

Changing seats vs. staying in the same seat: class participation and social roles in a senior university nutrition class

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Abstract

There is conflicting evidence on the effect of seat location on student performance and participation in the classroom. The two major hypotheses are: 1) that seat location influences student behavior, and 2) that seat preference and selection is associated with personality traits of students. This study evaluated both hypotheses within a 55 student senior nutritional biochemistry class. Alternating every other seat, half of the class was randomly assigned a permanent seat while the other half was randomly reassigned a different seat each class period. Students sitting in the front of the classroom in the stay group made significantly more comments per student per day than stay group students in the back in agreement with other studies. The move group, however, showed increased overall participation with no significant difference between the front and back of the classroom. Findings suggest a more flexible explanation—that students may adopt or reject an implied social role in which seat location and personality traits are influential factors.

Introduction

In general, students sit in the same seat or one nearby for most of the semester (Kaya & Burgess, 2007).

A student's seat selection may be important because research indicates that seat location can affect their performance in the class (Weinstein, 1979; Benedict & Hoag, 2004; Perkins & Wieman, 2005).

There are two prominent explanations for these effects:

- 1) Physical seat location affects student behavior, and
- 2) Seat preference and seat selection reflect personality traits of students which correlate with student performance.

This study examines the effect of randomly-assigned permanent seat location and randomly changing seats regularly on classroom interaction as measured by student-initiated participation.

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Method

The study was carried out with 55 students over 23 class periods during the Winter 2009 semester in the Department of Nutrition, Dietetics and Food Science nutritional biochemistry class.

Each student was randomly assigned a number, then randomly assigned to the move or stay group.

The move group seat assignment randomly changed each class period.

Instructor podium

		front of class					
Move group	Stay group						

The teaching assistants for the class were asked to track all class participation.

A mixed model ANOVA blocking on individuals to account for their repeated measures was performed using Statistical Analysis Software.

The analysis was organized by front (24 seats) vs. back (32 seats), and move group vs. stay group.

Mean participation per class day \pm standard error (SE) for each group is reported. Statistical significance was determined at the 0.05 level.

Conclusions

- Participation increased through changing seats vs. fixed seats
- Neither location nor personality fully explains the results
- Social role adoption by the majority of the class is the most likely explanation

Results

Average daily participation by group for all students, move and stay groups.

group ^a	All students (Mean \pm SE)	p-value ^c	Move group only (Mean \pm SE)	p-value	Stay group only (Mean \pm SE)	p-value
Front ^b	1.14 \pm 0.17	0.10	1.27 \pm 0.28	0.58	1.09 \pm 0.19	0.012
Back	0.78 \pm 0.16		1.05 \pm 0.28		0.40 \pm 0.18	
Move	1.19 \pm 0.13	0.054				
Stay	0.73 \pm 0.20					

^aFront is the first 24 seats, back is the last 32 seats; move and stay alternate every other seat throughout the classroom. ^bThere were no statistically significant interactions. ^cDetermined using a mixed model analysis of variance with blocking on individuals to account for their repeated measures.

The move group participated more than the stay group.

Student perception was that participation would be equal.

Moving eliminated a significant front-of-class participation bias found in the stay group as well as increasing the overall participation rate.

Evidence from the stay group supports a front-back seat location effect.

Results from the move group tend to support a personality-based explanation.

An alternate explanation is that of social role adoption associated in part with seat location.

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