

**Motivating Students and Increasing Success Using Student Contracts**

George Woodbury  
College of the Sequoias  
Visalia, CA  
[georgew@cos.edu](mailto:georgew@cos.edu)

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**Handouts**

All handouts will be available on my web site:

[georgewoodbury.com](http://georgewoodbury.com)

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**Which Student Behaviors Are Important To You?**

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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.

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### My Original Grading Policy

- MML Homework 8.3% (1 per Section)
- MML Quizzes 8.3% (2 per Chapter)
- Pencil & Paper Exams 50% (1 per Chapter)
- Final Exam 33.3%

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### My First Contract With My Students

- 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.

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### 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%

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### Contract Grading

- MML Homework: 12.5%
- MML Quizzes: 12.5%
- Pencil/Paper Exams: 75%

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### 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

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### **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.

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### **MyMathLab Quizzes**

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

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### **Pencil & Paper Exams**

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

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### So, How'd It Go?

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

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### 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%

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### 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%

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## 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%

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## 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%

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## 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

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## Comparison To Prior Semester

### Homework Average (Semester)

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

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## Benefits

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

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## 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

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## Benefits

- 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.

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## So, How Do Students Feel About This Approach?

- They like it – they really like it!
- I gave a survey to 50 students in attendance late in the semester.

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## How Much Time/Effort Compared To Last Math Class?

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

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**Has The Grading Policy Affected Your Time/Effort Devoted To This Class?**

Not At All	2
	0
Somewhat	6
	8
A Lot	34

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**How Much Has Using MyMathLab Increased Your Understanding?**

Not At All	0
	1
Somewhat	16
	8
A Lot	25

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**How Has Your Performance On Exams Been As You Expected?**

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

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### If You Were To Take The Final Exam, What Grade Would You Expect?

A	6
B	22
C	19
D	2
F	1

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### 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%

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### Semester 2 (Spring 2008)

- 22 out of 72 Students Met Original Criteria
- 17 Passed SLO End-of-Course Assessment and Skipped Final
- 3 Passed SLO End-of-Course Assessment and Took Final (90%, 84%, 76%)
- 2 Failed SLO End-of-Course Assessment and Took Final (71%, 54%)

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## Semester 2 (Spring 2008)

- Starting Population: 85 Students
- Retention: 87.1% (Sem. 1: 90.7%)
- Success (A - C) : 56.9% (Sem. 1: 68.5%)

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## Semester 1 vs. Semester 2

	Fall 2007 (Semester 1)	Spring 2008 (Semester 2)
Pass	68.5%	56.9%
Fail	22.2%	30.2%
Drop	9.3%	12.9%
Retention	90.7%	87.1%

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## 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%)

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## Semester 1, 2, & 3

	Fall 2007 (Semester 1)	Spring 2008 (Semester 2)	Fall 2009 (Semester 3)
Pass	68.5%	56.9%	54.5%
Fail	22.2%	30.2%	40%
Drop	9.3%	12.9%	5.5%
Retention	90.7%	87.1%	94.5%

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## Changes In Semester 4 (Spring 2009)

- 1 Prealgebra & 1 Elementary Algebra Class
- 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

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## Questions or Comments?

George Woodbury  
[georgew@cos.edu](mailto:georgew@cos.edu)  
<http://georgewoodbury.com>

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