

What I Won My \$500 LOAC Award For

By Byron Lilly

March 3, 2017 Convocation

\$500 LOAC AWARD **Learning Outcomes** **Assessment Cycle Award**

Awarded to Byron Lilly
September 23, 2016

*Award will fund the continuation of the development of a tool Byron calls the "Custom Homework Builder."
This work sprung out of a SLOAC completed for one of the two SLOs for the course "Business Law I"*

Mary Tape Glen Li-Wheat Veronica Bando-Lyle

Background

In June 2009, I assessed the following SLO in the course "Business Law I" (a.k.a. Business 18):

Be able to predict the outcome of a factually simple contract dispute where that outcome is consistent with either: 1) a basic common law rule followed by a majority of the states, or 2) a basic rule in the Restatement of Contracts (Second,) or 3) a basic rule in Article 2 of the Uniform Commercial Code.

Methodology

I used 13 questions from midterm 2 plus 54 questions from the final exam, a total of 67 questions.

Sample question:

Facts: Raymond sells an easement to Sandra for \$1,000. True or False?: This contract falls within the statute of frauds, and must be in writing to be enforceable.

Results

1. The average student correctly answers 74% of these 67 questions.
2. Fewer than 40% of the students were able to correctly answer the three most difficult questions.

Spring 2013 Bus Department APRU

Trends in equity gap: The gap in success rates between targeted and non-targeted populations has decreased from 18% to 14% from 2010/11 to 2011/12, but is still well above the college's goal of no more than a 5% gap.

- Our efforts to improve the student equity gap would be enhanced if we had data on success rates for members of the targeted population at the course level.

So we turned in a request to Institutional Research.

Institutional Research Delivers: By April 2014 We Had These Numbers

2012-13	Success		Non Success		Withdraw		Total	
Bus 18 Dept	Number	%	Number	%	Number	%	Number	%
Targeted Groups	218	59%	86	23%	63	17%	367	100%
All Other Groups	756	74%	152	15%	107	11%	1,015	100%
Total	974	70%	238	17%	170	12%	1,382	100%
Achievement gap		15%						

Just Byron's Sections of Bus 18

	Success		Non Success		Withdraw		Total	
	Number	%	Number	%	Number	%	Number	%
Fall 12 - Spr 13								
Targeted Groups	19	40%	18	38%	10	21%	47	100%
All Other Groups	64	59%	25	23%	20	18%	109	100%
Total	83	53%	43	28%	30	19%	156	100%
Achievement gap		18%						

Business Law I - Winter 2014

Two closed-book, closed-note exams worth 75% of the grade.

(One Midterm and One Final)

Both count (I don't drop the lowest exam.)

Homework is worth 25% of the grade.

Offer: If and only if you get a D+ or below on the midterm, I will

let you re-take the midterm, but I will apply a 10% re-take penalty to your second score.

(Because it's the same exam.)

So you will get the higher of:

Your original score, or

Your re-take score times 0.90

Summary Statistics - Business Law I Winter 2014

Number of people eligible to retake the midterm:	12
Number of people who re-took the midterm:	8
Retake percentage:	67%
Number of people who did better on the re-take:	7
Percent who did better on the retake:	88%
Average Percent Improvement:	4%
Number of these 12 who passed the class:	3
Pass rate on these 12:	25%
Pass rate on the class as a whole:	60%
Number of extra hours of work this took me:	2

Business Law I - Spring 2014

Two closed-book, closed-note exams worth 75% of the grade.

(One Midterm and One Final)

Both count (I don't drop the lowest exam.)

Homework is worth 25% of the grade.

Offer: If and only if you get a D+ or below on the midterm, I will, at your request build a custom homework assignment consisting of 3-5 questions per question you missed on the exam. (Actual assignments varied from about 105 to about 207 questions.)

Step 1: Finish this homework assignment.

Step 2: I will grade it and give it back to you at our next class meeting.

Step 3: You must meet with me in my office to go over the questions you missed.

Once you complete step 3, I will let you re-take the midterm with no re-take penalty.

So you will get the higher of:

Your original score, or

Your re-take score

Summary Statistics - Business Law I Spring 2014

Number of people <i>potentially</i> eligible to retake the midterm:	22
Number of people who re-took the midterm:	14
Retake percentage:	64%
Number of people who did better on the re-take:	13
Percent who did better on the retake:	93%
Average Percent Improvement:	15%
Number of these 22 who passed the class:	6
Pass rate:	27%
Pass rate on the class as a whole:	51%
Number of extra hours of work this took me:	95

I Didn't Find This Out Until Much Later: Both Success and the Achievement Gap Worsened!

Byron Bus 18	Success		Non Success		Withdraw		Total	
Wtr 14	Number	%	Number	%	Number	%	Number	%
Targeted Groups	6	46%	5	38%	2	15%	13	100%
All Other Groups	18	67%	4	15%	5	19%	27	100%
Total	24	60%	9	23%	7	18%	40	100%
Achievement gap		21%						

Byron Bus 18	Success		Non Success		Withdraw		Total	
Spr 14	Number	%	Number	%	Number	%	Number	%
Targeted Groups	5	33%	7	47%	3	20%	15	100%
All Other Groups	23	58%	11	28%	6	15%	40	100%
Total	28	51%	18	33%	9	16%	55	100%
Achievement gap		24%						

March 2015: I Applied for an EAC mini-grant

If I could hire a student computer programmer to automate the production of the custom homework assignments I hand-built for my students in Spring 2014, I would be able to use the time saved to refine the content of the homework assignments, seeking the just right set of questions that will produce the maximum improvement on the student's second attempt at the midterm.

Fall 2015: Four Enhancements

1. I built an Access database and used it to carefully analyze all missed questions, and as a result removed about 10 "bad questions" from the midterm. I re-wrote or modified 10 more questions, and wrote 21 new questions for the midterm to round out the coverage of the most important concepts from the first half of the course.
2. I created a new study hints document called "Midterm Preparation Hints Supplement" to complement the Midterm Preparation Hints document which I have posted online every quarter for about the past 8 years.

Fall 2015: Four Enhancements

3. I built 12 flashcard "decks" in "Quizlet," a free online flashcard quizzing tool, covering everything that's on the midterm and encouraged my students to use these flashcards as part of their preparation for the midterm.
4. At my request, the Student Success Center (Sandra Blackborow) hired two student tutors for Business Law.

Fall 2015: I Didn't Find This Out Until Much Later, but Wow! These enhancements helped!

	Success		Non Success		Withdraw		Total	
	Number	%	Number	%	Number	%	Number	%
Fall 15 Byron's Bus 18 Only								
Targeted Groups	14	70%	3	15%	3	15%	20	100%
All Other Groups	22	69%	6	19%	4	13%	32	100%
Total	36	69%	9	17%	7	13%	52	100%
Success gap		-1%						

I could see the overall success rate was up. I just didn't have the split for targeted versus non-targeted groups.

I was very excited about this **9-18% improvement** in total success rate over Winter 2014 – Spring 2014!

Winter 2015: I Hired a Programmer

- I enhanced my Access database so that it knew which homework questions to assign for each missed question on the midterm, using the work I had done in Spring 2014.
- I hired a programmer using my own money to write the code needed to produce the custom homework assignments from this database.
- This cost me \$212.50.

What My "Custom Homework Builder" Does

1. Enables me to build a custom homework assignment for each student based on the questions that student missed on my Business Law I midterm.
2. Enables me to see how my students did on each question for all my in-class exams (midterms and final exams), and thereby to "cull" questions that even my best students do poorly on.

Custom Homework Assignments

- Average 150 questions in length.
- Produce an average 11-13 percentage point improvement on students' midterm scores!
- All questions are "short answer"
- Each wrong answer on the midterm puts one **or more** questions on the homework.

Custom Homework Assignments: Example

This midterm examination question:

True or False? A defendant's response to a complaint and summons, giving a brief reply to each of the allegations in the complaint, is called a counter-claim in most jurisdictions.

...if answered incorrectly, causes **all of these questions** to be added to the student's CHA:

1. What is your textbook's definition of pleadings in chapter 3?
2. What is your textbook's definition of complaint in chapter 3?
3. What is your textbook's definition of a summons, which is buried in the text on page 55?
4. What is your textbook's definition of reply in chapter 3?
5. What is the definition of counter-claim found in the glossary at the back of your textbook?

No Custom Homework

Custom Homework

Custom Homework

Of Those Who Re-took the Midterm (Bus Law I)

Outcome	Wtr 16	Spr 16	Fall 16
F to an A		2	
D to an A		1	1
C to an A		2	2
D to a B		2	
C to a B	3	4	3
F to a C		1	
D to a C	4	4	2
Stayed at a C	1	1	2
F to a D	1	1	2
Stayed at a D	3		1
Stayed at an F	4	4	1
Total	16	22	14

Improved By a Full Letter Grade and Got a Passing Grade on the Midterm

Winter 16	7/16 = 44%
Spring 16	16/22 = 73%
Fall 16	8/14 = 57%
Spr/Fall Avg	65%
Avg Improvem't	21 pct points

No custom homework		Success		Non Success		Withdraw		Total	
		Number	%	Number	%	Number	%	Number	%
Winter 16 Byron Bus 18									
Targeted Groups		11	52%	3	14%	7	33%	21	100%
All Other Groups		22	67%	5	15%	6	18%	33	100%
Total		33	61%	8	15%	13	24%	54	100%
Success gap			14%						
Custom homework, no tutors		Success		Non Success		Withdraw		Total	
		Number	%	Number	%	Number	%	Number	%
Spring 16 Byron Bus 18									
Targeted Groups		9	56%	4	25%	3	19%	16	100%
All Other Groups		19	70%	3	11%	5	19%	27	100%
Total		28	65%	7	16%	8	19%	43	100%
Success gap			14%						
Custom homework + Tutors		Success		Non Success		Withdraw		Total	
		Number	%	Number	%	Number	%	Number	%
Fall 16 Byron Bus 18									
Targeted Groups		9	69%	1	8%	3	23%	13	100%
All Other Groups		21	72%	3	10%	5	17%	29	100%
Total		30	71%	4	10%	8	19%	42	100%
Success gap			3%						

Consolidated Exam Statistics

- Because I produce four versions of my in-class exams, consolidated performance statistics are lost.
- The first purpose to which I put my Access database was to get consolidated performance statistics on my in-class exams.
- This helps me cull “bad questions” from the exams and spot where my teaching materials need to be enhanced.

My Favorite Report

Business 18 Midterm Spring 2015 All Questions										
Question Text	Percent Correct	How many of the top 2 got it right?	How many of the top 5 got it right?	How many of the top 10 got it right?	How many of the top 19 got it right?	How many of the bottom 19 got it right?	How many of the bottom 10 got it right?	How many of the bottom 5 got it right?	How many of the bottom 2 got it right?	Comment
Eduardo's Pizzas, Inc_ hired Bill to make home deliveries. Durin	72%	50%	80%	90%	89%	53%	60%	40%	50%	Clarify question
Under diversity of citizenship, a federal court may have jurisdic	56%	50%	80%	80%	74%	37%	50%	60%	50%	Clarify question
In Constitutional law, commercial speech is	44%	50%	60%	60%	63%	26%	10%	20%	0%	Delete question - best students do poorly
Brian and Lee are competing for a promotion at Trevit, Inc. Lee	95%	100%	100%	100%	100%	89%	90%	80%	50%	Clarify question
A statute is a law made by	77%	100%	100%	90%	79%	79%	60%	40%	50%	Clarify question
An Internet service provider may not be held liable for defamati	74%	100%	100%	90%	95%	53%	40%	40%	50%	Clarify question
In a civil case, the plaintiff must prove the case beyond a reas	72%	100%	100%	100%	89%	53%	40%	0%	0%	Clarify question
In most states, dram shop acts apply to:	72%	100%	100%	90%	79%	68%	60%	40%	0%	Clarify question
A diversity case is:	67%	100%	100%	90%	89%	42%	20%	20%	50%	Clarify question
Under the Federal Sentencing Guidelines, a compliance program:	64%	100%	60%	70%	68%	63%	80%	80%	100%	Clarify question
The parties to a criminal trial are the victim and the defendant	62%	100%	100%	100%	79%	42%	30%	20%	0%	Clarify question
The additional (fifth) element that only public officials and pu	62%	100%	80%	80%	84%	37%	30%	40%	0%	Clarify question
Every year the U. S. Supreme Court receives about 8,000 requests	100%	100%	100%	100%	100%	100%	100%	100%	100%	Delete question - not a differentiator
Roger was sentenced to two years in prison for drug dealing. Hi	95%	100%	100%	100%	100%	89%	80%	60%	100%	Delete question - not a differentiator
Smalltown, located in a border state, seemed to favor Caucasians	92%	100%	100%	100%	95%	89%	90%	100%	100%	Delete question - not a differentiator
Congress passed a law imposing penalties for displaying "indecen	79%	100%	80%	90%	79%	79%	80%	80%	100%	Delete question - not a differentiator