

Using Student Contracts And MyMathLab To Motivate Students Pioneer VI – October 2009

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Origins Of The Contract

- Developmental math students are short on confidence and motivation.
- A colleague and myself were wondering what incentives would work.
- Our campus president told us about a contract he used with students.

My First Contract With My Students (Fall 2007)

- Any student who meets the following criteria will have the option of completing a final cumulative assignment instead of taking the final exam. In such a situation, the student will keep the grade that they had before the final.

Criteria for Contract

- Perfect scores on all MyMathLab homework assignments
- MyMathLab quiz average of at least 80%
- No more than 2 absences
- Exam average of at least 70%

Grading

	No Contract	With Contract
MML HW	8.3%	12.5%
MML Quizzes	8.3%	12.5%
Exams	50%	75%
Final Exam	33.3%	X

MyMathLab Homework

- Homework is assigned for each section we cover.
- Students are allowed to work each problem until they get it correct.
- There is a deadline for each assignment.

MyMathLab Quizzes

- There are two quizzes – one for the first half of the chapter and a second for the entire chapter.
- Students get infinitely many attempts at each quiz.
- Highest score counts.

Pencil & Paper Exams

- Students take an exam at the end of each chapter that we cover.

So, How'd It Go?

- Starting Population: 54 Students
- Retention: 49 Students (90.7%)
- Success (A - C) : 37 Students (68.5%)

A Little Perspective

	Fall 2007 My Class With Contract	Spring 2007 My Classes No Contract	Fall 2007 Campus Wide
Pass	68.5%	49.4%	48.3%
Fail	22.2%	36.5%	33.8%
Drop	9.3%	14.1%	17.9%
Retention	90.7%	85.9%	82.1%

Comparison To Prior Semester Test Averages

Average	Fall '07 With Contract	Spring '07 No Contract
A	35%	12%
B	39%	21%
C	12%	36%
D	8%	9%
F	6%	22%

Comparison To Prior Semester

Success Rate, by Exam		
	Fall 2007 With Contract	Spring 2007 No Contract
Test 1 – Transition	83%	74%
Test 2 – Radicals	79%	55%
Test 3 – Quadratic	80%	62%
Test 4 – Functions	76%	61%
Test 5 – Exp./Logs	71%	36%
Test 6 – Conics	94%	92%

Comparison To Prior Semester

Percentage of A's, by Exam

	Fall 2007 With Contract	Spring 2007 No Contract
Test 1 – Transition	44%	30%
Test 2 – Radicals	42%	20%
Test 3 – Quadratic	35%	24%
Test 4 – Functions	41%	21%
Test 5 – Exp./Logs	33%	12%
Test 6 – Conics	92%	76%

Comparison To Prior Semester

Mean Score, by Exam

	Fall 2007 With Contract	Spring 2007 No Contract
Test 1 – Transition	83.0	77.6
Test 2 – Radicals	79.6	67.6
Test 3 – Quadratic	79.7	73.8
Test 4 – Functions	81.0	71.8
Test 5 – Exp./Logs	75.0	58.3
Test 6 – Conics	93.1	88.5

Comparison To Prior Semester

Homework Average (Semester)

Fall 2007 With Contract	Spring 2007 No Contract
93.5%	80.7%

Benefits

- Students remediate themselves.
- Students learn proper notation.
- Students form bonds with classmates.
- Students work ahead.

Benefits

- Students put in an enormous amount of time and effort.
- The average time spent on homework and quizzes per student:
 Test 1: 6 hours, 46 minutes
 Test 2: 8 hours, 20 minutes
 Test 3: 10 hours, 40 minutes
 Test 4: 12 hours, 37 minutes

Benefits

- Students put in an enormous amount of time and effort.
- Students learn where their “issues” are and ask for help.
- Students do their homework the way we want them to – they want to make sure they understand before it's time for the quiz.

So, How Do Students Feel About This Approach?

- I gave a survey to 50 students in attendance late in the semester.

How Much Time/Effort Compared To Last Math Class?

Much Less	1
Slightly Less	2
Same	9
Slightly More	15
Much More	23

How Much Has Using MyMathLab Increased Your Understanding?

Not At All	0
	1
Somewhat	16
	8
A Lot	25

How Has Your Performance On Exams Been As You Expected?

Much Worse	4
Slightly Lower	6
Same	13
Slightly Higher	15
Much Higher	12

Changes In Semester 2 (Spring 2008)

- 2 Intermediate Algebra Classes
- Minimum Test Average: 80%
- SLO Checkpoint Quizzes: 90% Average
- SLO End-of-Course Assessment: 75%

Student Learning Outcome (SLO) Quizzes

- There is a quiz for each of the SLO's in our course outline.
- I open 2 or 3 quizzes per week for the last 4 weeks of the semester.
- Students can take each quiz as many times as they'd like, and the highest score counts.
- This serves as a early review for the final exam.

Changes In Semester 3 (Fall 2009)

- 1 Intermediate Algebra Class
- Minimum Score on Final Exam to Pass Course: 70%
- Minimum Score Drops by 2% For the Following:
 - MML HW: 100%
 - MML Quizzes: 85%
 - SLO Checkpoint Quizzes: 85%
 - Minimum Test Average: 80%
 (* 2% bonus for all 4 – Minimum Score 60%)

Changes in Semester 4 (Spring 2009)

- 1 Prealgebra Class
- Student Test Contract
 - 10 Point Bonus Available On Each Test
 - MML HW: 100% Each
 - MML Quizzes: At Least 85% On Each
 - No More Than 1 Absence
 - 4 Hours In Tutorial Lab/Computer Center
 - Completion Of All Study Skills Activities

Semester 1, 2, 3, & 4

	Fall '07 (Sem. 1)	Spr. '08 (Sem. 2)	Fall '09 (Sem. 3)	Spr. '09 (Sem. 4)
Pass	68.5%	56.9%	54.5%	57.1%
Fail	22.2%	30.2%	40%	23.8%
Drop	9.3%	12.9%	5.5%	19.1%
Retention	90.7%	87.1%	94.5%	80.9%

Questions or Comments?

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