

# Using Student Contracts And MyMathLab To Motivate Students Indianapolis, IN – September 2010

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# Handouts

- All handouts will be available on my web site:

<http://georgewoodbury.com>

# WARNING!!!

- Some of these ideas are extreme and may not be applicable at your school.
- Think about how you can use or adapt these strategies in your classes.

# 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.



# What Student Behaviors Do You Value?



## 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
<b>MML HW</b>	8.3%	12.5%
<b>MML Quizzes</b>	8.3%	12.5%
<b>Exams</b>	50%	75%
<b>Final Exam</b>	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

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

## Comparison To Prior Semester Test Averages

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

# Comparison To Prior Semester

## Success Rate, by Exam

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

# Comparison To Prior Semester

## Percentage of A's, by Exam

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



# 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

# 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 and Beyond (Spring 2009 - Present)

- Student Test Contract  
10 Point Bonus Available On Each Test  
Some Criteria I Have Used:
  - 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

## Questions or Comments?

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