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Exploring the Impact of Learning Contracts on Student Commitment and Academic Performance

Timothy Frank, United States Air Force Academy, Department of Civil and Environmental Engineering

Introduction

It’s not uncommon for a student with high potential to underperform in the classroom. With many activities competing for a student’s time, success comes with commitment. McKenzie-Mohr, et al. 1999 show that commitment is most effective when it’s written and voluntary.

In an academic setting, Codde (2006) states learning contracts should be individualized, include what is to be learned, how it will be learned, and how it will be verified.

This research project studied the effect of individualized, voluntary learning contracts on actual student commitment and academic performance.

Hypotheses

- Students who sign a learning contract will be more likely to complete assigned homework and attend office hours with their instructor
- They will also show a greater improvement following the midterm exam
- Of those who sign a contract, those who follow it more closely will perform better
- Signing a contract will increase the self-reported prioritization of course-related learning behaviors relative to other, more optional behaviors (e.g. recreational / social activities).

Methods & Materials

Students who scored under 75% on the midterm exam were offered the chance to create and sign a learning contract stating the student would:

- Complete all homework and reading assignments
- Attend office hours at a regular interval of their choosing
- Set a goal for the next exam

The contracts also stated the instructor would be available for office hours at the student’s requested frequency. Midterm and final exam scores were compared among those who signed contracts, those who were offered but refused, the control group, and those who scored high enough on the midterm to not be offered a contract.

Additionally, feedback forms asked students to report reading and homework completion as well as time prioritization, which indicated commitment level. Within the experimental group, those on contract were compared to those not on contract. Freshmen, sophomores, and juniors from three different engineering courses across two semesters, totaling 204 students, were involved in this study.

This project was supported by the USAFA SoT Program and the Departments of Civil and Environmental Engineering and Engineering Mechanics.

Disclaimer: The views expressed in this document are those of the authors and do not reflect the official policy or position of the U. S. Air Force, Department of Defense, or the U. S. Govt.

Discussion

When comparing improvement between those who signed learning contracts and the control group, the data suggest improvement at a 98% confidence interval using the sign test. Fourteen of 18 students (78%) on contract improved their grade while only 16 of 27 students (59%) in the control group improved. Within the group that signed contracts, the sample size was too low to determine if the students who followed their contract more closely performed better than those who did not.

There were eight students who refused a contract when it was offered to them. This group showed more improvement than the control group, but due to the small sample size, this improvement isn’t statistically significant. One possible reason for the improvement is the fact that the instructor cared enough to initiate a discussion with these struggling students and offering a contract alone might have been a motivator. The group of students who were not offered a contract at all after the midterm was the only group whose exam scores decreased. While not having committed to a contract could have contributed to the lower final exam scores on average, a regression towards the mean is also plausible.

Learning contracts also seemed to encourage positive course-related learning behaviors, as expected. One hundred percent of students indicated on the end-of-semester feedback form that it was important for them to do well in the class, but those who signed contracts indicated they were more likely to actually prioritize time for course-related tasks like reading, homework, and office hours than the control group.

Solidifying the commitment on paper may have been the difference between good intentions and action.

Students in the freshman level course were less likely to sign an individual contract when offered one when compared to the sophomore and junior level students. About half of the assignments in the freshman level course are group projects, whereas group projects represented a smaller portion of the grade in the sophomore level course and none of the grade in the junior level course. Thus, it appears that students were more likely to make an individual commitment when course assessment focused more on individual effort to complete assignments.

Impact

Results show that learning contracts are a low cost, low effort tool that can increase student commitment and boost academic performance. It is recommended that instructors consider using this tool in their courses where they sense student motivation and commitment might be lower than desired. This tool might be most useful in courses that feature mostly individual assignments rather than group work.

Results

Students who signed a contract will increase the self-reported prioritization of course-related learning behaviors relative to other, more optional behaviors (e.g. recreational / social activities).

Methods & Materials

Students who scored under 75% on the midterm exam were offered the chance to create and sign a learning contract stating the student would:

- Complete all homework and attend office hours with their instructor
- They will also show a greater improvement following the midterm exam
- Of those who sign a contract, those who follow it more closely will perform better
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References


Academic Contract between (student) and (teacher) necessary.

I am not doing as well as I could be in (class title), and I have decided to put in extra effort to change that. First, I agree to keep up with the reading and homework. I will ask others for help as required so that I understand the concepts and I am not doing as well as I could be in (class title), and I have decided to put in extra effort to change that.

(teacher) will spend the appropriate amount of time with (student) so that the material is learned. This contract will expire when both of the following conditions are met: an (grade goal) % or higher is scored on the next exam and (student) decides this contract is no longer necessary.

Signed on this ______ day of __________________ 2012.

__________________________
(student signature and name)

__________________________
(teacher signature and name)