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A Classroom Study of the Effect of Visible vs Blind Randomization on Class Atmosphere in Group Discussion Activities

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A classroom study of the effect of visible vs blind randomization on class atmosphere in group discussion activities

Elliot Patton

Abstract

Group work is a common feature of university English courses, and the way that instructors create student groups is the focus of this research project. This study focused on three techniques for randomizing students into groups, with "group cohesion" as the independent variable: (1) students could choose group partners freely; (2) student groups were created randomly by the professor using a website on a projection screen; (3) student groups were created randomly by the professor without showing students the randomization process. The result ($p < .05$) was that the students in condition (2) rated their classroom atmosphere the highest, and students in condition (1) rated their atmosphere the lowest. Students expressed in interviews that seeing the randomization process on the screen made them feel like they could interact with more students and make more friends in the class.

Keywords: group cohesion, atmosphere, group formation, randomization

1．Introduction and Literature Review

Since the advent of the communicative approach to language teaching, a large amount of interaction in the classroom, both between teachers and class members and among the students themselves, has become a vital facet of language classes across the world. A large part of this interaction comes during points at which students are separated into groups and given a task to complete while the teacher, temporarily given a reprieve from complete control over the room, rotates around the classroom and facilitates the progression of a given language task. One would be hard-pressed to find a language teacher who does not practice this in some form. On the contrary, discussion activities are often seen by teachers not only as a means of achieving communicative competence by students but as a way of enlivening the atmosphere of a class. Atmosphere, viewed from the student's perspective, will be the primary focus of this study.

A key factor in a student's perception of the classroom atmosphere is group cohesiveness. The majority of research on group cohesiveness is related to the application of the social psychological field of group dynamics to language teaching. Group cohesiveness, defined by Mullen and Copper (1994, from Dörnyei & Murphey, 2003) as a combination of the desire to belong to the group, commitment to the group's task, and a level of pride in the group, is considered by many to be crucial in running a successful course. A group with a high level of cohesion, in addition to being generally more pleasant and supportive, tends to be more productive and effective than a non-cohesive group (Evans and Dion, 1991; Senior, 2002). In a class, group cohesion is prompted initially by the teacher but established cooperatively between the teacher and the students. According to Ehrman and Dörnyei (1998), there are four main stages of a group at which cohesiveness can be affected: the group formation stage, comprised of initial interactions and getting to know one another; transition, in which the group forms its identity; performance, in which cohesiveness has been established; and dissolution, in which the group encounters conflict and potentially dissolves. Generally speaking, the formation stage is where the instructor has the greatest amount of influence on cohesiveness (Dörnyei and Malderez, 1997). It is in the instructor's best influence to create a sense of community in this stage, taking into account that the successful cohesion of the group depends less on initial impressions than on group acceptance (Dörnyei and Malderez, 1997; Dörnyei and Murphey, 2003). In line with this, once the group is able to perform well together, the instructor also needs to be prepared to mitigate conflicts and other acts that detract from the performing stage and contribute to the dissolution of the group (Hadfield, 1992).

Of course, if group cohesiveness is to be maintained in a productive way, the establishment of appropriate group norms that motivate students are crucial (Dörnyei and Ushioda, 2011). Whether or not a group possesses motivation towards achieving goals can also affect the atmosphere of a class, and class norms that encourage cohesiveness should be introduced early in the class (Dörnyei & Murphey, 2003). A fragmented class can have a negative effect on motivation; Chang (2010) found that the dynamics of the group depend heavily on the effort and participation of highly motivated students. These students can strongly affect the level of participation of those who would otherwise be less likely to participate on their own. Granted, students who do not feel motivated towards success in the class, also known as demotivated students, do not tend to credit other students as much as they tend to perceive their lack of motivation as coming from the instructor (Gorham and Milette, 1997). Chambers (1999)

found, in fact, that students will almost always consider the teacher foremost when appraising whether or not the class was positive. Thus, students' perception of a positive or negative atmosphere, while connected to group cohesion and motivation, is also strongly affected by their perceptions of the way in which the instructor conducts class (Dörnyei & Ushioda, 2011).

In considering atmosphere, the affective factor - how welcome and comfortable a student feels in class - must also be taken into account alongside group cohesion. Nearly 40 years ago, Krashen (1982) suggested that a powerful affective filter can prevent a student from participating, and it holds true today that students need to feel a general sense of reduced anxiety in order to feel that they are able to advance in the L2 (MacIntyre, 2002). Many factors affect a student's emotional well-being, but an instructor can engage the student in ways that can increase a sense of belonging the group. Schmuck and Schmuck (2001) state that even something seemingly small, like physical seating in the room, can cause students to feel more or less a part of the group, as students sitting close to the instructor might feel more included than those sitting in marginal areas of the class. In effect, following Chang (2010), it stands to reason that if highly motivated students are cordoned off into specific cliques and do not have the opportunity to interact with the majority of students, the instructor loses out on a massive opportunity to improve the dynamics of the group and, thus, the atmosphere of the class.

As such, a classroom instructor is tased with implementing a system that allows the greatest cross-section of students to come into contact with one another, thus increasing the likelihood of a group becoming cohesive, motivated, and comfortable around one another. This seems obvious, but it is possible even for highly-trained and experienced teachers to become complacent in their teaching practices and ignore this necessity completely. In fact, the current study comes from just such a situation; to cite a personal example, a student from a previous course informed me during an office visit that she wanted to communicate with a broader array of students. In my mind, as a teacher, I assumed I had successfully formed groups and improved the so-called atmosphere of the class. However, from this student's perspective, she had been placed only with other studious and motivated students all semester. This led me to call my own classroom management into question and explore methods of allowing students to interact with as many other students in the class as possible.

How do most teachers form groups in class?

There is plenty of advice passed along on message boards and in break rooms, but the literature on proven techniques for forming groups is less well-established. One interesting study by Kuo et al (2015) grouped online students based on Kolb's (1984) delineations among

learning styles and found that this had a positive effect on English test performance. In that same study, Kuo et al drew upon a study by Adán-Coello et al (2011) in which the researchers separated computer programming students based upon programming skill level and learning styles. While it seems beneficial to mix like-minded students together, learning styles is a potentially unreliable variable, with some saying the evidence is so scant to support them that we should jettison the use of them entirely (Coffield et al, 2017). On the opposite end of like-grouped-with-like, a particularly interesting study on grouping strategy comes from the field of mathematics education: Liljedahl (2014) measured the effects of randomized grouping in high school mathematics students. In this action research study, care was taken to ensure that students knew that the grouping process was randomized. Liljedahl found that frequent, random grouping led to the formation of numerous groups that would not otherwise have interacted. Among the positive outcomes was a transition from an awkwardness at the beginning of the group task to an "at-easedness" in which students would more naturally transition into working together, leading to a more positive and open class atmosphere. Certainly, Liljedahl's findings match the guidelines found in language teaching research to instill a cohesive, motivated, welcoming classroom, but to this point, the research expressly focused on group randomization in language classes is scarce.

Research question

One question inspired by that study is whether the effect came from the randomization itself or whether the transparent nature of the randomization played an important role. Specifically, would students experience the same benefits if they were being randomized without their prior knowledge? This study seeks to find answers to that question in an EFL environment, utilizing an action research model in which a survey and student interviews will be used to reformulate teaching practice in iterations; in this, the first phase, the effect of randomization on what students perceive as a positive classroom atmosphere will be examined.

"*Atmosphere*"

The justification for the use of the term *atmosphere* in this study is that, in Japanese, the word "atmosphere" translates easily to the Japanese word 雰囲気 *(funiki)*, a term which carries both a physical and an emotional or psychological meaning. Atmosphere must be contrasted with *environment;* the terms are sometimes used interchangeably, but here, "environment" will be used to refer to the physical space of the room, positioning of desks, and proximity to the teacher. For the purposes of this study, *perceived atmosphere*, as related

to a sense of group cohesion (cf. Dörnyei & Murphey, 2003), trust in the methods of the teacher, a sense of motivation, and a feeling of being welcome and comfortable in the class, is used as the dependent variable.

2. Method

Following Nunan's (1989) directives, the guidelines of a four-stage action research project, with the instructor in the role of researcher-practitioner, were followed:

1. Phase I: The development of a plan to improve what is already being done. Here, I created three treatment groups based on classes selected randomly in order to determine whether randomization could improve my teaching practice.
2. Phase II: The implementation of the plan. Once each week, I either randomized or did not randomize students based on the protocols I established before the classes began.
3. Phase III: The observation of the effects of the actions taken. During the semester, I observed the effects and created field notes. However, for the purpose of the current study, I will report the results of the survey and corroborate them with interviews.
4. Phase IV: The reflection on these effects. This is one iteration of an ongoing investigation into ideal group formation. In the discussion section, I will share my reflections and how I will adapt this project for future iterations, as well as how other researchers could do the same.

One caveat: In all conditions, quality of instruction was prioritized over maintaining the integrity of experimental conditions, and efforts were made to ensure that students in all groups received an equal opportunity to practice and improve their English skill. Thus, it is not double-blind in the classic sense, as the observer was also the instructor. As Bevelas (2005) states, "…psychologists often equate field studies with non-experimental studies, assuming that experimental control and manipulation of the independent variable is best or only achieved in the lab." Unfortunately, in pursuit of reducing a single independent variable, much social psychological research fails to present data that is of interest to educators.

Participants

72 students, all first-year and divided among three classes, participated in this study. All 72 were fluent in Japanese; 71 were native Japanese speakers, and one student emigrated from another East Asian country to Japan as an elementary school student.

Hypothesis

The goal of this project was to test the anecdotal assumption that classes in which the students build a strong sense of cohesiveness tend to have a more positive and unified atmosphere than those in which students interact with the same members every day. Thus, the hypothesis of this study is that students who are randomized in both forms will provide a higher rating of the classroom atmosphere than those who select their own group partners. Additionally, the transparency of randomization, in theory, will lead students to perceive the grouping as fairer than those who are simply assigned to groups. The second hypothesis is that those who are visibly randomized will provide the highest ratings of class environment among the three.

Procedure

For the task, students were put into 4 or 5-member groups. Each student in each group had the task of functioning as discussion leader for a portion of the group discussion time. Before class, students were assigned to choose a short article, prepare a summary of the article for the group, and compose a series of quiz and discussion questions to facilitate discussion with the group. As the assignment for each student was identical, the homework leading up to the discussion session did not give any indication of which partners the student would have. For the classroom portion of the assignment, each student had the goal of leading the group for 6 minutes, using various methods to determine order. Notes were kept regarding the students in each group and which students were the strongest motivators of discussion. Records of students who worked in groups during each discussion were entered into a spreadsheet in order to note how many times each member worked with each other member of the class (see example, below).

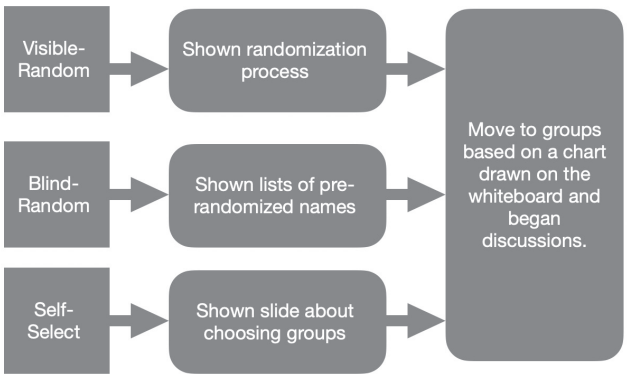
Student	Code	d1	d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d12
1	a	1	1	1	1	1	1	1	1	1	1	1	1
2	b	p	i	j	d	e	k	t	g	j	m	d	f
3	c	v	v	b	n	k	c	k	p	d	p	g	m
4	d	n	t	c	o	o	j	r	o	q	g	o	v
5	e	d	o	k	j	j	u	o	c	n	q	l	k
6	f	c	c	g	w	q	q	v	e	c	w	k	j
7	g	2	2	2	2	2	2	2	2	2	2	2	2
8	h	t	q	v	q	r	s	h	r	r	a	v	i
9	i	u	b	d	s	a	v	d	u	u	v	s	u
10	j	a	p	e	t	s	b	j	j	i	o	t	l
11	k	g	f	n	a	v	n	w	h	p	n	c	d
12	l	w	e	s	b	n	h	a	l	g	e		o
13	m	3	3	3	3	3	3	3	3	3	3	3	3
14	n	l	w	l	m	m	w	l	w	l	d	e	w
15	o	b	l	m	g	i	g	q	n	f	k	w	a
16	p	o	s	a	p	u	t	b	k	w	u	m	e
17	q	h	d	i	i	w	a	m	v	e	l	h	t
18	r	m	r		r	f		u		v	i		r
19	s	4	4	4	4	4	4	4	4	4	4	4	4
20	t	f	u	t	u	h	o	c	f	k	f	n	g
21	u	q	k	q	f	d	m	i	d	s	c	p	b
22	v	k	n	u	v	g	e	g	q	t	b	u	h
23	w	i	a	r	k	t	l	s	a	m	j	a	q
		5	5	5	5	5	5	5	5	5	5	5	5
		r	j	p	h	l	r	n	m	o	r	q	c
		e	h	w	e	c	i	p	i	b	s	i	p
		s	g	o	c	p	p	f	t	a	h	j	s
		j	m	h	l	b	f	e	s	h	t	r	n

Worked with	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w
a	---	1	0	2	2	1	2	2	1	1	1	1	1	4	1	1	2	3	2	4	3	2	4
b	1	---	3	0	1	1	2	4	0	1	0	3	2	1	2	2	3	0	2	1	0	1	0
c	0	3	---	2	2	1	3	1	1	4	2	2	0	3	2	4	2	0	3	2	1	3	0
d	2	0	2	---	0	1	2	2	2	3	2	4	0	4	2	1	2	1	2	1	2	2	3
e	2	1	2	0	---	3	1	2	0	2	1	3	2	3	4	3	2	2	2	1	0	3	3
f	1	1	1	1	3	---	0	0	2	2	3	1	1	1	0	3	3	1	0	0	1	1	1
g	2	2	3	2	1	0	---	3	3	2	1	1	3	0	2	3	1	2	1	2	2	0	3
h	2	4	1	2	2	0	3	---	0	3	0	3	2	1	3	1	1	2	1	2	1	1	3
i	1	0	1	2	0	2	3	0	---	1	2	3	4	0	1	3	2	4	2	2	4	1	1
j	1	1	4	3	2	2	2	3	1	---	4	1	2	2	2	0	4	3	1	0	2	1	2
k	1	0	2	2	1	3	1	0	2	4	---	2	2	1	3	0	3	1	1	2	3	4	1
l	1	3	2	4	3	1	1	3	3	1	2	---	4	0	4	1	1	2	1	0	3	1	1
m	1	2	0	0	2	1	3	2	4	2	2	4	---	0	2	2	1	0	2	1	1	1	2
n	4	1	3	4	3	1	0	1	0	2	1	0	0	---	1	2	1	0	3	0	2	6	1
o	1	2	2	2	4	0	2	3	1	2	3	4	2	1	---	1	1	1	0	1	1	3	1
p	1	2	4	1	3	3	3	1	3	0	0	1	2	2	1	---	2	2	1	0	2	1	1
q	2	3	2	2	2	3	1	1	2	4	3	1	1	1	1	2	---	1	1	1	2	0	0
r	3	0	0	1	2	1	2	2	4	3	1	2	0	0	1	2	1	---	3	4	3	2	1
s	2	2	3	2	2	0	1	1	2	1	1	1	2	3	0	1	1	3	---	4	0	3	1
t	4	1	2	1	1	0	2	2	2	0	2	0	1	0	1	0	1	4	4	---	1	1	2
u	3	0	1	2	0	1	2	1	4	2	3	3	1	2	1	2	2	3	0	1	---	1	0
v	2	1	3	2	3	1	0	1	1	1	4	1	1	6	3	1	0	2	3	1	1	---	1
w	4	0	0	3	3	1	3	3	1	2	1	1	2	1	1	1	0	1	1	2	0	1	---
	41	30	41	40	42	27	39	38	39	43	39	42	35	36	38	36	36	36	38	36	32	35	39	32
Total partners:	21	16	18	19	19	17	19	19	18	20	19	20	18	16	20	19	20	18	19	17	18	20	18

The students in each group were assigned a letter to anonymize them for this study, and the columns "d1," "d2," etc, refer to the discussion and the letters of the students in each group. The following treatments were applied to each group:

- Group 1 (n=25): This group was shown openly that their groups were assigned randomly, and as such are called the Visible-Random (or VR) Group. For this group, the "Lists" section of the website Random. org (Haahr, 2019) was shown on the overhead projector. Students names were pasted onto the site's text box and randomized as they watched. After students saw the randomized list, they were directed to go to one of five tables for the discussion, the location of each of which was noted on the whiteboard.
- Group 2 (n=23): This group received the same website-based randomization as VR group, but they were not shown the randomization process. They are henceforth referred to as the Blind-Random (BR) group. In lieu of watching the process unfold before them, the list of students was randomized before class and, in order to maintain similarity with the VR group, shown on the projection screen, but in document form. They were shown the same diagram of tables as the VR group and sent to the appropriate table.
- Group 3 (n=24): The third group, the Self-Select (SS) group, would not be provided with randomization. They were not shown a list of students, but in order to prevent a lack of direction being a co-factor, they were provided with information on the projection screen informing them to form groups and also encouraging them to sit with new members. These students were allowed to work with whichever class members they chose so long as the group contained 4-5 members. They were shown the same diagram of tables on the whiteboard as the VR and BR group and allowed to move to one of the five tables.

To clarify, see the flow chart (below):



At the conclusion of the 12th and final small group discussion activity, students were given a brief questionnaire assessing their rating of the measure known as class atmosphere. After the conclusion of the study, three students from each group were randomly selected for interviews. This allowed for both an anonymous, data-oriented perspective, and a more personal, hermeneutic perspective.

3. Results

Randomization

This study first requires an examination of whether the randomization was effective or not. Group composition was tracked for 12 sessions using Google Sheets. We can see the results of the group randomization in Figure 1 (below).

Figure 1: Overall variation in student contact

Group	N	Number of possible group combinations	Number of students contacted ($\bar{x}$)	Proportion of class	# of times paired: maximum
Self-select	24	276	6.42	0.279	12
Blind-random	23	254	18.6	0.845	6
Visible-random	25	300	19.8	0.825	6

The Self-Select Group, given the opportunity to choose their own partners, showed very little variation in group membership over the course of the semester. Of the groups that formed during the discussions, two groups maintained the exact same core members throughout the entire duration of the course. Thus, these group members worked with the same students 12 times. A small number of shifts among groups drove the average number of contacted students higher, to 6.42. On the other hand, we can get an idea of the amount of variation in interaction each student experienced in the randomized groups throughout the duration of the study. The column labeled "Number of students contacted" shows that a given student in the Blind-Random group worked with nearly 19 out of 22 other members of the class, and a given student in the Visible-Random group worked with nearly 20 out of 24 other students. Some students never worked with each other during the discussions, and the effects of randomization included a couple of outliers; as shown in the column "# of times paired," one pair of students in both the VR and BR groups worked together six

times each. In any case, students in both randomized groups were able to work with a large majority of the class, as seen in the column marked "proportion of class." An average student in the Self-Select group only interacted with an average of 28% of the class, while an average student in the Blind-Random and Visible-Random group worked with 85% and 83% of the class's members, respectively, at least once. In short, randomization using a random generator provided a successful strategy for allowing a broad array of students to work in groups together.

Survey

The questionnaire was administered in English to students, and was comprised of six seven-point Likert items that sought to obtain a brief overview of the effects of randomization on perception of the class atmosphere. Data were analyzed using the R statistical software application. Following Brown's (2011) recommendation that the field of language learning is permitted to treat Likert items as interval data, tests with parametric (T-Test, ANOVA) tests were conducted, but nonparametric versions were given priority due to the sample sizes. Thus, with the exception of descriptive statistics, such as means and standard deviations, Likert item results will be explicated via the Kruskal-Wallis test for comparison of all three groups and the Mann-Whitney U for mean differences between groups and individual items.

The mean scores of the survey, as well as the individual items, can be seen in Figure 2:

Figure 2: Mean scores and analysis of variance of all three groups

	Mean	**Standard Deviation**
Visible-random	37.84	3.412
Blind-random	36.52	3.999
Self-select	32.875	2.818
	Kruskal-Wallis (H) score	**Significance**
All groups	H=22.746	**p=.0001***

We can see from a simple examination of means that the Self-Select group rated the classroom atmosphere lower ($p < .05$) than the randomized groups. One thing that we cannot

see from the figure above is whether our randomized groups held significantly different beliefs about the classroom atmosphere than one another. Those results can be seen in Figure 3, below:

Figure 3: Differences between group means using an independent samples test

	Test	Score	Significance
Visible vs Blind	**Mann-Whitney**	U=224.5	p=.1971
Visible vs Self-Select	**Mann-Whitney**	U=66	**p=.0001***
Blind vs Self-Select	**Mann-Whitney**	U=125	**p=.0142***

When compared individually, we can see that the Visible-Randomized group, while having a higher mean score, was not significantly higher than the Blind-Randomized group. Thus, the hypothesis that the Visible-Random group would rate the classroom environment significantly higher than the Blind-Random group is incorrect based on the current data. It appears from these results that randomization alone was enough to improve students' view of the classroom environment.

Looking at the individual items in the scale, however, we can see some results that would indicate an invitation to further study (see Figure 4, below):

Figure 4: Questionnaire item means and Kruskal-Wallis tests of variance

Item	Self-select ($\bar{x}$)	Blind-random ($\bar{x}$)	Visible-random ($\bar{x}$)	H (p-value)
Q1. Grouping satisfaction	4.958 (sd=.955)	5.652 (sd=.832)	6.240 (sd=.779)	H=25.5676 (p<.01)*
Q2. Enjoyment	5.917 (sd=.654)	6.217 (sd=.850)	6.320 (sd=.627)	H=8.5675 (p<.05)*
Q3. Usefulness	5.792 (sd=.654)	6.261 (sd=.752)	6.240 (sd=.779)	H=7.296 (p>.05)
Q4: Motivation to communicate	5.375 (sd=.770)	6.304 (sd=.974)	6.280 (sd=.936)	H=17.2 (p<.01)*
Q5: Class atmosphere	5.167 (sd=1.204)	6.087 (sd=1.041)	6.320 (sd=.690)	H=20.4 (p<.01)*
Q6: Comfort level	5.667 (sd=.565)	6.000 (sd=.522)	6.440 (sd=.768)	H=8.2 (p<.05)*

As we can see, there are significant differences between the mean group responses for all but one item, Q3, which seemed to elicit similar responses from all three groups. We can see in Figure 5 (below) the results of Mann-Whitney U comparisons between groups for each item. U-scores and p-values are provided and categorized as Visible-Random vs Blind-Random (VR vs BR), Visible-Random vs Self-Select (VR vs SS), and Blind-Random vs Self-Select (VR vs SS). Results with significant effects are bolded.

Figure 5: Mann-Whitney U tests for individual items

	Visible vs Blind	Visible vs Self-select	Blind vs Self-select
Q1. Grouping satisfaction	**U=145 (p<.01)***	**U=65.5 (p<.01)**	**U=147 (p<.01)**
Q2. Enjoyment	U=254.5 (p>.05)	**U=153 (p<.05)**	U=187 (p>.05)
Q3. Usefulness	U=279.5 (p>.05)	**U=176 (p<.05)**	**U=174 (p<.05)**
Q4: Motivation to communicate	U=278.5 (p>.05)	**U=121 (p<.01)**	**U=108 (p<.01)**
Q5: Class atmosphere	U=249.5 (p>.05)	**U=81.5 (p<.01)**	**U=123.4 (p<.01)**
Q6: Comfort level	**U=169.5 (p<.05)**	**U=180 (p<.05)**	U=221 (p>.05)

Although a single-item analysis is not as powerful as a full-scale analysis, these findings underscore Liljedahl's (2014) findings that visible randomization can yield positive results. First, there are no significant differences between the two randomized groups on items related to enjoyment (Q2), usefulness (Q3), motivation (Q4), or atmosphere (Q5), but tellingly, we can also see that all three groups viewed Q1, the student's satisfaction with the group assignments, significantly differently. Specifically, the Visible-Random group gave significantly higher ratings in this category. On the other hand, the Self-Select group gave the lowest responses by a significant margin. One other item of note is that the Visible-Random group scored significantly higher than both of the other groups on Q6, related to how comfortable the student felt in the class. The Blind-Random group was not significantly different than the Self-Select group in this category. Again, single-item analysis is less reliable than a full instrument analysis, but this could suggest that the VR group was more comfortable in the class as a result of the visibility of the randomization.

4. Discussion

I have opted to discuss the results of the survey on classroom environment as it relates to the field notes that I took and the interviews I conducted with students, thus the heavy use of first-person language. It is important to note that I was not only a researcher here, but an active participant attempting to test whether a small change would improve my personal classroom practices. Thus, I will report as a participant-observer alongside presenting what I believe to be the implications from my findings.

First, one important takeaway from this study is that students in the two randomized groups seemed to benefit greatly from the randomization. The Blind-Random group occasionally commented in jest about the surprising nature of group assignments, but after the first few sessions, they naturally found their names on the list, went to their respective areas, and waited for me to choose the member to start the discussion. For the Visible-Random group, on the other hand, the randomization part of group formation became core to the day's lesson: Students would often cheer when placed alongside a close friend, or would look excitedly at another member and exclaim "*hajimete*" (or, "it's our first time to work together). Additionally, the process of randomization itself seemed to push several of the less outgoing students toward more relaxed social interaction. In the words of one of the interviewees from the Visible-Random group, "b," "the group making time was so exciting for us. We always wondered who would be the partners for each week." Student b, for the record, referred to herself as an extremely shy student who was empowered by the opportunity to meet more students.

In general, the Self-Select group simply did not seem to coalesce as much as the two randomized groups. This is not to say that the Self-Select group performed poorly, as certain members participated in other class activities just as often as members of the Randomized groups. In fact, one of the interviewees from the Self-Select group, "d," said that the group activity was her favorite time of the week. She characterized herself as a very friendly student, though, and a major difference with the Self-Select group was that the less outgoing members tended to stay together. Likewise, the more outgoing members tended to form groups with one another. This group was more clique-oriented than the randomized groups.

Of note, the Self-Select group showed evidence of outliers on the question of class atmosphere, as certain students gave particularly low scores. If one interview subject from

the Self-Select group, "k," is accurate, students simply felt that the groups became more and more unapproachable over time, except for the few highly motivated and outgoing students who seemed immune from social restrictions. Her sentiment of "I just went to the group with my friends because it was easy" is probably one shared by a large number of students from that class.

This relates to what seems to be the carryover effect between both of the randomized groups: The Self-Select group rated significantly lower on nearly every item. In the Blind-Random group, one of the interviewees, "v," said that it was scary waiting for me to post the group assignments, but that she usually enjoyed the time spent with different members. This feeling might have affected how many students in Blind-Random answered the question of comfort in the class; they might have interpreted the item to include the stress they felt at not knowing who would be in their group. For this reason, for teachers considering the use of randomization in group activities, I would currently recommend showing the students the entire randomization process. It seemed to become something enjoyable, or, as "c" from the Visible-Random group stated, "like gambling."

Conclusion

As this was a participant-observer-oriented study, we are met with what is both a strength and a weakness in action research: The lack of complete objectivity on the part of the researcher. However, it is an accepted point of action research that there is no assumption that the research has no influence on the progression of the experiment. Another limitation of this study was language, and the interpretation of the items on the scale. The questionnaire employed here was limited in scope, and a more extensive survey is recommended for future research that more fully captures a variable such as classroom atmosphere. On the whole, however, this study shed some light on the question of randomizing students during group activities, showing it to be a positive practice. This small study contributes to evidence that randomizing tends to improve the atmosphere of classes. Future research could account for the level of output and the total duration of the discussions, which were not tested in the initial study. Specifically, recording the discussions themselves for discourse analysis could prove immensely insightful. Additionally, the questions of motivation and engagement, already having been studied intensively in the field of language teaching, should be incorporated into future studies.

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