University Students' Perceptions of Seeing People's Faces in Synchronous Online Breakout Sessions

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Meaningful social interactions are essential for individual well-being (Baumeister & Leary, 1995), though with the evolution of information technology, how these interactions take place has changed dramatically. Face-to-face interaction (still used but increasingly less often) allows individuals to see group members' facial expressions, whereas this is not necessarily the case with online mediums. This study investigated whether students feel the need to see people's faces when talking in small groups during real-time online lessons. More specifically, it looked at how important university students think it is to see the faces of their teachers and classmates in synchronous online breakout sessions in English classes. The 196 study participants did not indicate a strong need to see their teachers' or classmates' faces, regardless of personality type, gender, or pre-COVID-19 mask-wearing behavior. These findings suggest that teachers need neither keep their cameras on nor constantly remind their students to turn theirs on in synchronous online breakout sessions.

有意義な人との関わりは幸せを感じるために不可欠だが、情報技術の台頭によりそれがどのように行われるかは劇的に変化した（Baumeister & Leary, 1995）。頻度が少なくなっているが未だに行われている対面での関わりが実施される場合、グループメンバーは互いの表情を見ることができる。しかし、オンライン媒体を介した場合、必ずしも相手の顔が見えるわけではない。本研究では、学生がリアルタイムのオンライン授業中に少人数で話すときに、人の顔を見る必要性を感じているかどうかを調査した。より具体的には、オンラインのブレイクアウトセッション中、教員やクラスメートの顔が見える必要性について学生の意識を調査した。196名の被験者を分析した結果、大学生は性格、性別、あるいはコロナ前に日常的にマスクを着用していたかどうかに関わらず、教員やクラスメートの顔が見える必要性を強く感じていないことが明らかになった。本研究結果は、リアルタイムで実施されるオンラインのブレイクアウトセッションにおいて、教員は必ずしもカメラのスイッチをつけておく必要がなく、また、学生にもカメラのスイッチをつけておくよう、常に促す必要がないことを示唆している。

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The COVID-19 pandemic has remarkably increased the number of university classes that are held online (Castelli & Sarvary, 2021). As a consequence, many teachers and students have been forced to shift their classes to web-based mediums such as on-demand videos, synchronous online classes, and hybrid lessons. This study focuses on one type of web-based lesson: synchronous online classes, defined here as real-time classes using platforms such as Zoom, Microsoft Teams, or Google Meet.

Synchronous online classes raise the issue of whether cameras should be on or off at all times during lessons. Although policies differ, many academic institutions take the route of encouraging, rather than requiring, students to turn their cameras on (Castelli & Sarvary, 2021). The reason for this approach could be that many people have reported increased psychological distress since COVID-19 (McGinty et al., 2020), and forcing students to turn on their cameras could potentially become a stressor. If it could be psychologically detrimental, why do teachers always keep their cameras on and ask students to do the same?

One reason may be that past studies have demonstrated the advantages of social interaction (with in-person meetings as a precondition) on one's well-being (Baumeister & Leary, 1995). In classrooms, students often engage in group work, which usually involves *face-to-face promotive interaction*. Face-to-face promotive interaction is defined as individuals promoting each other's success through assistance, support, encouragement, and praise (Johnson et al., 1998) and is known to have positive effects on students' affective filters (Hashimoto, 2020; Slavin, 2010). Although Johnson et al. (1998) do not explicitly state that individuals need to be in the same physical location, they do stress the importance of nonverbal responses in addition to verbal responses during group work, which suggests a shared location as being important. That said, the recent surge in the use of information technologies in education has called into question the need for physical presence to effectively conduct group work.

This change in the social environment inspired the following research questions (RQs):

RQ1. How important is it for university students to be able to see their classmates' faces in synchronous online breakout sessions (i.e., small group sessions during online classes)?

RQ2. How important is it for university students

to be able to see their teacher's face in synchronous online breakout sessions?

RQ3: Do demographic factors affect the importance university students place on being able to see their classmates' or teacher's faces?

In other words, the aim was to find out how essential the face-to-face aspect of small group work is in university synchronous online classes. As mentioned previously, the recent transformation of norms of social interaction appears to have changed the needs of students to see their counterparts' faces in real-time web-based classes. However, research in this area is still nascent. Thus, an inquiry into this topic was believed to be worthwhile.

Previous Studies

Definition of Face-to-Face Interaction

Face-to-face interaction has been researched in various fields, including psychology (Prochazkova & Kret, 2017), digital communication studies (Baym, 2015; Nguyen et al., 2021), sociology (Turner, 2002), and education (Johnson et al., 1998; Kim et al., 2020). Since the emergence of the term, its definition has been somewhat difficult to specify (Duncan & Fiske, 2015; Goffman & Best, 1967). Rather than define the term, Duncan and Fiske (2015) describe specific actions that characterize face-to-face interactions, such as smiles, head nodding, leg crossing, eyebrow raising, and posture changes. These behaviors suggest that face-to-face interaction involves authentic physical presence of the interlocutors during the time of communication.

Many other researchers (e.g., Goodfellow et al., 1996; Johnson & Johnson, 2002) also qualify these same types of behaviors as face-to-face interaction, although not explicitly. Terms used synonymously with face-to-face interaction include face-to-face communication (e.g., Hellman et al., 2020, Kappas & Krämer, 2011), face-to-face promotive interaction (e.g., Johnson & Johnson, 1999), and live social interaction (e.g., Pan & Hamilton, 2018). Some recent research (e.g., Jucker et al., 2018), however, describes face-to-face interaction as not being limited to physical co-presence between individuals. Moreover, even Johnson and Johnson (2018) and Johnson et al. (1998) now simply refer to "promotive interaction," leaving the face-to-face specification out. In this paper, the term face-to-face interaction will be used to indicate live interaction between individuals wherein those taking part in the interaction can see each other's faces but are not necessarily in close physical proximity.

Face-to-Face Interaction in the Digital Age

Given obvious dissimilarities in the traditional nature of face-to-face interaction in prior times, the meaning of the term in the digital age needs reconsideration. Kessler et al. (2021) give an overview of synchronous video computer-mediated communication (SVCMC), stating that despite the popularity of this platform, it is still somewhat uncommon in English language teaching. Possibly for this reason, the number of studies regarding real-time online face-to-face interaction in this area is still limited. Previous investigations not confined to the field of English language learning include one conducted by Peper et al. (2021), comparing the experiences of 350 college students participating in online learning on Zoom versus taking part in in-person classes. They explored reasons why some students describe themselves as having more issues learning online, especially in synchronous Zoom classes. Students reported feeling comparatively more isolated, anxious, and depressed than in face-to-face classes, though noting as well that isolation due to COVID-19 could also have been a contributing factor. Students were also less responsive in class, which negatively affected nonverbal student–teacher interactions. Furthermore, students said it was more difficult to stay attentive during lessons. Peper et al.'s (2021) study is noteworthy as it concerns students' perceptions of synchronous online classes. However, it seems to assume that individuals in synchronous Zoom classes keep their cameras on, which is not always the case.

Another study of face-to-face interaction in web-based classes is one by Wang et al. (2018). Their investigation was done as part of a blended synchronous learning initiative. Participants were master's students in a theory and practice course at a teacher education institute with most students attending in person but others attending through videoconferencing. The purpose of the study was to examine what kind of learning experiences and understandings students had with regard to the design and implementation of blended learning. The researchers noted that students sometimes turned their cameras off "to avoid being observed, which indicates that they might have become bored and most likely walked away from their computers" (Wang et al., 2018, p. 11). However, they did not go into detail about others' perceptions of this phenomenon. Thus, to shed light on this issue, the present study investigated students' perceptions of seeing their counterparts' faces in online classes.

Methodology

Participants

The participants in this study were 196 first-year students in a compulsory English course at two medium-sized, private, four-year universities in Tokyo, Japan. At the time of the survey, these students had studied English for seven years and had taken online classes for one year. The study was conducted at the end of their freshman year. At both universities, lessons met for 90 minutes per week over two 15-week semesters with a two-month summer break in between. The students' English proficiency levels ranged from CEFR A1 to B1, as determined by the instructor based on tests taken during the first lesson.

Data-Collection Instrument

The students were given a two-part survey about their perceptions of breakout sessions in their synchronous online English classes. Before completing the survey, the students were told that participation was voluntary and that it would have no effect on their evaluation. The survey took 7 minutes to administer. As there were no previously existing instruments assessing students' perceptions of being able to see their counterparts' faces in synchronous online classes, the survey items were created by the researcher. Their reliability and validity were then checked using factor analysis in IBM SPSS Version 28. The survey was administered in Japanese and then translated into English after the investigation.

Part One was a 10-item demographics section inquiring about the participants' general backgrounds (e.g., previous years of English language learning, gender), personality types (i.e., introversion vs. extroversion), and daily habits (e.g., pre-COVID-19 mask-wearing behavior).

Part Two comprised an additional 12 items, all targeting the students' perceived importance of seeing their counterparts' (i.e., their teacher's or classmates') faces. These items included statements such as "I am not bothered even if I cannot see my teacher's face" and "I feel reassured when I can see my classmates' faces," to which the students were asked to agree or disagree according to a five-point Likert scale as follows: 1 (*strongly agree*), 2 (*agree*), 3 (*neither agree nor disagree*), 4 (*disagree*), or 5 (*strongly disagree*). Three items were reverse scored so that lower scores would indicate greater importance students placed on being able to see their counterparts' faces, specifically by having cameras turned on during breakout sessions of their synchronous online English classes.

The 12 items in Part Two were then subjected to an initial exploratory factor analysis using the maximum likelihood method and oblique rotation in Promax. Items with a factor loading of less than 0.4 as well as those with high factor loadings on all factors were excluded. Hence, six items were omitted, leaving six for analysis. A second exploratory factor analysis was conducted on those six items. Based on a scree plot with the lower eigenvalue limit of 1, a two-factor model appeared to be appropriate. Examination of the items on each factor revealed that Factors I and II appeared to capture students' perceived value of being able to see the faces of their classmates and teacher, respectively. Internal consistency for the two factors was $\alpha = .85$ and $\alpha = .82$, suggesting high reliability. The interfactorial correlation was $\gamma = .50$, suggesting a moderate association. The factor loadings of items in the second exploratory factor analysis as well as Cronbach's alpha for the two factors are shown in Table 1.

Table 1

Factor Loadings from Exploratory Factor Analysis

	Factors	
	I	II
Factor I: Perceived Value of Being Able to See Classmates' Faces (α = .85)		
It does not bother me if I cannot see my classmates' faces.	**0.94**	-0.02
There is no problem even if I cannot see my classmates' faces.	**0.81**	0.06
I feel anxious when I cannot see my classmates' entire faces.*	**0.68**	0.00
Factor II: Perceived Value of Being Able to See the Teacher's Face (α = .82)		
I am not bothered even if I cannot see my teacher's face.	-0.05	**0.90**
There is no problem even if I cannot see my teacher's face.	0.00	**0.88**
I feel anxious when I cannot see my teacher's entire face.*	0.12	**0.54**

Note. Asterisks (*) indicate items that were reverse scored. The two factors together constituted a scale concerning the students' perceived value of being able to see their counterparts' faces in real-time online breakout sessions. The reliability of the entire scale was high at α = .84.

Results

Effect of Personality Type

The participants were divided into two personality types according to their average score on two items from the demographics section, "I like being with other people" and "I think I am sociable." Those with average scores above and below 3.0 (n = 96 and n = 100, respectively) were classified as being either extroverted or introverted. Independent-samples t tests were then conducted to compare the averages of these two groups on the two factors identified in Part Two of the survey. For Factor I, the score difference between the 96 participants categorized as extroverted (M = 2.60, SD = 1.15) and the 100 categorized as introverted (M = 2.40, SD = 0.98) was not statistically significant, $t(194)$ =1.30, p = .19. Likewise for Factor II, there was no statistically significant difference between the extroverts (M = 2.14, SD = .98) and the introverts (M = 1.85, SD = 1.07), $t(194)$ = 1.86, p = .07. In other words, extroversion or introversion did not seem to affect the perceived importance of being able to see either one's classmates' or the teacher's face in real-time online breakout sessions.

Effect of Gender

On Part One of the survey, the students indicated their gender as female (n = 140), male (n = 54), or non-binary (n = 2). Because of their small number, those who identified as non-binary were excluded from the gender analysis.

An independent-samples t test was then conducted on the two remaining groups to determine whether gender affected their perceived importance of being able to see their teacher's and classmates' faces in real-time online breakout sessions. For Factor I, the score difference between the 140 self-identified females (M = 2.14, SD = .96) and the 54 self-identified males (M = 2.19, SD = 1.02) was not statistically significant, $t(192)$ = -0.15, p = .88. Likewise for Factor II, there was no statistically significant difference between the first group (M = 2.46, SD = .99) and the second (M = 2.47, SD = 1.09), $t(192)$ = 0.20, p = .84, suggesting that gender did not affect students' responses to the two factors. In other words, whether students identified as female or male did not seem to affect how important they felt it was to be able to see their teacher's or classmates' faces in synchronous online lessons.

Effect of Mask-Wearing Before COVID-19

As it was possible that regular mask-wearing prior to COVID-19 could have influenced the importance students placed on being able to see their teacher's and classmates' faces in real-time online breakout sessions, the participants were divided into two groups according to their response to the demographics item "I wore a mask regularly even before COVID-19." The first group comprised those who chose response options 1 or 2 (n = 132), the second group those who chose response options 3, 4, or 5 (n = 64). Independent-samples t tests were then conducted to compare the averages of these two groups on the two factors identified in Part Two of the survey. For Factor I, the score difference between the 132 participants in the first group (M = 2.10, SD = 1.00) and the 64 in the second (M = 2.49, SD = .77) was not statistically significant, $t(194)$ = .79, p = .43. Likewise for Factor II, there was no statistically significant difference between the first group (M =2.51, SD = 1.04) and the second (M = 2.35, SD =.97), $t(194)$ = -1.36, p = .18. Hence, regular mask-wearing before the COVID-19 pandemic appears not to have affected the importance students placed on being able to see their teacher's and classmates' faces in real-time online breakout sessions.

Discussion

This study investigated the importance that students placed on being able to see their teacher's and classmates' faces during break-out sessions in synchronous online English classes. Although it cannot be stated for certain that students equally devalue seeing each other's faces in these sessions regardless of personality type, gender, or pre-COVID-19 mask-wearing, it can be inferred that students agreed with the statements in Factors I and II since the means of the group comparisons were less than 3. Hence, they seem not to place a high value on being able to see their teacher's or classmates' faces in real-time online breakout sessions. Perhaps this finding is of no surprise. As Prensky (2001) pointed out, students in the digital age have grown up surrounded by digital devices such as video games, cell phones, music players, and computers, many of which do not have to be mediated by a human being to be used. He also asserted that "our students' brains have physically changed—and are different from ours—as a result of how they grew up" (Prensky, 2001, p. 1). As we now live in a world where individuals can order necessities online and have these delivered to their doorsteps, allowing them to survive without leaving their houses or seeing anyone, we may need to reevaluate the premium put on face-to-face interaction. The importance placed on in-person meetings, let alone being able to see others' faces, may also need to be revisited. The ways of thinking and of processing information for students of the current generation

are different from those of their predecessors (Ugur, 2020). As such, educators might consider changing their pedagogy to better relate to their students.

Implications

The findings of this study could imply that it may not always be essential for teachers and students to show their faces during real-time online breakout sessions. Specifically, teachers need not always feel it necessary for their cameras and those of their students to be on continuously. If teachers and students wish not to continually show their faces, it may be acceptable for teachers to turn off their own cameras and allow their students to do likewise.

Limitations

The participants in this study were all first-year students, many of whom had no prior experience taking university classes before the COVID-19 pandemic. Thus, they may have lacked any preconceptions about how university classes should be conducted. If they had been students in later years and, thus, used to having university lessons in a physical classroom setting, the results may have been different. Moreover, it is possible that students who prefer not to turn on their cameras responded to the survey in ways that they themselves would not ultimately be required to do so.

Conclusion

The number of synchronous online English classes is bound to increase as teachers and students realize the benefits of web-based classes. Considering this situation, teachers may want to raise awareness of class delivery methods that are sustainable for both students and themselves. This study provides insight into students' perceptions as to whether cameras should be turned on during synchronous online breakout sessions. In an age when friendships are formed virtually through online games and people meet their partners via matchmaking applications, individuals may not need to encounter or even be able to see each other to form close connections. As such, teachers may want to reconsider the value placed on face-to-face communication as digitally mediated class delivery methods continue to develop.

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