

CAP Spring 2021 Virtual Events

Grade for Equity in Community College Math Classes

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Foothill College
Friday March 26, 2021**

Traditional Grading Formulas

Grade Category	Weight
Online Homework	7.5%
Online Quizzes	10%
Concept Quizzes	10%
Skill Quizzes	10%
Exam 1	12.5%
Exam 2	12.5%
Exam 3	12.5%
Final Exam	25%

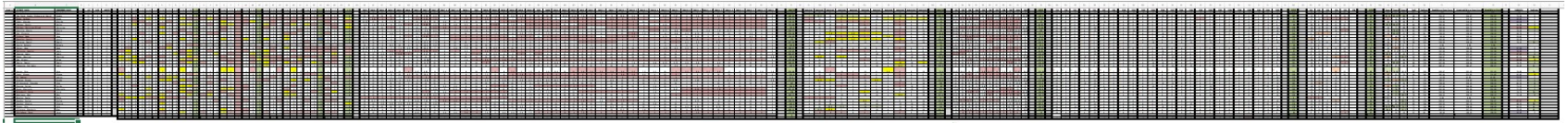
Final Percent Score Range	Course Grade
98 - 100	A+
93 - 97	A
90 - 92	A-
88 - 89	B+
83 - 87	B
80 - 82	B-
78 - 79	C+
70 - 77	C
60 - 69	D
0 - 59	F

My Results: Traditional Grading

CLASS RESULTS USING TRADITIONAL GRADING METHODS									
Quarter	Class	Seat Count at Census	A	B	C	D	F	W	Success Rate
Winter 2014	Math 105.02	33	1	3	9	11	6	3	39%
Spring 2014	Math 105.01	36	3	6	6	8	7	6	42%
Spring 2014	Math 105.05	38	8	6	12	2	7	3	68%
Fall 2014	Math 105.07	35	5	7	11	4	6	2	66%
Spring 2015	Math 105.01	32	3	5	4	3	16	1	38%
Spring 2015	Math 105.05	37	7	6	10	6	4	4	62%
Fall 2015	Math 105.04	38	6	8	12	1	6	5	68%
Winter 2016	Math 105.02	33	1	5	11	4	10	2	52%
Winter 2016	Math 105.03	36	4	7	16	3	5	1	75%
Spring 2016	Math 105.05	33	4	3	11	1	10	4	55%
Spring 2016	Math 105.06	26	3	4	10	1	7	0	65%
Fall 2016	Math 105.11	34	1	7	11	2	8	5	56%
Winter 2017	Math 105.01	33	4	8	8	3	8	2	61%
Winter 2017	Math 105.02	32	3	10	12	3	2	2	78%
Spring 2017	Math 105.04	33	5	5	14	1	5	3	73%
Fall 2017	Math 105.02	33	8	6	13	0	4	2	82%
Winter 2018	Math 105.01	36	6	9	10	4	2	5	69%
Winter 2019	Math 105.02	36	10	9	4	4	8	1	64%
TOTALS		614	82	114	184	61	121	51	62%

Traditional Grading Spreadsheet

Below is a screen shot of my excel spreadsheet for traditional grade calculations

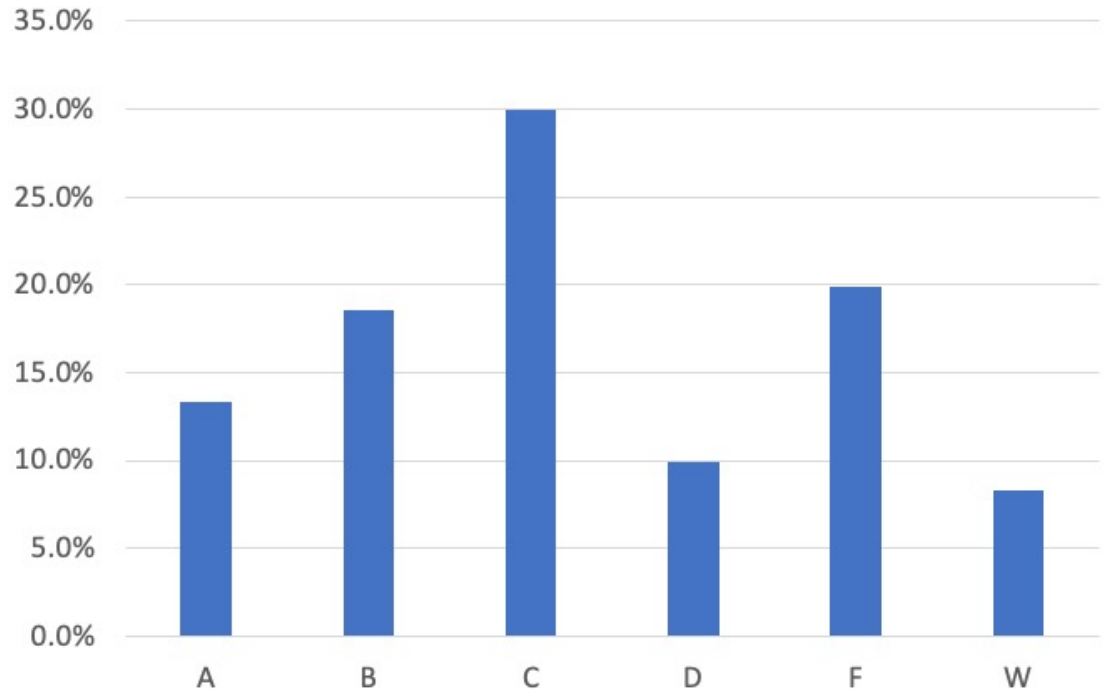


This includes columns A – FI, which implies I used 165 columns for grade calculations.

My Results: Traditional Grading

Traditional Distribution		
Grade	Number students	Percent of Total
A	82	13.4%
B	114	18.6%
C	184	30.0%
D	61	9.9%
F	122	19.9%
W	51	8.3%
TOTALS	614	100%

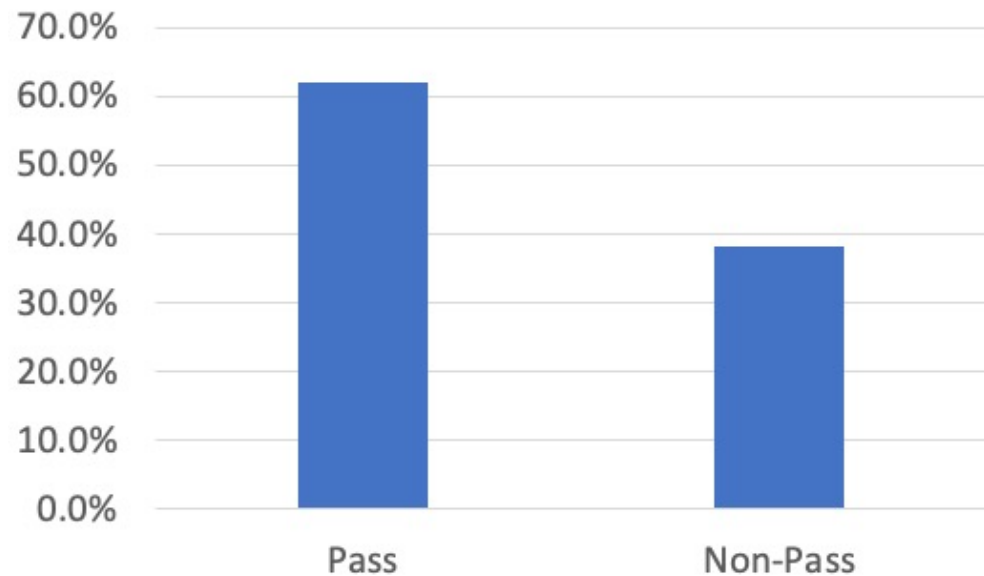
Traditional Distribution



My Results: Traditional Grading

Traditional Pass Rate		
Success Status	Number of Students	Percent of Total
Pass	380	61.9%
Non-Pass	234	38.1%
TOTALS	614	100.0%

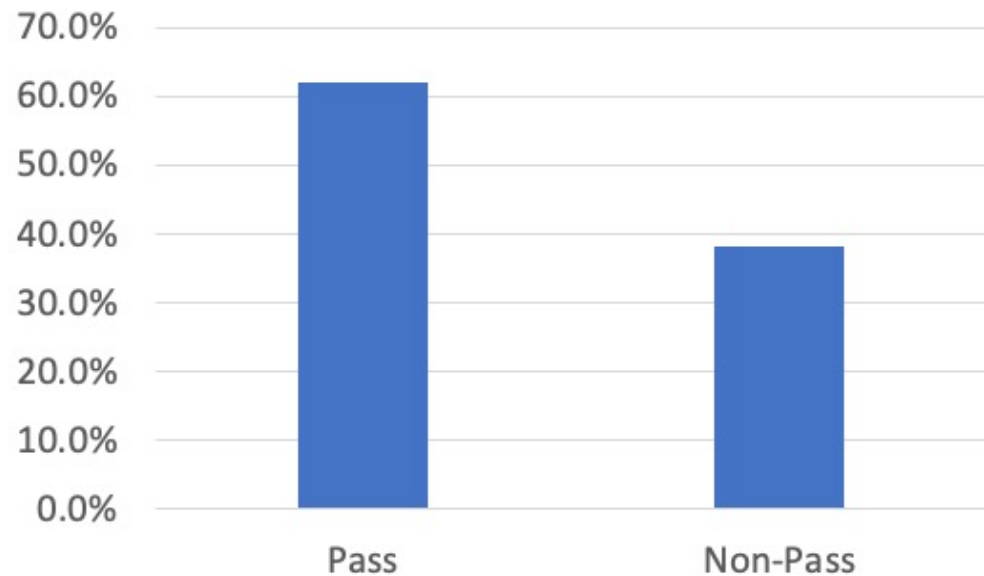
Traditional Success Rates



My Results: Traditional Grading

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TOTALS	614	100.0%

Traditional Success Rates



My Reflections: Traditional Grading

Looking at this data, I asked myself:

What would I say about an engineer who designs a car that kills 38.1% of it's users and then says that the reason the user died is because they need to drive more rigorously?

My Reflections: Traditional Grading

Perhaps I should spend more time focusing on safety features and sound design principles...

Equitable Grading

Now I use seven assessments:

In-Class Assessment	Content
Quiz 1	Lesson 1
Quiz 2	Lesson 2 , 3, 4, 5
Quiz 3	Lesson 5, 6, 7, 8
Exam 1	Lessons 1 - 8
Quiz 4	Lessons 9, 10, 11
Quiz 5	Lesson 12, 13, 15
Final Exam	Lesson 1 - 15

These look like traditional quizzes/exams and assess student mastery of algebraic concepts. I grade for accuracy.

Equitable Grading

Grade	Numeric Code	Interpretation
A	> 90%	Exceeded Outcome
B	80%	Met Outcome Completely
C	70%	Close to Outcome with small gaps
Y	<70%	Not Yet Meeting Outcome

No formulas: I use my judgement and any data I can collect to determine levels of mastery. This includes lots of dialog with learners.

Equitable Grading

During study time, students work in small groups. Not for quizzes/exams: those are all done individually.

Each quiz/exam score is based only on the individual student's performance.

For each problem I grade, I ask a simple question: does the student demonstrate mastery of this standard?

Equitable Grading

Students have multiple attempts for each quiz/exam.

To retake a quiz, students must complete a six-step corrections process.

Students who score below C-level must complete corrections and retake. For C-level and above, they can opt into retake process.

Equitable Grading

Example of student's correction process

(Share screen on Zoom)

My Results: Equitable Grading

Quarter	Class	Seat Count at Census	A	B	C	D	F	W	Success Rate
Spring 2018	Math 105.04	37	18	11	4	1	1	2	89%
Spring 2018	Math 105.05	39	13	13	9	0	2	2	90%
Fall 2019	Math 105.04	30	8	11	8	0	2	1	90%
Winter 2020	Math 105.03	29	10	12	4	0	3	0	90%
Winter 2020	Math 105.03	25	10	10	4	0	0	1	96%
TOTALS		160	59	57	29	1	8	6	91%

Equitable Grading Spreadsheet

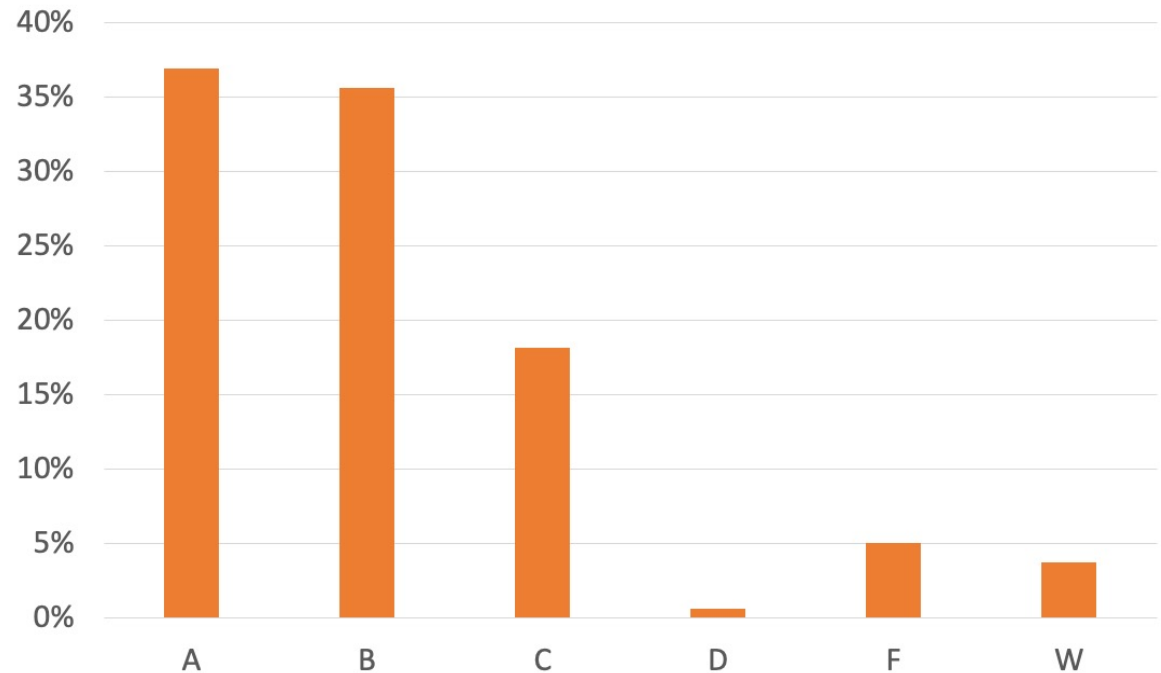
Student Number	SQ 1	SQ 2	SQ 3	SQ 4	Exam 1	Final Exam	Final Grade
	20	20	20	20	100	100	
16	18	17	18	18	94	91	A
22	14	14	14	14	67	65	C
25	19	20	20	15	95.3	97	A
28	16	20	20	18	89	91	A
31	17	17	17	7	80	77	C+
37	17	17	18	19	90	96	A
38	15	17	17	15	89	79	B
40	15	15	15	16	78	63	C
46	19	17	11	15	68	0	F
49	16.5	15	16	18	75	67	B-
50	17	19	17	16	91	93	A-
58	19	14	17	15	55	49	C
61	19	19	18	16	67	86	B
67	20	18	17	14	83	90	B+
70	20	17	17	8	76	69	C+
73	18	17	16.5	13	75	82	B
79	12	16	17	14	81	70	C
82	18	18	18	19	93	97	A
85	17	16	18	13	75	75	B-
86	19	17.5	16	14	71	84	B
88	18	19	18	20	93	93	A
91	17	15	19	15	69	91	B
94	0	0				W	W
97	17	15	15.5	14	82	78	B
100	20	18	18	16	86	75	B+
103	19.33	19	19	20	98	99	A+
106	20	14	14	16	79	74	B-
107	5.5	4.5	0	0	0	0	F
109	15	14	17	14	79	70	C+
112	11	17	17	16	74	71	C+

COLOR CODES	
	2nd Attempt
	Corrections
	Low score
	Absence + No retake
	Absence + Retake

My Results: Equitable Grading

Equitable Distribution

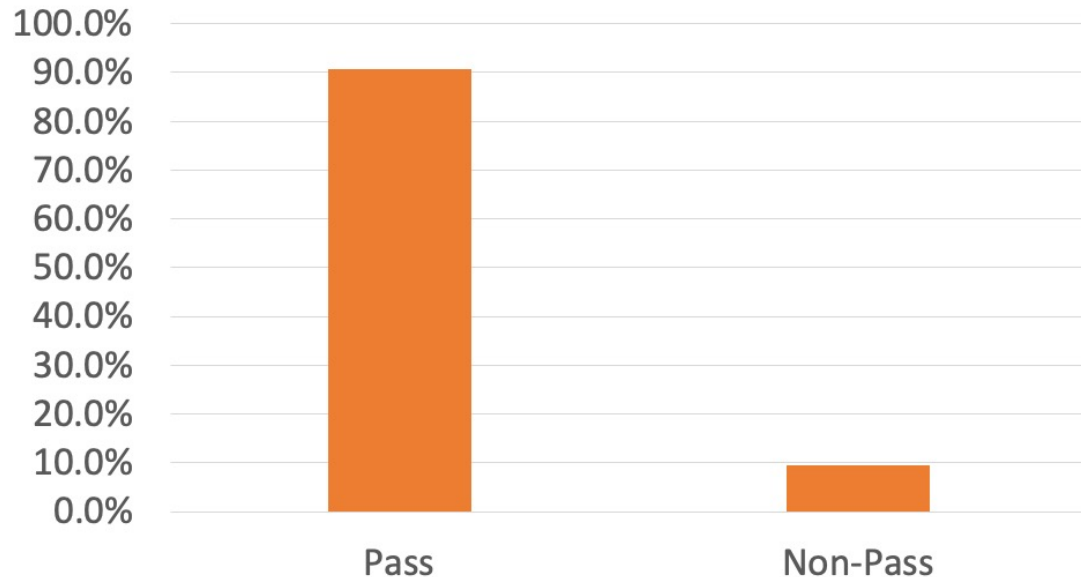
Equitable Distribution		
Grade	Number of Students	Percent of Total
A	59	37%
B	57	36%
C	29	18%
D	1	1%
F	8	5%
W	6	4%
TOTALS	160	100%



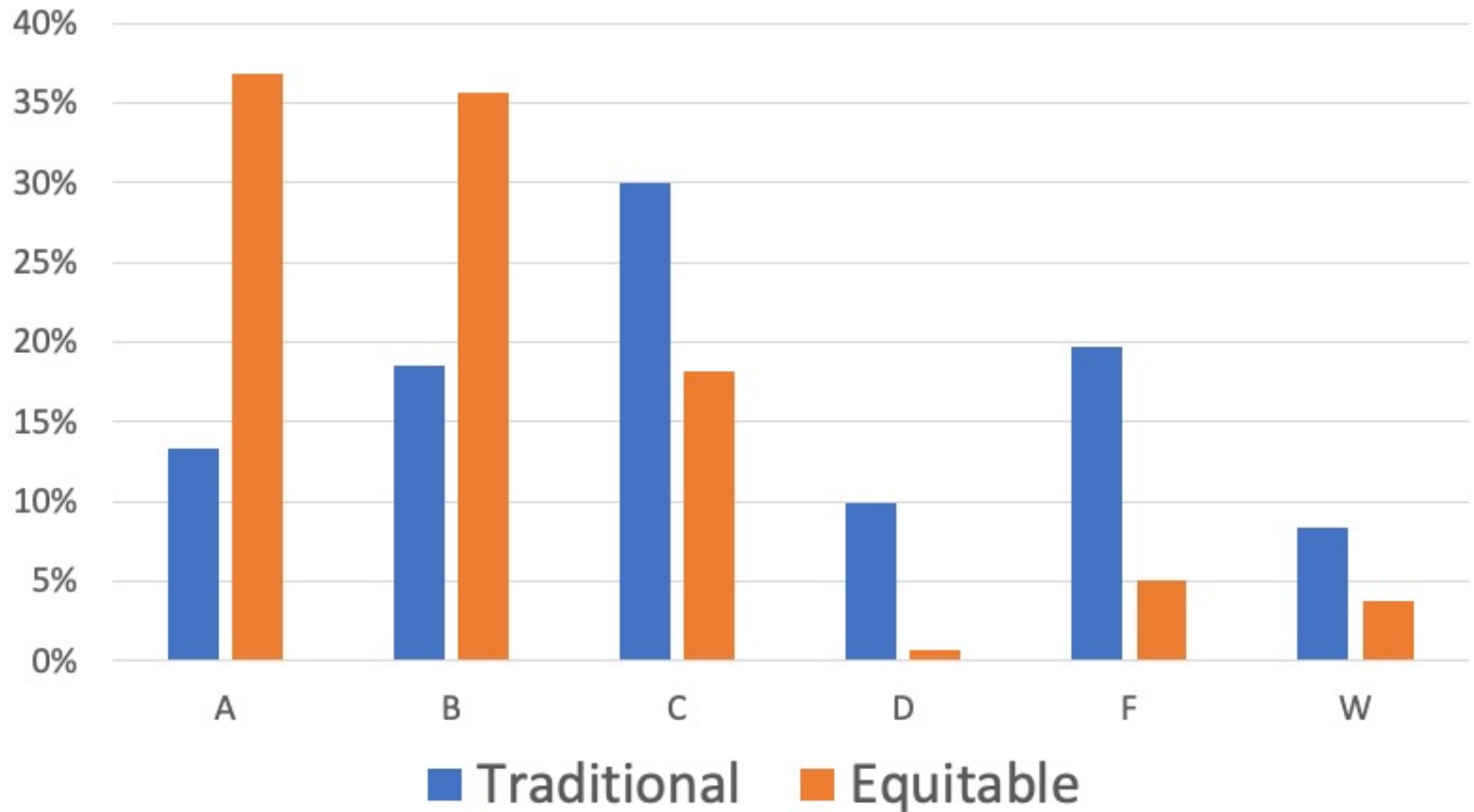
My Results: Equitable Grading

Equitable Success Rates

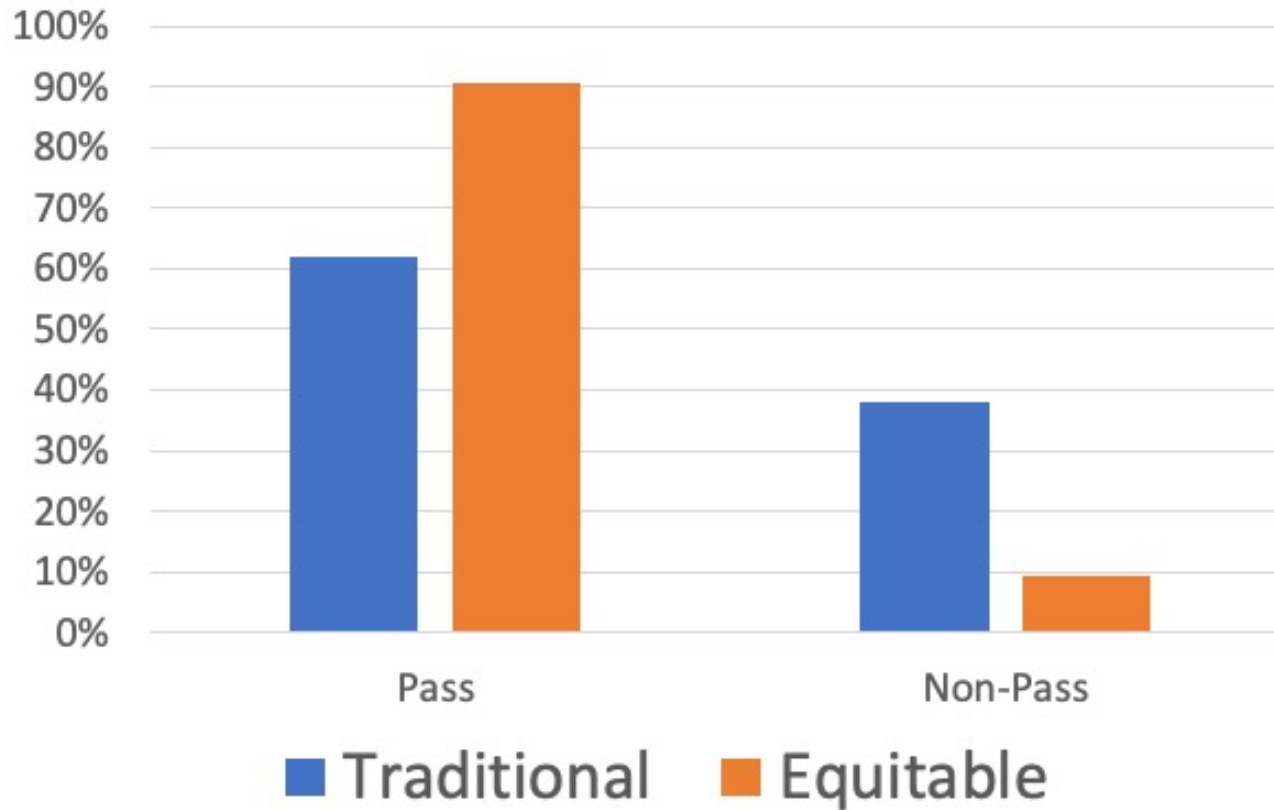
Equitable Pass Rate		
Success Status	Number of Students	Percent of Totals
Pass	145	90.6%
Non-Pass	15	9.4%
TOTALS	160	100.0%



Tradition versus Equity



Tradition versus Equity



How did I do this?

1. Constant professional development, lots of unpaid work, repeated failure, and iteration using plan-act-reflect cycles.
2. Good mentorship: Thank you Nicole Gray and Patrick Morriss

For more about equity in college math classes please visit my blog at:

<https://jeffandersonmath.wordpress.com/blog/>