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Role of Proxemics in Online and Offline Classroom Settings

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Abstract

Proxemics is one important way in which nonverbal communication is studied. It refers to the physical space between communicators, the comfort experienced with the space and its effect on social interaction. In educational settings, proxemics has been affected by the changing modes of classes – online v/s offline. With online education, the distance between the learner and the teacher has expanded due to which new challenges have arisen in pedagogical engagement. The present research reviews the impact of changes in physical space in the classroom settings, and explores comfort and attention of undergraduate students in both online and offline settings. A self-created questionnaire and semi – structured interview have been used to explore the same. The researchers also explore pedagogies that will help to enhance the learning outcomes in changing classroom environments.

Keywords: proxemics, online learning, attention span, flipped classroom, transformative pedagogy

Interpersonal communication refers more specifically to communication that occurs between people and creates a personal bond between them (Solomon and Theiss, 2013). This process of personal bond formation has hampered the student-teacher relationship with the introduction of the online mode of education. This research takes into consideration the views of students towards the proxemics in an online v/s physical classroom setup and their experience of attention capacity as a result of various characteristics of the virtual mode of learning.

Proxemics

Proxemics is one of the categories in which nonverbal communication is studied. Edward Hall defines proxemics as 'the study of how man unconsciously structures micro space – the distance between men in the conduct of daily transactions, the organization of space in his houses and buildings and ultimately the layout of his towns' (Watson and Graves, 1966). Hall suggests certain measurements of distance as an indication of distance between people. The private sphere lies between (0.15 – 0.45m), the next one being the personal sphere (0.45 – 1.20m), the social sphere (1.20 – 1.63m) and the public (3.60 – 7.50m). An individual experiences comfort only with specific people and relationships in the intimate/private and personal spheres. In her video 'Invading personal space in public' Eline Van Der Velden (2017) demonstrates 4 zones of personal space. The author carries out a social experiment by establishing proximity with strangers in public spaces. The experiment demonstrates the distance at which individuals become uncomfortable having strangers in their closest two spheres.

Proxemics in the classroom

The theory of proxemics may be applied to classroom settings as well. For example, a teacher may stand next to the desk of the students, i.e., in their personal space. Chin et.al. (2017) studied proxemics in the classroom setting using cameras, videos and trackers to understand classroom settings and movement of the teachers. They found that proximity was affected by factors like physical arrangement of the classroom, type of instructional activity (whether group instruction or individual supervision). McCroskey and McVetta (1978) stated that communication in a classroom is influenced by the seating arrangements. Mikulski (2018) states three spheres in context of school class as a social space – the first zone consisting of the benches closest to the teacher's desk, the second zone in the middle of the class and the third zone of students sitting farthest away from the teacher's desk. Sztejnberg, A., Maślej, A., Hurek,J. (2008) found that grades achieved by students sitting in the front rows were significantly higher than back rows in the class. Martinez-Maldonado, R et. al (2020) studied proxemics in the context of diverse learning designs. They found that movement of the teacher in the class, 'stops' at certain places in the classroom depended on the learning designs – Prescribed lab, Project lab, and Theory lab. Physical arrangement changes drastically in an online setting. With the increased physical distance between teachers and students in online education, the changes in the comfort of the students and their preferences need to be explored.

Gasmallah (2017) studied the effect of proxemics on teacher – student relationship in the classroom. Results showed that the 4 spheres of proxemics were relevant depending on education levels – intimate and personal spheres being used more in kindergarten and primary schools whereas as social sphere used more at secondary and university level. Farsani and Rodrigues (2021) studied teacher – student interaction in the classroom space with the help of mini- cameras. They studied gender differences in perception of proxemics, variations in proxemics ranging from the teacher standing close to the student to keeping a table in between as a barrier. Their research proposes exploration of cultural factors, interpretations of proxemics by students and the impact on their visual attention.

Research on proxemics has focused on measuring and studying the nature of physical distance between

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teacher and student, the influence of gender, age, grade, culture and other factors on proxemics in a classroom. There is a lack of findings in terms of students' perspective of the situation as well as effect of proxemics on psychological variables relevant to classroom setting.

The COVID – 19 pandemic has brought about a change in classroom settings with certain organizations following an entirely offline, entirely online or hybrid mode of teaching/learning. It presents the need to study the influence of these settings on various parameters in the learning process. The present research explores the following research questions -

1. What is the comfort of the students with the proxemics of an offline/online classroom?
2. Which factors of the teaching – learning process are affected by the proxemics in a classroom?
3. How can assessment methods and pedagogical approaches be developed based on proxemics in the classroom setting?

Method

A survey was conducted with 210 undergraduate students of arts and humanities, studying in Pune and Mumbai, Maharashtra. A self-created questionnaire was administered to explore views on comfort experienced and attention in online v/s offline classroom settings. One set of eight statements presented situations which are likely to arise in online and offline classroom settings (four each). Another set of eight statements presented situations where students reported whether they were able to focus better v/s got distracted. Additionally, semi-structured interviews were conducted with 10 students from the sample to understand the same in greater detail. The questions probed into reasons for preferences of offline/online settings in context of proxemics.

Results.

Eight self -created statements were administered to university students describing proxemics in offline and online classroom settings. The items present situations that are likely to arise in both types of settings and students were asked to rate the comfort they experienced in each situation, on a 5 -point Likert scale. Half of the statements indicated situations from an online classroom whereas the remaining half indicated situations in an offline setup. The average rating obtained for situations in the offline classes and online classes was found to be 2.99 and 3.98 respectively. Higher scores indicate more comfort with the presented situation whereas lower scores indicate discomfort.

Observations in the data indicate that students do not show extreme opinions on comfort with physical presence of the teacher in offline classes. However majority show strong preference for comfort in online classes where physical presence of the teacher is missing. On further observation of the data (Figure 1, 2) more variability is found in the responses of the participants for the statements involving situations from offline classes, than online settings. It suggests that presence of the teacher in the intimate or personal sphere may not create much discomfort for the student. However, being observed makes them more conscious and uncomfortable. Students are able to avoid the discomfort in online settings by not being on camera, not surrounded by other students or not speaking in public.

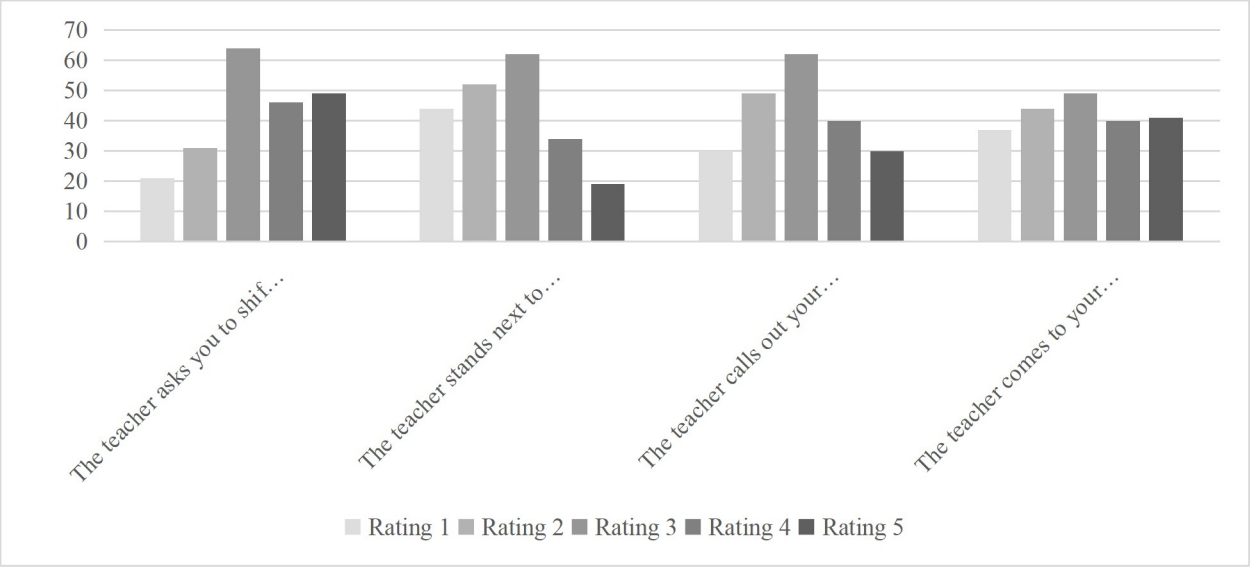

Figure 1 - Frequency of responses (Situations in offline classes)

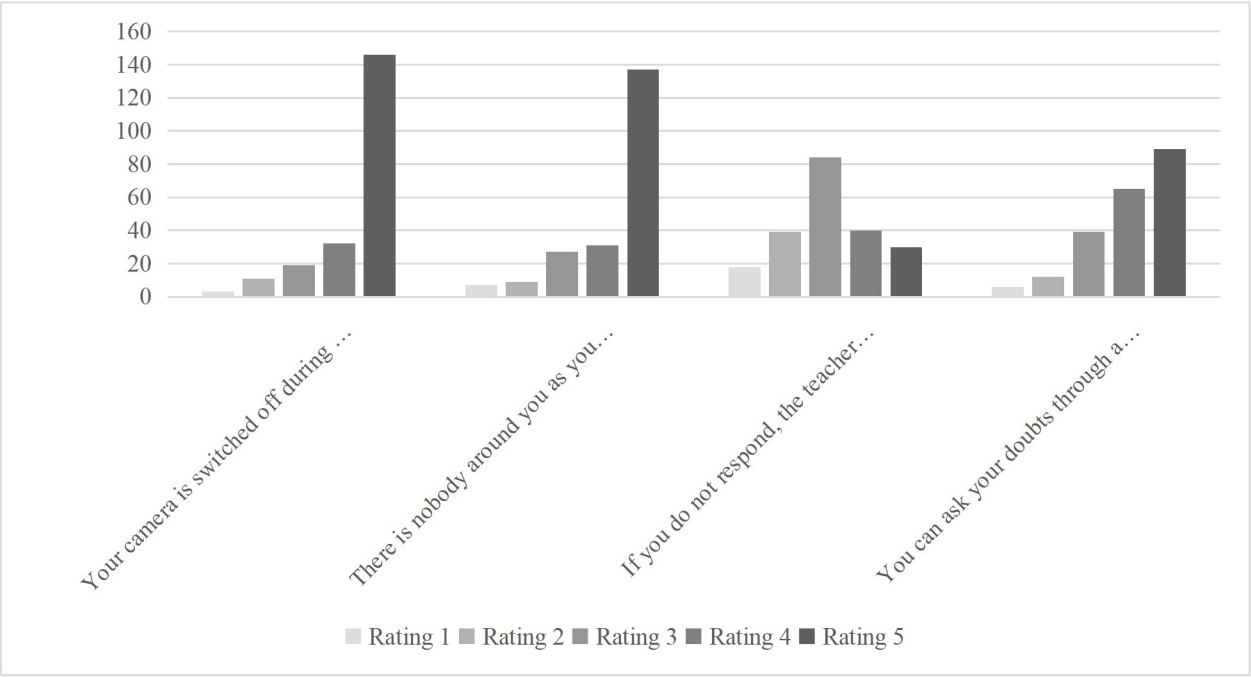

Figure 2 - Frequency of responses (Situations in online classes)

Eight statements in the questionnaire were framed to explore the ability of students to engage and focus in online v/s offline classroom settings. Attention is known to get affected by external (loudness, audio-visual aids, movement, novelty, etc.) as well as internal factors (motivation, interest, etc.) The statements were based on external determinants.

Figure 3 shows the responses of students to various factors affecting attention in online and offline setting. For situations such as movement in the class, presence of other students in the class, filtering distractions to only view the teacher on the screen, videos presented in an online class, watching recorded lectures in breaks and the teachers engaging

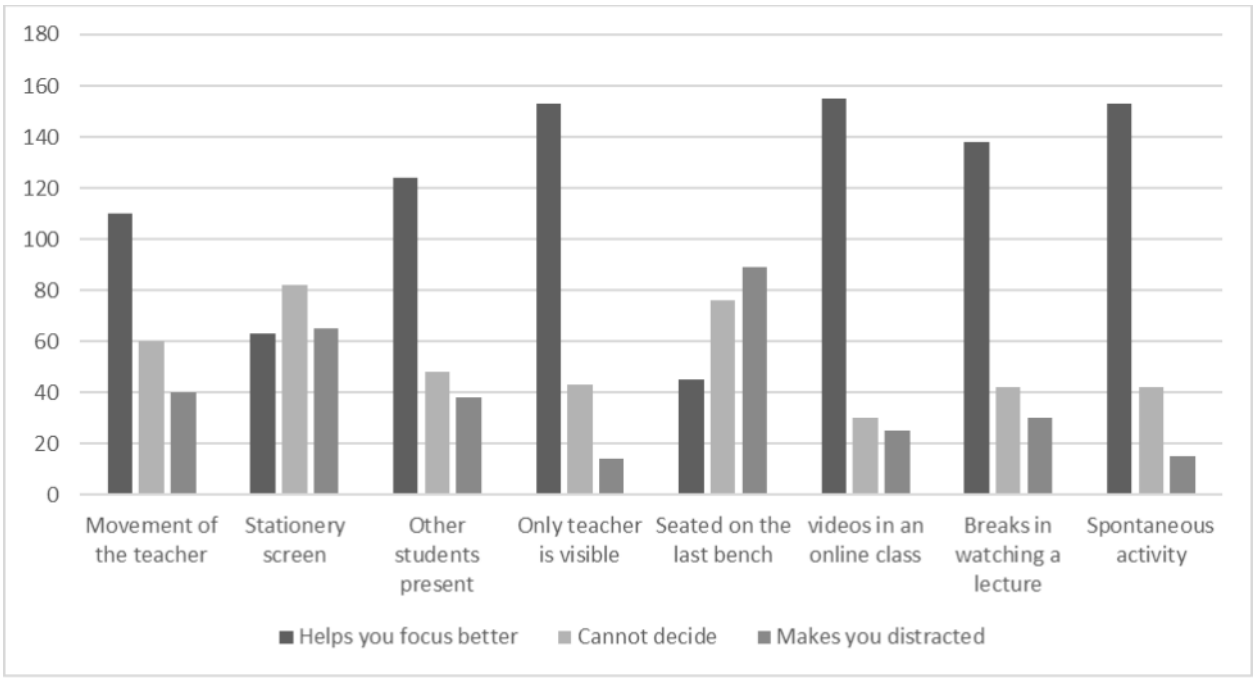

Figure 3 - Frequency of responses – Factors related to attention capacity

in spontaneous activities in the class, students have reported being able to pay attention better. In the context of online classes, while students show varied responses about screen time affecting attention span, majority of students reported getting distracted by being seated on the last bench in an offline setup. The factors such as distractibility due to presence of multiple stimuli could be the underlying cause for the same.

To explore these responses further, semi structured interviews were conducted with 10 students. Their responses are discussed in the following section.

Discussion

It can be observed from the data that proximity to the teacher in an offline setting does not seem to be negative for majority students. Hall (1963) also mentions cultural differences in the experience of proxemics. The present study was conducted for students from Maharashtra, India in which a collectivistic culture is seen. Also, the students have been exposed to online mode of education since the pandemic in 2020, prior to which they have a habit of the teachers and other students being included in the personal or social space. Gasmallah (2017) discussed how education levels also affect proxemics. For example, unlike primary school teachers, University professors generally do not engage in taking rounds in the class or supervising individual students. The same was also observed in the interview responses of the students. Therefore, cultural factors, and educational levels promote comfort of Undergraduate students with proximity to the professor.

Students reported a strong preference for offline classrooms stating that they can focus better. Some also mentioned that teachers are more effective in offline setting as they are able to observe nonverbal cues of the students, tailor their classes according to the needs and understanding of the students. Few students prefer online classes to avoid being observed, or in case of subjects that are purely theoretical or not of interest to them. However, they report having a casual attitude towards learning with the physical absence of the teacher. Therefore, proxemics facilitates communication and students' motivation in the classroom setting.

Proxemics in context of other students' presence also seem to work positively. Fig 3 shows high number of students reporting better ability to focus due to presence of other students. Students reported feeling more interested, less distracted by phones/noise in the environment when other students were present in class. It seems to create the correct environment for learning.

Factors such as movement, visual aids, opportunities to filter out distractions, taking breaks in between and use of novel activities in class seem to be effective in improving attention of the students. Students reported that online classrooms could become very predictable as there is not much scope for novel ways of teaching and learning. PPTs, Videos used in online settings can be viewed by students later which causes them to lose interest and motivation in the class. Some students mentioned that ignoring the teacher, not responding to the teacher, giving excuses could sound ruder in offline classes than online classes. Hence, proximity in offline classes improves accountability and responsibility of the students.

Mikulski (2018) found that the most used space in the classroom was 'personal space' (45- 122cms). They also stated that the teacher plays a decisive role in terms of physical distance between the teacher and students. The pedagogies used by the teacher should be chosen with consideration to their effectiveness in the chosen proxemics as well as type of classroom setting – theory, laboratory, project-based learning etc. Some of the emerging pedagogies are discussed below in context of the findings.

Flipped Classroom

Flipped classroom is a "pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter" (The Flipped Learning Network, 2014). A Flipped classroom has a flexible approach towards where and when students learn. It allows flexibility in learning spaces which can be tailored by the teacher depending on the needs of the learner. Hence, proxemics can be modified by the teacher suiting the grade, learning design and objectives of the course taught. Flipped classrooms are also able to adapt according to the preference of students towards proxemics shifting from group work to individual study.

Transformative Pedagogy

"Transformative pedagogy includes (1) creating a safe environment; (2) encouraging students to think about their experiences, beliefs, and biases; (3) using teaching strategies that promote student engagement and participation; (4) posing real-world problems that address societal inequalities; and (5) helping students, implement action-oriented solutions" (Meyers, 2008). It can make use of strategies such as group discussions, forums, online tutorials, class presentations, projects, etc. Transformative pedagogy used in online instruction has advantages in terms of anonymity, lower discrimination in terms of gender, race, age, collaborations with experts across the globe. It also facilitates the effective use of online tools such as polls and audio-visual aids like documentaries and interactive software to reduce the proximity between the students and teachers.

In conclusion, it is seen that proxemics play an important role in affecting factors such as attention, involvement and motivation of students. Proxemics works in different ways in online and offline classrooms. Teachers can make use of various pedagogies in order to suit the proxemics of changing classroom environments, needs of students and

subject material. As a result, increased cognitive capacities and learning outcomes can be achieved.

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