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## Behavior Contracts in English Language Classrooms in a Japanese University

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### abstract

This study examined whether behavior contracts in foreign language classes at a Japanese university reduced disruptive behavior (tardiness, absence, failure to bring textbook, cellular phone usage, and sleeping in class). There were two hypotheses: 1) behavior contract would reduce problem behavior, and 2) male students would exhibit disruptive behaviors more than female students. The results revealed that behavioral contracts were not consistently more effective than providing the rules to students. Overall, there was no significant difference between male and female students. Providing rules in written form, carefully tracking infractions, and applying penalties may have been the factors that affected behavior.

## 1 Introduction

This action research examined whether behavior contracts were effective in discouraging problem behavior in foreign language classes at a Japanese university. The study arose from contending with recurrent disruptive student behavior, specifically tardiness, absence, failure to bring textbook, cellular phone usage, and sleeping in class. There were two hypotheses. The first was that a behavior contract would be an effective instrument for diminishing the frequency of problem behavior. The second was that male students would exhibit disruptive behaviors more than female students.

The study took place over two semesters. Each semester, students were divided into two treatment groups and one control group. According to the results, behavioral contracts were not consistently more effective than simply providing the rules to students. Moreover, male students did not engage in disruptive behavior significantly more often than did female students. It would appear that providing rules in written form, carefully tracking infractions, and applying penalties for violations may have been the factors that affected behavior.

## 2 Literature Review

Behavior contracts have been applied to a range of issues, including study habits (Seidner & Kirschenbaum, 1980); classroom behavior (Kelley & Stokes, 1982); conflict among family members (Fatis & Konewko, 1983) and between spouses (Weiss, Birchler, & Vincent, 1974); weight loss (Black & Scherba, 1983); and substance abuse involving cigarettes (Singh & Leung, 1988), opioids (Nolimal & Crowley, 1990) and alcohol (Keane, Foy, Nunn, et al., 1984). Though not consistently effective, the behavior contract has served as a useful instrument for effecting change. This widespread utility suggests that the behavior contract could be an appropriate instrument for ameliorating classroom behavior of Japanese university students.

Kirschenbaum and Flanery (1983, p. 598) define a behavioral contract as “an explicit agreement specifying expectations, plans, and/or contingencies for the behavior(s) to be changed.” They describe behavior contracts as having the following characteristics:

- (a) form of contract (written or verbal, negotiated or nonnegotiated,

- individualized or standard, and public or private);
- (b) contract participants (focused on individuals alone [unilateral] or on mutual change between two or more people [bilateral]);
- (c) target behaviors [...];
- (d) consequences (nature and vehicle for administration)

The steps for creating a behavior contract include (Kirschenbaum & Flanery, 1984; Flanders & McNamara, 1985; Ruth, 1996):

- identifying (defining operationally) behavior to change
- setting goals and contingencies, either unilaterally or through negotiation
- monitoring behavior, by student/patient and/or instructor/therapist
- administering consequences (rewards/penalties)
- concluding contract, and reiterating procedure for new contract if warranted

The contract stipulations (e.g., behaviors to be modified, the rewards and punishments) can be imposed by the therapist or teacher, or negotiated with the patient or student.

Contingency contracting is predicated on operant conditioning: The frequency of voluntary behavior can be increased or decreased through presence or absence of reward (Leslie & Schuster, 1991). The written contract is used to link the reinforcer to the behavior (Morgan & Littell, 1988), and timely administration of reinforcements (i.e., contingencies) is used to shape behavior. For example, contracts can involve monetary deposits provided by participants, and returned over time for continued compliance with contract (Paxton, 1980). Contingency often increases compliance (Flanders & McNamara, 1985), and contingency contracts have been shown more effective than non-contingency contracts (Spring, et al., 1978).

Kirschenbaum and Flanery (1984) assert that the fact that even trivial rewards can elicit change when the contract is negotiated calls into question the value of operant conditioning as a mechanism for effecting behavior modification. Negotiating the contract may promote compliance more than rewards do. Indeed, better outcomes tend to result when behavior contracts are negotiated. Furthermore, Worthington (1979) speculated that some effect could be explained by participant response to rules rather than to contingency, a response also known as rule-governed behavior (Skinner, 1974). Still, the value of contingencies cannot be dismissed.

Contracts between students and teachers have resulted in improved academic performance (Kelley & Stokes, 1984). Goldman (1978) found that students that negotiated a study-skills contract with instructors had significantly greater GPAs than did non-contract and control groups, and continued to improve during the two-year follow-up period. She speculated that “student involvement in goal setting...[meant] greater personal involvement in achieving success”

(ibid., p.323). Contingency contracts negotiated between student and teacher on a weekly basis ameliorated the performance of disadvantaged adolescents, both classroom behavior (e.g., remaining quiet and attentive) and academic productivity (e.g., completing assignments) (Kelley & Stokes, 1982). Rewards accrued promptly to students at the end of each week, and increased daily over the course of each weekly contract. However, upon cessation of contracting, the students reverted to their former unproductive behavior. This tendency corroborates a result found by Kirschenbaum, Dielman, and Karoly (1982): The contract had an effect during the period and in the environment that it was valid, and only on specified behaviors. Outside of the contract parameters (e.g., other classes, other behaviors), the impact disappeared. One cannot assume that targeting certain behaviors will improve non-targeted disruptive behaviors.

These findings notwithstanding, there are compelling reasons to address behaviors such as absenteeism among college students. Trice, Holland and Gagné (2000) point out that studies reveal an association between voluntary absence and academic problems such as lower GPA, and non-academic problems such as violating the law and getting intoxicated. Improving attendance could have beneficial consequences beyond performance at school.

An important consideration when designing a contract is whether signers can reasonably fulfill contractual demands. People may enter the contract with the best intentions but be unable to adhere to it because of environmental limitations beyond their control. West (2001) conducted action research to determine whether a learner's contract would improve class attendance in an adult literacy program. The contract did not achieve its goals, but the study did assemble a profile of those with the least likelihood of attending class. The failure may have been due to the nature of the research population: Participants came from difficult economic situations and faced challenges to attendance such as limited transportation and childcare. It may be advisable to get background information on the students' situations to tailor the contract to their needs. For example, Price (1998) used a questionnaire to assess reasons why students were unable to attend a GED class for adults, and also discussed with student individually what barrier to contract fulfillment might exist in their case. Targets for behavior change should not be unrealistically high (Kirschenbaum, et al., 1982), since that can have a counterproductive effect.

Kirschenbaum, et al. (1982) found that it may be important to select behaviors that are easy to measure in concrete terms, and that can be reinforced by cues in the environment. For the current study, lateness, absence, and failure to bring textbook are relatively easy to measure, and from the above conclusion, may be preferable behaviors to include in a contract. Sleeping in class is harder to operationalize, while cellular phone usage can be concealed to a certain extent. Because of the absence of "generalization of effects" (Kirschenbaum, et al., 1982, p. 513), it is unlikely that a contract identifying absence, lateness, and failure to

bring textbook would help extinguish other behaviors, so it is better to target behaviors even if they are not as susceptible to measure.

There is a caveat regarding the literature. Bloom and Rosenbluth (1989, p. 318) explain that “David Hume considered the obligation of contract as the basis of a civilized society,” and that “outside the legal forum the contract retains its philosophical and psychological force.” This assertion notwithstanding, the cognitive force of contractual obligation and the stature of contract in society may be culture-bound. The literature documents efficacy of contracts in Western settings, in which the social and personal significance of a contract is great. Entering a contractual agreement may not have comparable significance in a Japanese university classrooms, viz., a non-Western setting.

## 3 Methodology

### 3.1 Subjects

This study compared university students in three English language classes: two groups that signed a Behavior Contract (BC Group 1 and BC Group 2), and a control group. Classes comprised students of a private Japanese university. Data was collected for one set of subjects in 2005 and for another in 2006.

Social class, financial situation, and educational background of students were unknown, and it is possible that such factors could affect rule compliance.

■ Table 1a - 2005 Subjects

Group	Initial	Final	Male ( <i>eliminated</i> )	Female ( <i>eliminated</i> )
Behavior Contract Group 1	30	29	18 (1)	12 (0)
Behavior Contract Group 2	33	27	11 (2)	22 (4)
Control Group	25	24	16 (1)	9 (0)
Total	88	80	45 (4)	43 (4)

■ Table 1b - 2006 Subjects

Group	Initial	Final	Male ( <i>eliminated</i> )	Female ( <i>eliminated</i> )
Behavior Contract Group 1	31	31	21 (0)	10 (0)
Behavior Contract Group 2	27	26	7 (0)	19 (1)
Control Group	32	29	14 (3)	15 (0)
Total	90	86	42 (3)	44 (1)

For example, a student who was the first in the family to attend college may have had more trouble adjusting to the university environment. For the purposes of this study, subjects were assumed to have come from stable environments.

There seemed to be few barriers to rule compliance other than attitude. No subject suffered overtly from emotional problems that would impact rule compliance. Substance abuse problems, rare in Japan, were unlikely. Students probably had no record of delinquency. Subjects in these classes did not work full-time, were not married, and did not have children. There was no reason to suspect that parents interfered with rule compliance.

There were issues typical of Japanese university students. Part-time work, if it involved late hours, could have affected student alertness and caused tardiness and sleeping in class. Cellular phones, a common distraction, were readily available, so it was assumed that every subject brought one into the classroom.

To the knowledge of the experimenter, no subject participated in a contract study in any other classes at that time, so there should have been no other behavior contracts that would confound the factors in this study.

No subjects were informed that they were participating in an experimental study. Since the study involved university rules, there was no need for informed consent. The study was approved by the Institutional Review Board at Heidelberg University in Tiffin, Ohio, USA.

### 3.2 The Setting

The classes were compulsory first-year English for non-English majors. Most students were in their first year of university. In both 2005 and 2006, two of the classes used the same textbook and covered the same material. The third class used a different textbook from the same series, but had a similar form of assessment. The classes met at the following times of day:

■ Table 2 - 2005 and 2006 Class Schedules

Group	Time
Behavior Contract Group 1	1:00 p.m.
Behavior Contract Group 2	10:30 a.m.
Control Group	8:50 a.m.

### 3.3 The Rules

The goal of the rules was to maintain an atmosphere conducive to language learning. Foreign language classes, smaller than lecture classes, often involve pair and group work. In this setting, students need to be present, attentive, and prepared in order to learn the material.

The rules described both deterrent threats and compellant threats (Pruitt & Kim, 2004). Compellant threats included bringing the textbook and punctual attendance. Deterrent threats were against sleeping in class and using cell phone. Rule violation reduced the class participation portion of a student's grade (about 50% of the overall grade), but had no effect on homework or test scores.

The rules were written on one double-sided sheet of paper, one side listing them in English, the other in Japanese. Students in all groups were provided with identical copies. Here is a summary of the rules:

- Arriving 1-10 minutes after the start of class constituted lateness, while arriving 11+ minutes after the start of class constituted absence, *unless* documentation was submitted. Three instances of lateness constituted one absence. Seven or more absences resulted in automatic failure (and elimination of the subject's data from the results).
- Failure to bring the textbook was a single instance of No Book. Penalty: 2% off participation grade.
- Sleeping in class, or the appearance of sleeping (e.g., eyes closed), resulted in penalty. Multiple sleeping violations could be recorded in a single class. Penalty: 3% off participation grade.
- Cellular phone usage, whether talking, texting, reading email, or checking the time were cell phone violations. Cell phones had to be out of sight, e.g., in a bag or pocket. Multiple cell phone violations could be recorded during a single class. Having the cell phone in plain view on the desk was also a cell phone violation. Penalty: 1% off participation grade.

### 3.4 The Behavior Contract

The Behavior Contract was a single sheet of paper in Japanese and English. Students signed in Japanese and in English, and wrote the date.

### 3.5 The Control Group

The control group received a copy of the rules identical to those of the other two groups, but did not see or sign a contract or any documents. In all other respects, the control group was treated the same as the other groups.

### 3.6 Procedure

The following steps were taken in the first class session:

- Step 1: For all groups, the rules were handed out and explained. The control group received nothing additional.
- Step 2: The Behavior Contract was distributed to the two Contract groups. After receiving an explanation of the documents, the students signed, dated, and returned them.

Step 1 was repeated in the second and third class sessions to ensure that behavioral expectations were clear. Step 2 was repeated for students that showed

up for the course for the first time.

### 3.7 Data Collection/Observation

The experiment took place during the second semester (September – December) of 2005 and of 2006. Data was collected through direct observation.

The first class session was used to present rules and any documents to sign, so data collection commenced on the second class, even for subjects that had not attended the first class. It was possible that students whose first appearance was the second or third class meeting would be penalized for violating rules of which they had been uninformed. However, since this was the second semester, students should already have had the textbook from the previous semester, and known the university policies on lateness and absence.

Associated data was eliminated from analysis when a student had enough absences to result in automatic failure (per university rules). In other words, students that stopped attending were considered to have withdrawn from the study. No data associated with eliminated students entered the final analysis.

Students received no feedback on the number of violations that they had accrued, e.g., they were not told, “This is the third time that you have forgotten your textbook.”

## 4 Results

Two-tailed t test ( $p < .05$ ) revealed no significant difference between combined BC groups and control group for any rule violation for either 2005 or 2006 subjects. Written agreement seemed to have produced no greater compliance.

Chi-square test showed that gender was independent of membership in these two groups (i.e., combined BC groups vs. control) for both 2005 and 2006. An overall comparison of gender groups revealed no difference in frequency of violation of any of the rules.

The next step in analysis was to examine the Behavior Contract groups separately.

### 4.1 Analysis of Rule Violation - 2006 Groups

One-way analysis of variance was used to compare frequency of rule violation among the three 2006 groups. Significant differences were found for lateness and failure to bring textbook, but not for absence, cell phone usage or sleeping in class. T test was used for post hoc analysis.

■ Table 5a - ANOVA - 2006 Groups

Lateness	<i>Significant</i>	$F_{\text{observed}} = 3.129 > F_{\text{critical}} = 3.107$ , $df = 83$ , $p < .05$
Absence	<i>Not significant</i>	$F_{\text{observed}} = 1.985 < F_{\text{critical}} = 3.107$ , $df = 83$ , $p < .05$
Textbook	<i>Significant</i>	$F_{\text{observed}} = 3.227 > F_{\text{critical}} = 3.107$ , $df = 83$ , $p < .05$
Cellular phone	<i>Not significant</i>	$F_{\text{observed}} = 0.766 < F_{\text{critical}} = 3.107$ , $df = 83$ , $p < .05$
Sleeping	<i>Not significant</i>	$F_{\text{observed}} = 0.543 < F_{\text{critical}} = 3.107$ , $df = 83$ , $p < .05$

■ Table 5b - Two-tailed t test - Lateness - 2006 Groups

BC Group 1	BC Group 2	<i>Not significant</i>	$t_o = -1.864 < t_c = 2.030$ , $df = 35$ , $p < .05$
BC Group 1	control	<i>Significant</i>	$t_o = -2.601 > t_c = 2.017$ , $df = 43$ , $p < .05$
BC Group 2	control	<i>Not significant</i>	$t_o = -0.382 < t_c = 2.008$ , $df = 51$ , $p < .05$

As for lateness, a two-tailed t test revealed significantly fewer instances for the Behavior Contract Group 1 than the control group though only marginally so (3.129 vs. 3.107). However, the punctuality of BC Group 1 could be attributed to the schedule. The class started at 1:00 p.m., so students may already have been present for earlier classes. In contrast, the control group was in a first-period class, and their punctuality may have been influenced by other factors, such as their commute.

A two-tailed t test showed that BC Group 1 failed to bring textbook significantly more often than did BC Group 2. No other significant difference was found between groups regarding the textbook. It is not readily apparent why BC Group 1, which had class in the afternoon, would forget the textbook more often. These students were in a different department, which may have attracted and admitted a different cohort of student, though it is not clear what those differences would be. On average, BC Group 1 subjects forgot the textbook 0.35 times in the semester, with a standard deviation of 0.66. The high standard deviation indicates that forgetfulness was a trait found predominantly in certain students.

■ Table 6a - Two-tailed t test - Textbook - 2006 Groups

BC Group 1	BC Group 2	<i>Significant</i>	$t_o = 2.536 > t_c = 2.028$ , $df = 36$ , $p < .05$
BC Group 1	control	<i>Not significant</i>	$t_o = 1.504 < t_c = 2.005$ , $df = 53$ , $p < .05$
BC Group 2	control	<i>Not significant</i>	$t_o = -1.099 < t_c = 2.021$ , $df = 40$ , $p < .05$

■ Table 6b - 2006 - Number of Students Forgetting Textbook  $n$  Times

	Never	1 time	2 times
BC Group 1	23	5	3
BC Group 2	25	1	0
Control	26	2	1

Gender differences among the three 2006 groups could account for disparity in rule violations. The chi-square test result was significant ( $\chi^2_{\text{observed}} = 9.43 > \chi^2_{\text{critical}} = 5.99$ ,  $df = 2$ ,  $p < .05$ ), i.e., gender and 2006

experimental group membership were *not* independent or unrelated. The overrepresentation of males in BC Group 1 (68%) compared to BC Group 2 (27%) point to the likelihood that gender played a role in the number of rule violations. It could explain why BC Group 1 might have had more instances of forgetting the textbook than BC Group 2.

Comparing gender within each 2006 BC group (e.g., male vs. female within BC Group 1 and within BC Group 2) revealed no significant differences in number of violations.

## 4.2 Analysis of Rule Violation - 2005 Groups

One-way analysis of variance ( $df = 77$ ,  $F = 3.115$ ,  $p < .05$ ) was used to compare the three 2005 groups. Of the five types of rule violation, the only significant difference was for absence (Table 7a). Two-tailed t test for post hoc analysis indicated that BC Group 1 had significantly *more* absences than the control group, even though the class start times were 1:00 p.m. and 8:50 a.m., respectively (Table 7b). In 2005, signing the Behavior Contract was not significantly related to rule compliance, but instead seemed to be related to increased absences.

■ Table 7a - ANOVA - 2005 Groups

Lateness	<i>Not significant</i>	$F_{\text{observed}} = 0.228 < F_{\text{critical}} = 3.115$ , $df = 77$ , $p < .05$
Absence	<i>Significant</i>	$F_{\text{observed}} = 3.391 > F_{\text{critical}} = 3.115$ , $df = 77$ , $p < .05$
Textbook	<i>Not significant</i>	$F_{\text{observed}} = 0.352 < F_{\text{critical}} = 3.115$ , $df = 77$ , $p < .05$
Cellular phone	<i>Not significant</i>	$F_{\text{observed}} = 0.690 < F_{\text{critical}} = 3.115$ , $df = 77$ , $p < .05$
Sleeping	<i>Not significant</i>	$F_{\text{observed}} = 2.000 < F_{\text{critical}} = 3.115$ , $df = 77$ , $p < .05$

■ Table 7a - ANOVA - 2005 Groups

BC Group 1	BC Group 2	<i>Not significant</i>	$t_o = 1.736 < t_c = 2.005$ , $df = 54$ , $p < .05$
BC Group 1	control	<i>Significant</i>	$t_o = 2.531 > t_c = 2.008$ , $df = 51$ , $p < .05$
BC Group 2	control	<i>Not significant</i>	$t_o = 0.793 < t_c = 2.010$ , $df = 49$ , $p < .05$

While the 2006 BC Group 1 had better attendance than the other two groups, the 2005 BC Group 1 had worse attendance. It is hard to reconcile this contradiction: Like the 2006 BC Group 1, the 2005 BC Group 1 had a 1:00 p.m. class. The convenient scheduling that benefited the 2006 group did not do so for the 2005 group.

Gender differences among the three 2005 groups could account for differences in the number of rule violations. As with the 2006 groups, gender disparity was checked with chi-square test. The result was significant ( $\chi^2_{\text{observed}} = 6.45 > \chi^2_{\text{critical}} = 5.99$ ,  $df = 2$ ,  $p < .05$ ). In other words, gender and 2005 experimental group membership were *not* independent or unrelated. The overrepresentation of males in the BC Group 1 (59%) and underrepresentation in the BC Group 2 (27%) would point to the possibility that gender played a role in

the number of rule violations. BC Group 1 might have had more absences than BC group 2 because of gender differences.

### 4.3 Subject Elimination

It is possible that the Behavior Contract could encourage students to drop the class. Obligation to the rules might be onerous when students sign their name to an agreement. Chi-square test was used to see whether elimination of subjects varied significantly among groups. For the 2005 groups, chi-square test revealed the following:

■ Table 8a - 2005 Elimination of Subjects

Variable	Variable	Relationship	Result
gender	retention / elimination	<i>independent</i>	$\chi^2_{\text{observed}} = 0.004 < \chi^2_{\text{critical}} = 3.84$ , df = 1, p < .05
group membership	retention / elimination	<i>independent</i>	$\chi^2_{\text{observed}} = 5.29 < \chi^2_{\text{critical}} = 5.99$ , df = 1, p < .05
group membership for females	retention / elimination	<i>independent</i>	$\chi^2_{\text{observed}} = 4.20 < \chi^2_{\text{critical}} = 5.99$ , df = 2, p < .05
group membership for males	retention / elimination	<i>independent</i>	$\chi^2_{\text{observed}} = 1.56 < \chi^2_{\text{critical}} = 5.99$ , df = 2, p < .05

The Behavior Contract was not associated with a significant number of eliminated subjects in any group or of either gender.

Table 8b shows the result for the 2006 groups.

■ Table 8b - 2006 Elimination of Subjects

Variable	Variable	Relationship	Result
gender	retention / elimination	<i>independent</i>	$\chi^2_{\text{observed}} = 1.15 < \chi^2_{\text{critical}} = 3.84$ , df = 1, p < .05
group membership	retention / elimination	<i>independent</i>	$\chi^2_{\text{observed}} = 3.72 < \chi^2_{\text{critical}} = 5.99$ , df = 2, p < .05
group membership for females	retention / elimination	<i>independent</i>	$\chi^2_{\text{observed}} = 1.35 < \chi^2_{\text{critical}} = 5.99$ , df = 2, p < .05
group membership for males	retention / elimination	<i>dependent</i>	$\chi^2_{\text{observed}} = 6.46 > \chi^2_{\text{critical}} = 5.99$ , df = 2, p < .05

For female subjects, retention/elimination was independent of group membership. However, for male subjects, this was not the case: Retention/elimination and group membership were not independent of each other.

The 2006 control group had three male subjects eliminated; neither of the Behavior Contract groups did. There are two possible important consequences of this disparity. Elimination from the control group of subjects that would have committed substantial infractions would thereby diminish the apparent efficacy of the Behavior Contract. The value of the written agreements would be understated.

On the other hand, had they not broken many rules, the efficacy of the written agreements could be overstated, because well-behaved members of the control group would not be present to moderate the effect of rule violation by other control group subjects.

The number of eliminated subjects for the 2006 Control group may seem significant when compared to the other groups, but it is not clear whether they were significant compared to the drop-out rate for classes of the university at large as this data was not available.

## 4.4 Objectivity Considerations / Conflict of Interest

Developing a semester-long relationship with subjects, the instructor cannot maintain the objectivity ideal for a researcher. The instructor both collects the data about rule violations while applying the rules, effectively acting as law enforcement and judiciary. Hence, there is a conflict of interest. This authoritarian role puts the researcher in an adversarial position with the subjects, and could skew data if rules are applied inconsistently. For example, does closing eyes for one minute constitute a “sleeping” violation? The effect of contract could be understated or overstated, depending on instructor attitude toward each group. However, there is a measure of internal consistency since the experimenter directly gathered data for all groups.

## 5 Discussion

The Contract in this study deviated from the guidelines identified in the literature in these ways:

- Only one party, not both, signed the agreement.
- The contract was not negotiated, but unilaterally imposed and coercive. Negotiation is considered the most crucial part of the behavior-change process (Johnston, 1983).
- The rules were oriented around negative behavior and punishment, and afforded subjects only negative attention (Johnston, 1983).
- No meaningful privileges or rewards could be earned for good behavior.
- Experimenter assumed the role of punisher.
- The rules rewarded obedience instead of accomplishment (Johnston, 1983).
- It was “not a mutual commitment for resource exchange by both parties” (Molteni & Garske, 1983: 918). The instructor was not

bound to the agreement, nor had anything at stake.

The rules address different categories of behavior, some of which students are motivated to demonstrate, other to conceal. Bringing the textbook and arriving on time fall into the former category, and cell phone usage and sleeping into the latter. If student rule violation escapes detection, instances of cell phone usage and sleeping in all three groups may be inaccurate, and the efficacy of the contract may be misstated. Written agreement may have extinguished behavior, but it is hard to know with certainty. Contract designers should take into account the ease of detecting rule violations. The contract may not have the desired impact, and enforcement may be difficult. Such agreements may not be the appropriate instrument for behavior change. They may encourage students to focus on evasion tactics instead.

Consistent across all three groups were the experimenter/instructor; the rules and rules sheet; and the tracking of and feedback regarding violations. Any of these factors may have been a deterrent and could explain why there was no difference among groups in terms of compliance.

The rules and the violation tracking provide benefits to teachers by alleviating the need to confront students over disruptive behavior: The teacher merely records violations and applies the penalty. There is no need to personalize a student's failure to observe the rules.

It may not be a question of whether a signed agreement exists, but rather that the rules are spelled out clearly in both English and Japanese, and that the teacher warns students about behavior, and overtly tracks the behavior on paper for each class. In other words, students may adhere to rules not because they promise to, but rather because the teacher keeps strict records of violation. It may be adequate to simply issue a copy of the rules to the students, and then track the behaviors for grading purposes. Intervention in the form of Contract may not be necessary.

While lateness, absence, textbook, and to a certain extent, sleeping, are easy to monitor, cell phone usage can be concealed. In a class of thirty, a student can quickly check a cell phone while the teacher, back turned, is writing on the board. At times, the sound of cell phones opening or closing was heard, but the culprit could not be identified. While this usage is technically a violation, it is minor. The contract can still discourage overt and distracting cell phone use.

Monitoring behavior such as textbook usage might ameliorate other behaviors. This is a sort of observation effect: Making students aware that certain behavior is carefully tracked might promote compliance with other aspect of the behavioral contract.

Lateness and absence are monitored in classes throughout the university, though enforcement may vary by instructor. Other behaviors, however, such as phone usage, sleeping, and failure to bring textbook, may not be dealt with at all. Outside of the classes for this study, students may easily revert to undesirable

habits.

Each subject's attendance records from the previous semester (or of all language classes in the respective faculties) would reveal whether there was a significant difference in behavior in an environment without written agreement or explicit tracking of behavior concerning textbook, cell phone usage and sleeping. However, those records were not available, and would not have been data collected by the experimenter, i.e., the rules might have been applied differently. Is it the explicitness of the rules, the signing of the contract, both, or neither, which accounts for the level of compliance in groups? If all three groups showed improved in attendance compared to the previous semester, the change could have been the result of the rules and violation tracking and not the behavior contract. In other words, written agreements could be superfluous.

## 5.1 Limitations of the Study

Though these subjects were probably representative of the campus student population as a whole, they were drawn from different departments, which had significantly different gender distributions and entrance examinations of different difficulty. Random assignment would have eliminated the gender imbalance, and would have combined students of different levels of academic ability and interest. Each group would then have been a better representation of the campus population.

Convenience sampling was necessary since random distribution was not possible: Each student was assigned at university discretion to a class based on results of a language placement test.

## 5.2 Future Improvements

Wilson, et al. (1982: 76) states that "contracting has been derived from a theoretical framework in which behavior is molded and motivated by rewards or penalties." In this practicum study, subject behavior received exclusively negative scanning. Students could not win, only avoid losing. A useful revision would be to reward students for productive behavior. For example, students could earn a bonus for a semester without unexcused absence or lateness, or for a perfect record of bringing the textbook. Another approach would be to provide intermediate rewards: Five consecutive class sessions without any violation would cancel out a violation or excuse a student from homework.

Because of the large number of students, negotiating contract penalties and bonuses on an individual basis would be prohibitively time-consuming. However, it would be possible to let students negotiate as a group. For example, students could allocate the penalty percentages across different infractions and the bonuses across different positive behaviors, such as perfect attendance. The average of the penalties and bonuses indicated by the students could be applied class-wide.

A group bonus could provide an incentive. One way to link student behavior would be to reward students for group-wide rule compliance: for example, at the end of a class with no demerits (everyone comes on time, brings their textbook, and does not use their phone or sleep), the entire group gets a bonus.

It would be useful to correlate individual student attitude to observance of class rules. Rule compliance could be linked to particular underlying attitudes. This would require a survey that was not anonymous. For instance, students who believe the class is too long may tend to arrive late. Students who would prefer to study a language other than English may miss more classes or may sleep more. However, subjects may not be forthcoming for a non-anonymous survey. The results may provide little insight. It would also be useful to assess student attitudes toward the contract and the rules, e.g., whether they considered them unfair, useful, or in need of revision.

Students did not negotiate the stipulations of the contract, a step which many researchers believe critical to behavior change. Negotiation over distribution of penalty and bonus percentages could impart students with “ownership” of the contract and improve rule compliance.

Kirschenbaum, et al. (1982, p. 500) observe that “explicit performance criteria” might affect the impact of a behavior contract. However, they point to studies that indicated that “standard setting alone produced little behavior change” (ibid., p. 501). In other words, performance criteria add value in the context of a contractual agreement. For the current study, furnishing the rules in written form could enhance the efficacy of the contract. It would be useful to have a group without a contract to determine the magnitude of effect. In the current study, there was no baseline of the natural rate of lateness, absence, sleeping, cell phone usage, and failure to bring textbook. Since promulgating rules in itself could significantly deter behavior, it would be useful to covertly collect data to see how often students sleep in class and use their phone when there is no rule against it and no risk of punishment. This method of data collection would avoid the observation effect: Students should not be aware that specific behaviors were targeted. A study to see whether the presence of written rules alone accounts for more compliance than does the contract would include the following:

- Group 2: Rules + Contract. Behavior tracked.
- Group 1: Rules only, no contract. Behavior tracked.
- Control group: No contract, no rules provided or explained. Tracking of behavior, with intervention when infractions occur, but no grade penalty for the behavior.

The last group would provide baseline data to determine which intervention (i.e., rules or contract) had effect. This group would not suffer a penalty for failing to bring textbook, for falling asleep in class, or for using their phone. The penalty for lateness and absence would remain the same as for all other courses at the

university. The teacher would track the behavior and ask students to alter their behavior (“Please put your phone away”), but apply no grade reduction. The question is whether such behavior occurs because students feel no compunction about disruption, or because they suffer no consequences.

A rising penalty for phone use, sleeping in class, and failing to bring textbook could have greater effect. For example, the first cell phone violation would result in a 1% penalty, the second in a 2% penalty, etc., cumulative over the semester.

## 6 Conclusion

Written agreement did not consistently reduce disruptive behavior in English language classes at a Japanese university. It had a marginal effect on only a small set of behaviors: absence for the 2005 groups, and lateness and failure to bring textbook for the 2006 groups. Across both experimental years, groups that had more male students tended to have more violations. Better methods for effecting behavior change might be promulgating a written set of rules that impose specific grade penalties, enforced by an authority figure that overtly tracks rule violation.

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