants from engaging in classroom interactions is the impersonal nature of the screen itself, which, as they claimed, deprives them of the feeling that they are being listened to. Even though visibility is allowed through their webcam, they still feel that life-like eye contact between them and their teacher or peers is absent in their online encounters, turning the lesson into a passive learning experience. Indicative were the following comments:

'I feel that I talk less now when lessons are done online because I can't see anybody's face and I have no eye contact with anyone so it feels weird to talk to the screen. I'd rather sit here and listen to you. I can't be bothered'. [Panos]

'When I speak behind the screen, I don't feel I'm communicating...I'm speaking but it isn't communication. Even if everybody has their cameras on, what you see are faces looking at you...There is no eye contact so it doesn't feel real'. [Elena]

A teacher's eye gaze can communicate support and encouragement which, in turn, builds a feeling of connection with students enabling the latter's contributions to classroom interactions. Adversely, the teacher's inability to maintain such eye gaze in an online learning environment seems to generate students' uneasiness to speak leading to their decreased interaction and, in many cases, their complete muting as indicated in the following quote.

'The *vibes* are different in the classroom; they are more *positive*. It's not the same here [online]. (...), I cannot see you ... we're like *avatars*. I mean we are both looking at the screen but not at each other so the *connection* is not there. I don't feel comfortable talking, and when I do, I want to finish quickly and just give you the answer'. [Marilena]

It appears that besides being a sign of turn-taking or a sign of hesitation, occurrences of prolonged silences may also be a sign of turn-denying in cases where the teacher fails to maintain eye contact with a student as a way of pursuing some kind of response from them. Participants admitted limiting their participation in classroom interactions or even muting themselves completely, as the possible pressure, otherwise exerted by the teacher's sustained gaze is no longer there. In a comprehensive study on gaze and turn-taking, Weiss (2018) shows that gaze-selected next speakers may signal their rejection of the turn offer by averting their gaze away from the speaker thereby symbolically withdrawing from the interaction and making themselves unavailable as the next speaker. Given that an averted gaze is not evident in online interactions, a person's refusal to engage in a social encounter is displayed by instances of silence, which prevent the exchange of information from naturally occurring.

For some students, the ability to maintain eye contact with their peers and teacher during online interactions is deemed crucial as it is perceived as a sign of attentiveness on the part of the listeners. Participants expressed feelings of indifference and lack of enthusiasm in interacting in online lessons, as the absence of eye contact provides them with no indication as to whether they are being listened to. Goodwin (1981) describes gaze behaviour as a display of attention and (dis)engagement in the conversation arguing that a sustained gaze by the recipient towards the speaker communicates attentiveness while a lack of it is often an

indication of diminished engagement in the conversation. This feeling of inattentiveness is exacerbated by the presence of the screen which turns language learning into an impersonal, passive experience that does not stimulate active participation and interaction nor does it reflect the true essence of real communication. Participants voiced their uneasiness and reluctance to speak in online classroom interactions asserting that there is no real connection between the interlocutors as they feel they are talking to the void, to a screen full of avatars or profile pictures rather than real people. The presence of the screen results in a learning environment in which students feel disconnected from each other and from their teacher as their inability to maintain eye contact allows no feedback on whether or not there's comprehension or engagement. Earlier studies on CMC (Hiltz, 1986; Walther & Burgoon, 1992) conclude that this medium is unable to provide social context cues associated with face-to-face communication and it is therefore perceived as being impersonal, cold, and unsociable.

On the basis of the current data, it appears that even when using webcams during online sessions which allows visibility between students and their teacher or their peers, they (students and teacher) have access only to limited visual information as they can only see each other's faces presented side by side in a split-screen, rather than facing each other as in natural, more spontaneous conversation. While certain gestures or facial expressions can be seen through the use of a webcam, the inability of the interactional partners to establish eye gaze by looking *in* rather than *at* each other's eyes, a phenomenon referred to by Farokhian (2019) as "looking without seeing" or inattentional blindness, inhibits them from fully encapsulating their interlocutor's actions and intentions. This prevents them from adjusting their own actions and intentions in a way that would facilitate communication.

Data drawn from this study seems to confirm earlier findings on the communicative and regulatory functions of eye gaze in social interactions (Bergmann et al., 2011; Ho et al., 2015; Rossano, 2013) while providing new insights into its role in foreign language learning. It is clear that participants attribute their lowered contribution to online spoken interactions or their complete avoidance of actively engaging in classroom discussions, to the lack of eye gaze during synchronous online sessions (with or without the webcam). This absence of eye gaze is seen as affecting attentiveness, prompting speaker reactions, and indicating listener eagerness to respond to what is being said. These interactions, whether initiated by speakers seeking reactions or listeners aligning with speakers, can take various forms such as responses, comments, additions, or interruptions. Whatever the form, however, there is a gap between when a reaction is sought and when one is provided. What seems to bridge the two, according to the participants, is the eye gaze and its social functions which render them unable to interact naturally during online lessons. Evidence provided by this study has shown that unless learners are exposed to a language learning environment where natural conversation is enabled rather than inhibited, oral interaction activities will be of limited value. The ability to detect the turn-taking, turn-yielding, and turn-denying signals triggers mentalising processes that allow learners to interpret their peers' and teachers' thoughts, expectations, and intentions. Since learners believe they are not visible (regardless of webcam status), their motivation to contribute to interactions diminishes. It appears that similar to what Cañigüeral and Hamilton (1919) argued, interaction, here, is decreased because it is not enough to see a pair of eyes directly gazing at them, but it is also significant to *believe* that that pair of eyes is gazing at them. It appears that oral interaction is decreased because although they are watched, they know that in reality, they are not.

## Conclusions and Implications

The discussion presented highlights several educational implications related to the impact of online communication on language learning. These implications relate to the loss of nonverbal cues associated with eye gaze, challenges to the accustomed learning environment, increased dependence on teachers, and reduced ability to read interlocutors.

Based on the analysis, one disparity identified between online and face-to-face communication is that the former lacks those non-verbal cues that are perceived to be critical in communication. Research (Cañigual et al., 2021; Jokinen et al., 2013; Seedhouse, 1996) suggests that natural communication with others relies on coordinated exchanges of social signals, such as eye gaze, gestures, and facial displays. In face-to-face classroom interactions, students are continuously exchanging a variety of social signals which contribute to oral communication. This two-way exchange of social information including turn-taking, turn-yielding, and turn-denying signals becomes possible not only because language learners are able to see each other and the teacher, but also because they are able to understand when they should, be allowed, or encouraged to talk. What can be derived from this study is that the learners' social behaviour in relation to interaction has dramatically altered as eye gaze, irrespective of the use of webcams, can no longer be considered a tool for communication. As eye gaze is no longer coordinated to achieve mutual forms of understanding through its various signals and is, instead, limited to either gaze *to* or gaze *from* the interlocutors, the signals encouraging interaction are lost. Therefore, natural communicative exchanges cannot be easily achieved, and as a result, interaction is affected, especially considering that these students were accustomed to learning a foreign language as an active and socially interactive process in face-to-face environments. In other words, when learning a foreign language is approached as an active and socially interactive process, online synchronous lessons, where eye gaze is no longer a constant factor, challenge the ways learners are accustomed to being involved in classroom interaction and thus the very essence of their learning.

It appears that students online are less aided by eye gaze signals while they appear to depend more on their teachers. This can result in teachers adopting roles that may not align with their usual teaching philosophies and may create a more controlled learning environment, potentially affecting the dynamics of the teacher-student relationship. Unlike face-to-face environments, online lessons lessen the ability of both students and teachers to read their interlocutors as non-verbal cues such as eye gaze are not as easily discernible. This can impact the naturalness of communication and may require additional efforts to establish effective communication and understanding among participants.

Educators and learners need to be aware of these implications and find ways to adapt and mitigate the challenges to ensure effective communication and learning in online environments. Several strategies can be employed to tackle the challenges mentioned earlier, especially in language learning contexts:

- **Use alternative communication tools:** Educators should encourage the use of alternative visual cues other than eye gaze, such as facial expressions, head nods, frowns, smiles, gestures, and using hands or props that can be captured by the camera. Students should also be instructed to use other communication tools, such as texting in the chat window, using the 'hand' figure to indicate their speaking intentions, or muting themselves when they finish talking, preventing in this way any possible

silences or overlapping talk.

- **Utilise technology tools:** Given that eye contact cannot be replicated in the virtual world educators should be instructed and encouraged to make use of diverse technological tools such as chat boxes, polling tools, and breakout rooms with a smaller number of students in order to better coordinate interactions and ensure that factors such as inattentiveness or reluctance to participate, are minimised while opportunities for engagement in the conversation are maximised.
- **Incorporating Technology for Non-Verbal Cues:** Technologists can work on developing and improving technology solutions that mitigate the lack of eye gaze in online communication. For example, developing software or tools that better capture and convey gestures, and facial expressions in virtual classrooms can help bridge the gap between online and face-to-face interactions.
- **Teacher Training and Support:** Teachers should receive training and support in adapting their teaching methodologies to the online environment. This includes understanding the limitations of online communication and learning how to use available tools effectively to compensate for the lack of eye gaze. Technologists can assist by creating user-friendly platforms and providing training resources for teachers.
- **Feedback Mechanisms:** Implement feedback mechanisms in online learning environments that help teachers and students gauge their communication effectiveness. For instance, tools that provide feedback on speaking and listening skills or tools that track engagement levels can be valuable for learners and instructors alike.
- **Encouraging Webcam Use:** While acknowledging privacy concerns, educators can encourage students to use webcams during online classes when appropriate. This can help partially restore some of the non-verbal cues, such as facial expressions and body language, which may compensate for the lack of eye gaze.
- **Integration of Social Learning:** Create opportunities for social learning within online language courses. This can include virtual group projects, language exchange programmes with native speakers, or discussion boards where students can practise conversational skills asynchronously.
- **Enhancing Language Learning Apps:** For asynchronous learning, technologists can enhance language learning apps by incorporating features that simulate real-life communication scenarios. This could involve interactive dialogues, pronunciation practice with feedback, and exercises that encourage learners to think and respond in the target language, reducing the dependency on teachers for all communication.
- **Collaborative Problem-Solving:** Promote collaborative problem-solving among technologists, educators, and learners. Regular feedback loops and open communication channels can help identify emerging challenges and adapt strategies accordingly.

In summary, addressing the implications of online communication on language learning requires a collaborative effort among technologists, teachers, teacher educators, and learners.

By leveraging technology effectively and adapting teaching and learning approaches, it is possible to enhance the online language learning experience and mitigate the challenges associated with the loss of eye gaze.

Expecting the online FL teaching and learning experience to be an adaptation of the traditional face-to-face classroom would be problematic as it is a fundamentally different experience. Online interaction is mediated by technology and this inevitably requires stakeholders to be aware of the limitations of the online environment and to be well-equipped with the knowledge and skills essential for accommodating these limitations in order to achieve best practices. Given the potential pedagogical advantages of online teaching and learning, there is a need for more research into what does or does not work in online environments so that the potential benefits of synchronous oral SCMC are maximised for language learning.

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