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Research Article

Participation Level in Different Seating Zones and Experiences with Row-and-column Arrangement in EFL Speaking Class

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Abstract: The influence of seating factors, an aspect of classroom management, on student participation and learning experiences has long been a topic of research interest in EFL contexts. This quantitative study examines the students' seating preference, the potential influence of seating zones (front, middle, back) on classroom participation level in EFL presentation classes, and the students' overall experiences with the row-and-column seating arrangement. Forty-one second-degree English lan-guage students at the English Department, Hanoi University, reported their seating preference, reasons for their choice, perceived in-class participation level, and learning experiences (classroom interaction, comfort, and concentration). The data were analyzed using descriptive analysis and one-way analysis of variance (ANOVA). Half of the participants preferred the middle rows, possibly because this zone enabled them to engage in learning without the pressure of being in close proximity to the instructor. The participants had an inclination to sit in their habitual seat or near a friend. The ANOVA results suggest no statistically significant difference in the participants' per-ceived participation as a function of their seating zone. Notably, the row layout facilitated instruc-tor-student interaction yet posed difficulty for the students to maintain quality communication with their peers, which hinders learning in a class characterized by groupwork. From an educational standpoint, these findings call for careful consideration of which seating arrangement to be em-ployed in EFL speaking classes of different natures.

Keywords: seating arrangement; row-and-column arrangement; seating location; participation, EFL learners; speaking class

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1. Introduction

A wealth of scholarly works expound upon the significant impact that the classroom environment has on students' knowledge acquisition, in-class (active) participation, and academic achievements (Benedict & Hoag, 2004; Wannarka & Ruhl, 2008; Xi et al., 2017). Among the most studied are factors like classroom capacity, teacher-student relationships, peer relationships, and teaching/learning techniques. Investigating these elements is key to optimizing students' learning ability and academic achievements. Yet available research is limited regarding seating factors, including seating arrangement and individual seating location, and how these affect student's participation level in tertiary educational institutions in Vietnam.

The study program at Hanoi University grants students the freedom to choose their own seat. This sense of freedom is relative rather than absolute because of cases where students arrive late and there are not many options left or where students work in groups and need to move away from their preferred seat accordingly. Reflecting upon our experience as students, we noticed notable disparities in our participation level. When seated up front, we felt a greater urge to vocalize our opinions and did so more frequently than when we sat in the back. Another intriguing point we noted was that the students who were more inclined to participate actively in the lessons were often those seated upfront. This led us to conduct the current study whose aim is two-fold: (a) to investigate the participants' experiences with the row-and-column arrangement and (b) to examine the participants' perceived participation level in the three seating zones: front, middle, and back.

The following questions guide our research:

(1) What are the students' preferred seating zones and what factors influence their choices?

(2) What are the self-perceived participation levels among the participants in different zones in Term 3's speaking classes with a row-and-column seating arrangement?

(3) In Term 3's speaking classes, what are the participants' classroom experiences with the row-and-column arrangement?

2. Literature Review

2.1. Row-and-column Seating Arrangement with Paired Seating

The row-and-column seating arrangement with paired seating (Figure 1) is reportedly the most commonly used at Hanoi University amidst the shift towards more student-centered classroom designs (Patton et al., 2001).

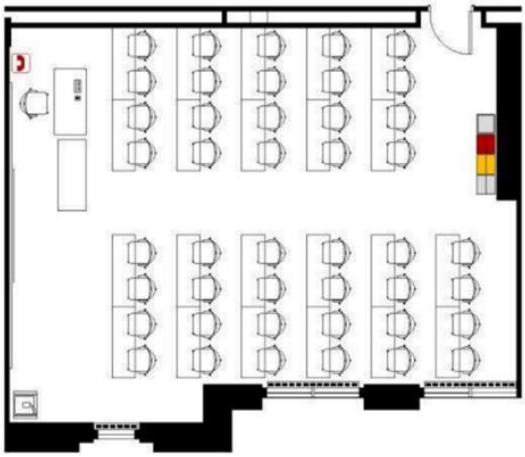

Figure 1. The row-and-column classroom with paired seating.
Source: Brooks, 2012.

This configuration is widely implemented across primary, secondary, and higher education institutions in Vietnam for its space-saving design compared to its single-seat counterpart. In classes with a single-seat row layout, individuality is emphasized with reportedly increased levels of on-task behaviors during independent activities (Rogers, 2020; Gremmen et al., 2016). Student-student eye contact is limited (Sztejnberg & Finch, 2006). This, however, may not be the case for the row layout with paired seating as students can still interact with one to three peers in the same pod on a regular basis while doing individual work, with the level of distraction remaining marginal compared to small-group arrangements like the separate table arrangement (Rogers, 2020).

In reviewing existing evidence, we identify traits that typify this specific arrangement. Some comparisons are made between the row-and-column arrangement and other arrangements. Within our limited scope, only traits that can potentially influence in-class interactions, i.e., student-student and teacher-student, are discussed in depth. Interactions that occur inside the classroom are proven essential to examining the link between seating zones and participation levels (Nguyen et al., 2016). Existing research (as cited in Sztejnberg & Finch, 2006) classifies seating arrangements into two types: sociofugal (e.g., row-and-column arrangement) and so-ciopetal (e.g., circular arrangement). Each arrangement facilitates in-class interaction at a dif-ferent level.

2.1.1. Student-student Interaction

Non-linear layouts like separate tables, U-shaped/horseshoe, and circle (Figure 2) facilitate more peer interaction and allow students to learn with and from their peers instead of focusing solely on the teacher as in the row-and-column layout (Rogers, 2020). Direct student-student eye contact is facilitated as students can maintain eye contact without whole body movement (Sztejnberg & Finch, 2006). These non-linear layouts are not without limitations. Gremmen, van Den Berg, Segers, and Cillessen (2016) reported that many teachers avoid this seating format due to the distractions caused by having students seated closely to each other; however, they failed to mention the task's nature and the teacher's

teaching methods which can reportedly dictate a seating plan's effectiveness (Wannarka & Ruhl, 2008). Other formats like U-shape/horseshoe and semi-circles/circles also allow peer collaboration at different levels (Kaya & Burgess, 2007).

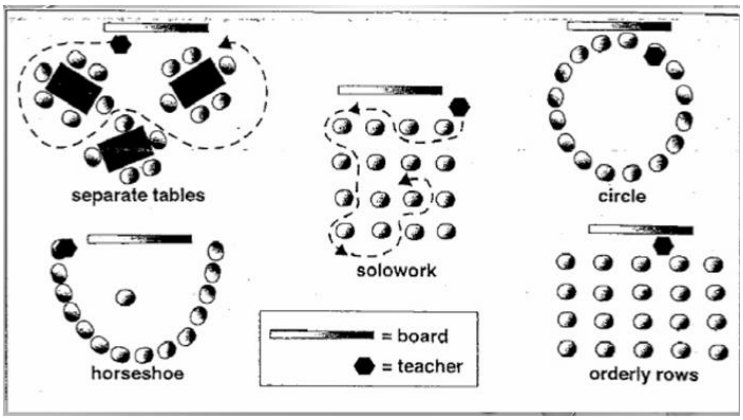

Figure 2. Different seating arrangements.
Source: Adolo et al., 2022.

2.1.2. Teacher-Student Interaction

The traditional row-and-column arrangement is a typical example of a sociofugal and linear layout where students can maintain eye contact and are more likely to communicate face-to-face with the teacher (Sztejnberg & Finch, 2006). This arrangement is particularly useful for listening, note-taking and lecturing (Richmond & McCroskey, 2000, as cited in Sztejnberg & Finch, 2006). Within a row-and-column classroom, the range of teacher-student interaction varies according to seating zones. The highest level of teacher-student interaction occurs in front and middle rows, whereas those in back rows are less engaged (Poorvu Center for Teaching and Learning, 2021; Simonds & Cooper, 2014). Overall, the row-and-column layout with paired seating serves as a suitable arrangement for individual and collaborative activities, both of which are incorporated in Term 3's speaking classes. Thorough investigation into the seating layout is a needed step towards understanding students' in-class involvement (Rogers, 2020).

2.2. Participation Level

Participation, alongside attendance, is part of the assessment in all courses offered by the English Department, Hanoi University. The concept refers to students' participation in classroom activities both inside and outside the classroom. Prime examples include listening to the instructor, taking notes, completing class exercises, answering questions, proposing ideas, making questions, etc. (Abdullah et al., 2012; Yang et al., 2021). These behaviors may not necessarily reveal the true depth and breadth of students' engagement and understanding (Fredricks et al., 2004). Distinctions should be made between participation and engagement.

One of the most influential works on student engagement is School engagement: Potential of the concept, state of the evidence published in 2004 by Fredricks, Blumenfeld, and Paris. The authors define engagement as a construct comprised of three domains: behavioral, cognitive and emotional. This view is echoed in research by Cooper (2014) and Yazzie-Mintz and McCormick (2012). Among the three domains, behavioral engagement, or participation, remains a research priority due to the fact that (1) it is directly observable and (2) it helps improve student achievement and mitigating dropout rates (Nguyen et al., 2016). According to Nguyen, Cannata, and Miller (2016), previous research further analyzes behavioral engagement into three sub-domains:

- student conduct in class: how students behave with regard to class/school norms
- student participation in school-related activities:
  - (school-level) how students respond to school activities
  - (class-level) how classroom activities improve student engagement
- student interest in academic tasks: how students exhibit their willingness to engage in classroom activities (e.g., eye contact, persistence, focus, asking/answering questions, and contributing to class discussion)

Existing research on students' participation level employs various instruments to measure participation level, including

(1) unobtrusive video recording/video-based quantification method (Aminah et al., 2021; Komori & Nagaoki, 2011);

(2) physiological measurement using sensors (Gao et al., 2022);

(3) observation in a naturalistic environment by trained raters/course instructors using a validated checklist (Handayani et al., 2023; Koneya, 1976; Lane & Harris, 2015);

(4) Experience Sampling Method (ESM) (Lu et al., 2023; Shernoff et al., 2003; Shernoff et al., 2017);

and (5) post-experience self-report (Green et al., 2007; Yang et al., 2021).

In the current study, we examine the participants' per-ceptions of their participation in classroom activities in relation to their seating location. One of the most suitable tools to investigate perceptions among a big-sized sample to date is surveying participants' post-experience using self-report questionnaires (Lavrakas, 2008). However, the tool, largely based on participants' limited ability to recall information, is with limitations that in fact have been quite well documented, ranging from the tool's potential ability to introduce biases (e.g., social desirability, extreme rating bias) (Fisher & Katz, 2008; Gao et al., 2022; Greene, 2015) to its inability to capture changes in participation level over a period of time (Nguyen et al., 2016). Self-reports nonetheless remain the most widely used tool in investigating participation level (Gao et al., 2022; Nguyen et al., 2016).

2.3. Related Studies

Students' participation level has been linked to academic outcome (Moore & Glynn, 1984; Benedict & Hoag, 2004) as those who participate more may be interpreted as more involved in learning. A fair share of related studies has reported that being participative is a trait more commonly found among those who sit upfront.

Burda and Brooks (1996) observed that front-row sitters demonstrated higher participation with higher achievement motivation and anticipation to interact with the teacher than their middle- or front-seated classmates. The same findings were then reported by Zomorodian, Parva, Ahrari, Tavana, Hemyari, Pakshir, Jafari, and Sahraian (2012) as well as Shernoff, Sannella, Schorr, Sanchez-Wall, Ruzek, Sinha, and Bressler (2017). In the same line, Abdullah, Bakar, and Mahbob (2012) found sitting upfront to increase active participation among students with self-limitations such as feeling ashamed to make/answer questions and having low self-confidence. Interestingly, a portion of passive students in the study sticks to the back seats, claiming that this location enables them to learn with a passive style (Abdullah et al., 2012). However, no attempt was made to record the shift in this group's participation level when moving to the front, or else we may have been able to identify whether seat location makes a difference to one's learning style.

3. Materials and Methods

3.1. Participants

Our participants are second-degree English language majored students at the English Department, Hanoi University. By the time of the study, the VBA23_2 cohort was halfway through the Term 3's speaking skill course. The course spans over three months. The classes take place in the evening from 5.15 p.m to 9.15 p.m. A total of 41 respondents (females = 39, males = 2) participated in the study. Throughout the course, the respondents experienced the row-and-column seating arrangement only. All classrooms were located within the same building and were comparable in size and design. The layout closely resembled that presented in Brooks' (2012) study (Figure 1), with the primary difference being the presence of 10 rows of desks instead of 6.

3.2. Instruments

Self-report is our main tool for data collection. While employing methods like ESM or observations are gaining popularity as they can address self-report's shortcomings, there are practical constraints (e.g., time, rater training) that prevent us from doing so. This does not mean we jeopardize the paper's validity. We only aim to examine the participants' perceived level of participation, so self-report is the most standardized and systematic tool.

The questionnaire was adapted from the paper Students' preferences for seating arrangements and their engagement in cooperative learning activities in college English blended learning classrooms in higher education by Yang, Zhou and Hu (2021). It deserves mention that Term 3's speaking courses are characterized by groupwork and collaboration. The course assessment involves the students conducting informative and persuasive group

presentations.

The original questionnaire was built on theoretical frameworks of engagement in consultation with existing surveys on student engagement. It examines (1) students' preferences for classroom seating arrangements and (2) students' classroom experiences with two different seating arrangements, circular and row-and-column/traditional.

In our adapted questionnaire, we omitted the part on students' experiences with the circular seating arrangements and the part where students are asked to compare two arrangements since the course was only conducted in the row-and-column arrangement. We added questions on individual students' seating zones and the reasons they opt for such zone since interesting implications can be drawn from the potential relationship between participation level and seating zones. Overall, our questionnaire is comprised of three parts: (1) demographic information, current seating location (front, middle, back) and reason(s) (3 items), (2) participation in classroom activities (8 five-point Likert scale items), (3) experiences with the row-and-column arrangement (15 five-point Likert scale items).

Internal reliability test was conducted to see how reliable the Participation scale and the Classroom Experience scale were with our sample. The Cronbach's alpha value obtained for the two scales was .89 and .85 respectively, suggesting very good internal consistency. Values above .7 are considered acceptable.

3.3. Procedure

Before officially distributed, pilot questionnaires were sent to 10 students and 2 members of the faculty. We identified points of improvement and modified them accordingly. Both questionnaires were created on Google Forms and a QR code was generated. We then distributed the online questionnaires to the respondents in person. Upon completion of the survey, each respondent received thank-you gifts for their participation. Their personal information was kept confidential, and the recorded responses were used for research purposes only.

3.4. Data Analysis

The data in Part 1 (seating factors) and Part 3 (classroom experience) are presented in descriptive statistics. As for the data in Part 2 (participation level), statistical analysis was performed using IBM SPSS 27.0.1. using one-way analysis of variance (ANOVA) to determine if there were statistically significant differences in participation between the three seating groups (front, middle, and back). Statistical significance was set at .05. Statistical tests for general assumptions of normal distribution and homogeneity of variance were conducted. If $p > .05$, the assumptions are met. Our data was normally distributed ($p = .200$) and our sample had equal variance ($p = .774$).

4. Results and Discussion

In this section, we discuss the findings that emerged from our survey of the students' seating preference, participation level in relation to seating zone, and learning experience in a row-and-column speaking class. We address the first research question, "*What are the students' preferred seating zones and what factors influence their choices?*" in Section 4.1. The second question, "*What are the self-perceived participation levels among the participants in different zones in Term 3's speaking classes with a row-and-column seating arrangement?*" is explored in Section 4.2. Section 4.3. presents findings on the students' learning experiences, focusing on three aspects, namely classroom interaction, comfort, and concentration.

4.1. Seating Choice

Figure 3 illustrates the students' seating preference throughout the Term 3's speaking course (presentation skill). The most preferred seating area is the middle rows, selected by 51% of the surveyed participants (n=21). A possible explanation is that the middle rows offer a learning space where students can sit close enough to the teacher's podium to stay engaged and not feel too exposed or pressured like when sitting upfront. Meanwhile, 29% (n=12) selected the front rows, higher than the 20% of respondents (n=8) who selected the back rows. These findings indicate that while some students prioritize direct engagement with the instructor by sitting in the front, a larger proportion prefers the middle rows as a compromise between visibility, participation, and comfort.

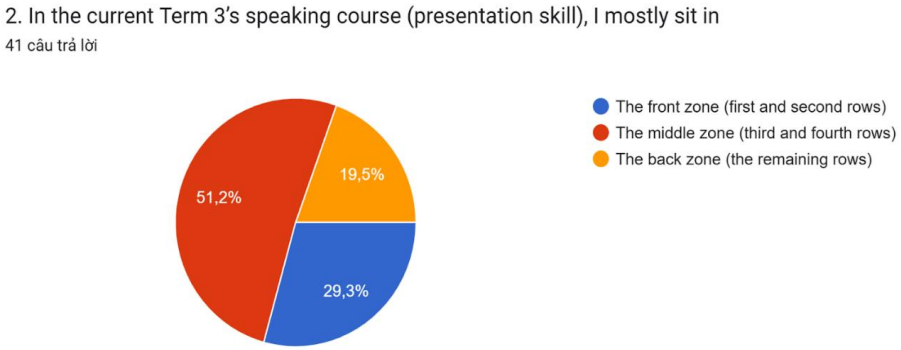

Figure 3. Participants' preferred seating zone.

Figure 4 presents the reasons cited for the students' choice of seat together with a visualization of how different groups of students (front, middle, back) chose their seat. By doing this, we achieved a two-fold aim: (1) to find out the common influencing factors among the entire cohort and (2) to compare the distinct motivations across the seating groups.

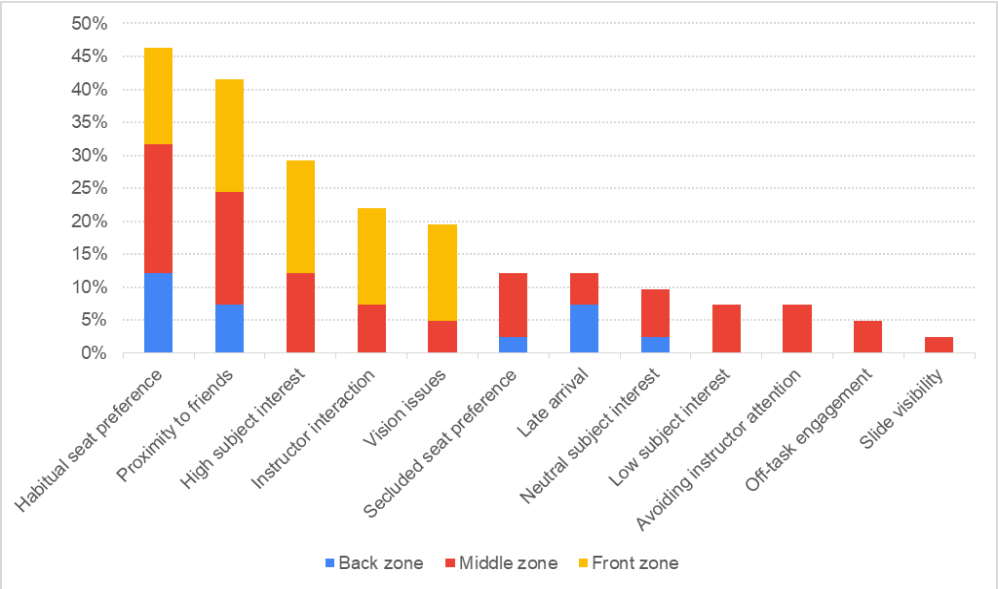

Figure 4. Participants' reason(s) for their choice of seating zone.

The primary determinant influencing the choices of students across three groups is their habit (46.3%). A possible explanation for this trend is "territoriality," or "territorial behavior" (Costa, 2011; Kaya & Burgess, 2007). In Costa's study set in a row-and-column lecture hall, the participants choose the same seat over and over again even when they could not "personalize their space and defend it against the invasion of other users when they are absent" (Costa, 2011, p. 718). This indicates their desire for a comfortable learning space.

The students across different zones also prioritize social interactions with their friends (41.5%), which fosters a supportive learning environment. Some scholars (Lu et al., 2023) shares a similar viewpoint that a nurturing and supportive environment established by instructors or peers satisfies psychological needs associated with a sense of relatedness. In the same vein, students in the study of Astuti, Suarnajaya, and Suputra (2020) exhibit effective collaboration with their peers with those seats near them, and such a sense of cooperation and companionship has been found to affect student seating preferences (Barkley, 2020).

A fair share of the students selected front and middle seats for better interaction with the instructor (22%). Teacher-student interactions can bring about multiple academic advantages, such as enhanced retention, elevated academic performance, and augmented reasoning/critical thinking skills (Cavinato et al., 2021). Meanwhile, a significant percentage of students demonstrate high (29.3%), neutral (9.8%), and low (7.3%) interest in the subject in correspondence to their seating position toward the back of the classroom. The observed

decline in interest aligns with certain findings (Holliman & Anderson, 1986; Becker et al. 1973), which indicate a reduction in student engagement as the distance from the instructor increases.

There are also several noticeable reasons reported by the majority of back-zone and mid-zone sitters for their seating location, including preference for secluded seats (12.2%), avoidance of the instructor's attention (7.3%), and engagement in off-task behaviors (5%). This indicates that students prefer sitting in the mid and back zones for anonymity and privacy. This perspective aligns with Kalinowski and Taper's (2007, as cited in Meeks et al., 2013), which argued that students positioned further from the instructor are likely to disengage unnoticed, exhibiting a greater ability to simulate attentiveness. Additional circumstantial factors associated with vision issues (19.5%) and slide visibility (2.4%) constitute a portion of students' reasons for their choice of the front and middle zones. Meanwhile, some chose the middle and back zones because they arrived late (12.2%).

4.2. Participation Levels As a Function of Seating Locations

Figure 5 presents one-way ANOVA results pertinent to the participation levels across the three groups of students in the front, middle, and back zone. Results indicate no significant dif-ferences in the perceived participation level among the three groups ($F(2, 38) = .508$, $p = .605$). The proportion of variability indicates a comparatively low variability in students' participation at-tributable to their seating location ($\eta^2 = .02$). This outcome corresponds with a study by Fernandes, Huang, and Rinaldo (2011) where a direct correlation between seating location and student par-ticipation is limited. This might be positive news since no matter in which zone the students were seated, their participation level was relatively high ($\mu = 3.57$). However, it should be noted that there exists a possibility of an indirect correlation between the two variables. The relationship may be subject to mediating or moderating factors (Chan et al., 2021). Future research can explore more in this regard for more conclusive evidence.

ANOVA

MeanPa

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.545	2	.272	.508	.605
Within Groups	20.361	38	.536		
Total	20.905	40			

Figure 5. ANOVA results.

4.3. Learning Experience in a Speaking Class with a Row-and-column Layout

This section analyzes the students' experiences in an EFL speaking class with a row-and-column configuration, with responses categorized into "high perceptions" and "low perceptions" based on the reported mean scores (Table 1). We aim to provide insights into the positive and negative aspects of this layout regarding three aspects, namely classroom interaction (instructor-student and student-student), comfort, and attentiveness.

Table 1. Students' experience with the row-and-column arrangement.

Item	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Decision
1. I maintain good communication with other group members.	2.4	17.1	46.3	29.3	4.9	3.17	Low perception
2. I feel comfortable.	0.0	17.1	46.3	29.3	7.3	3.27	High perception
3. *I feel isolated.	12.2	22.0	46.3	19.5	0.0	3.27	High perception
4. The atmosphere is active.	0.0	9.8	61.0	22.0	7.3	3.27	High perception
5. I maintain good eye contact with other group members.	0.0	24.4	46.3	24.4	4.9	3.10	Low perception
6. I can clearly hear what other group members say.	4.9	19.5	39.0	26.8	9.8	3.17	Low perception
7. *It is easy for me to become absent-minded.	12.2	12.2	46.3	24.4	4.9	3.02	Low perception

8. I listen to other group members attentively.	0.0	19.5	51.2	17.1	12.2	3.22	Low perception
9. I feel close to group members.	0.0	19.5	39.0	26.8	14.6	3.37	High perception
10. I can concentrate on the task.	0.0	9.8	51.2	24.4	14.6	3.44	High perception
11. *I am easily distracted.	7.3	22.0	43.9	19.5	7.3	3.02	Low perception
12. I have a sense of inclusion.	2.4	12.2	61.0	19.5	4.9	3.12	Low perception
13. *I can't clearly hear what group members say.	12.2	19.5	48.8	14.6	4.9	3.20	Low perception
14. I find it easy to focus on the group discussion.	0.0	14.6	43.9	29.3	12.2	3.39	High perception
15. I can maintain good communication with the instructor.	0.0	9.8	34.1	41.5	14.6	3.61	High perception

*Reverse worded items
Note: Decision (High/Low perception) - weighted average = 48.64/15 = 3.24.

The data analysis shows that the majority of the respondents appeared to feel comfortable and focused when engaging in an activity, individual or group work, in the row-and-column arrange-ment. The classroom atmosphere overall was active and they could maintain good communication with the instructor. This finding corroborated that in works by Sztejnberg and Finch (2006), all of whom argued for increased teacher-student interaction in classrooms with a traditional row-and-column arrangement.

On the other hand, many of the participants feel isolated, sometimes excluded, during an ac-tivity in the row-and-column arrangement. The majority could not maintain quality communication and good eye contact with other group members, even when they felt close to them. This is con-sistent with findings by Sztejnberg and Finch (2006) who argued for limited interaction among peers in a row-and-column layout. Our findings, however, would have been more thorough if we had collected qualitative data on the reasons the participants did not feel a sense of inclusion and the nature of the activities they were doing. This promises a significant pedagogical implication for educators and policymakers to consider more optimal seating arrangements for students according to the specific learning activities.

5. Conclusions

This study examined EFL students' seating preference, reasons for their choices, per-ceived in-class participation levels, and learning experiences in a speaking class with a row-and-column layout (paired seating). Findings reveal that the middle zone was the most preferred seating area, while the back zone was the least preferred. Students were more likely to choose their habitual seat, which, from a psychological perspective, can be attributed to territoriality. Those who demonstrate a high level of subject interest or wish to interact with the instructor more tend to choose front and middle seats. Interestingly, the study found no sta-tistically significant difference in the students' participation level as a result of their location. Light was also shed on the students' experiences in a row-and-column layout, with most perceiving the classroom atmosphere as active. This layout was perceived as conducive to positive instructor-student communication but not peer interaction.

Some limitations pose threats to the paper's validity. Firstly, our sample size of 41 participants is not representative of the total population. Secondly, our biggest concern lies in our use of self-report as an instrument of measuring students' in-class participation level and learning experience. The data is, thus, subject to biases such as social desirability or inaccurate recall.

Future in-line research, therefore, should (1) test the generality of these findings with more diverse populations, (2) consider a more sophisticated method to measure students' partici-pation level (e.g., using Experience Sampling Method, combining self-reports with objective observations) and analyze the relevance and meaningfulness of students' contribution, and (3) explore alternative seating arrangements that promote collaboration and classroom dynamic, as well as how such arrangements might influence participation in learning. Investigating seating location's impact on participation level sets the ground for future research into the impact of seating location on more complex constructs like

engagement, learning motivation, and academic achievement.

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Conflicts of Interest: The authors declare no conflict of interest.

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