

Demystifying the Final Calculated Grade

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Scenario 1.1: Points-Based Gradebook - Drop ungraded items

Scenario 1.2: Points-Based Gradebook - Treat ungraded items as zero

Scenario 1.3: Points-Based Gradebook - Bonus Item

Scenario 2.1: Weighted Gradebook - Category Distribution: weight by points

Scenario 2.2: Weighted Gradebook - Category Distribution: distribute weight evenly

Scenario 3.1: Weighted Gradebook - Bonus Item in Category: distribute weight evenly

Scenario 3.2: Weighted Gradebook - Bonus Item in Category: weight by points

Scenario 3.3: Weighted Gradebook - Bonus Item not in any Category

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Answers to "Try it" questions:

Scenario 2.1

$$\text{zzzdemo2: } (0.88 \times 40 + 0.90 \times 50 + 0.93 \times 10) / (40 + 50 + 10) = 89.5/100 = 89.5\% = 89.5\%$$

Scenario 2.2

$$\text{zzzdemo2: } (0.88 \times 40 + 0.90 \times 50 + 0.93 \times 10) / (40 + 50 + 10) = 89.5/100 = 89.5\% = 89.5\%$$

Scenario 3.1

Bonus Item increase:

$$\text{zzzdemo2: } 5/10 \times 10/100 \times 50/100 = 0.025 = 2.5\%$$

The Final Calculated Grade: (Starting values are from Scenario 2.2)

$$\text{zzzdemo2: } 89.5\% + 2.5\% = 92\%$$

Scenario 3.2

Bonus Item increase:

$$\text{zzzdemo2: } 5/10 \times 10/60 \text{ (no grade in Exam 2)} \times 50/100 = 0.04166... = 4.17\%$$

The Final Calculated Grade: (Starting values are from Scenario 2.1)

$$\text{zzzdemo2: } 89.5\% + 4.17\% = 93.67\%$$

Desire2Learn: The Final Calculated Grade

1. Points-Based Gradebook


The percentage calculation for a points-based gradebook is:



$$\frac{\text{Points Earned}}{\text{Points Possible}}$$

Points earned divided by points possible

Example: $40/50 = 0.80 = 80\%$

Scenario 1.1: The Final Calculated Grade is set to “drop ungraded items” (ignore items with no grades). The points possible for ungraded items are not included in the base, giving a current grade.

Settings: Points-based, drop the lowest quiz (indicated by ) , **drop ungraded items**


Name ▲, First Name	[-] Quizzes ▾			[-] Exams ▾		[-] Final ▾	Final Calc Grade
	Q1 ▾	Q2 ▾	Q3 ▾	E1 ▾	E2 ▾	Final ▾	
ZZstudent, ZZZdemo1	40 / 50	30 / 50 	- / 50	70 / 100	80 / 100	179 / 200	369 / 450, 82 %
ZZstudent, ZZZdemo2	50 / 50	45 / 50	43 / 50 	90 / 100	97 / 100	- / 200	282 / 300, 94 %



The Final Calculated Grade Percentage: (dropped grades indicated with a “d”)

zzzdemo1: $(40 + d + d + 70 + 80 + 179) / (50 + d + d + 100 + 100 + 200) = 369/450 = 0.82 = 82\%$

zzzdemo2: $(50 + 45 + d + 90 + 97 + d) / (50 + 50 + d + 100 + 100 + d) = 282/300 = 0.94 = 94\%$

Scenario 1.2: The Final Calculated Grade is set to “treat ungraded items as zero” (zeros are averaged in for all ungraded items). The points possible are included in the base, giving a growing percent.

Settings: Points-based, drop the lowest quiz (indicated by ) , **treat ungraded items as zero**

Name ▲, First Name	[-] Quizzes ▾			[-] Exams ▾		[-] Final ▾	Final Calc Grade
	Q1 ▾	Q2 ▾	Q3 ▾	E1 ▾	E2 ▾	Final ▾	
ZZstudent, ZZZdemo1	40 / 50	30 / 50	0* / 50 	70 / 100	80 / 100	179 / 200	399 / 500, 79.8 %
ZZstudent, ZZZdemo2	50 / 50	45 / 50	43 / 50 	90 / 100	97 / 100	0* / 200	282 / 500, 56.4 %

The Final Calculated Grade Percentage: (dropped grades indicated with a “d”)

zzzdemo1: $(40 + 30 + d + 70 + 80 + 179) / (50 + 50 + d + 100 + 100 + 200) = 399/500 = 0.798 = 79.8\%$

zzzdemo2: $(50 + 45 + d + 90 + 97 + 0) / (50 + 50 + d + 100 + 100 + 200) = 282/500 = 0.564 = 56.4\%$

Note: A current grade displays how well the student is doing for grades entered so far (drop or “ignore” ungraded items). A growing grade displays the achievement level attained, even if they do not complete any more assignments (treat ungraded items as zero). A student receiving 100% on all of their assignments will see a percentage that continues to grow as more items are graded. When they reach 80%, they know they have at least a 3.0, and so on.

Scenario 1.3: All Items, Categories, and the Final Calculated Grade are set to *"Can Exceed."* Assigning *extra credit* (points above the max) and *Bonus Items* can make the Final Grade go above 100%. If "Can Exceed" is not checked, then each respective component is limited to no more than 100%.

Settings: Points-based, drop the lowest quiz, drop ungraded items, all set to "Can Exceed"

Name ▲, First Name	Quizzes			Exams		Final	Extra Credit	Final Calc Grade
	Q1	Q2	Q3	E1	E2	Final	Ex (Bonus)	
ZZZstudent, ZZZdemo1	40 / 50	30 / 50	- / 50	70 / 100	80 / 100	179 / 200	9 / 0	378 / 450, 84 %
ZZZstudent, ZZZdemo2	50 / 50	45 / 50	43 / 50	90 / 100	97 / 100	- / 200	6 / 0	288 / 300, 96 %

The Final Calculated Grade Percentage:

zzzdemo1: $(40 + d + d + 70 + 80 + 179 + 9) / (50 + d + d + 100 + 100 + 200 + 0) = 378/450 = 0.84 = 84\%$

zzzdemo2: $(50 + 45 + d + 90 + 97 + d + 6) / (50 + 50 + d + 100 + 100 + d + 0) = 288/300 = 0.96 = 96\%$

Student Preview of Grades (zzzdemo1):

Final Calculated Grade

Points
378 / 450

Grade
84 %

Grade Items

Grade Item	Points	Grade
Quizzes		
Quiz 1	40 / 50	80 %
Quiz 2	30 / 50	60 %
Quiz 3	- / 50	-%
Exams		
Exam 1	70 / 100	70 %
Exam 2	80 / 100	80 %
Final		
Final	179 / 200	89.5 %
Extra Credit		
Extra Credit (Bonus)	9 / 0	90 %

Tip: Use Bulk Edit in Manage Grades to check Bonus and Can Exceed settings.

[Enter Grades](#) [Manage Grades](#)

New More Actions

Bulk Edit

#	Name*	Short Name	Type	Max Points*	Bonus	Can Exceed
1	Quizzes					<input checked="" type="checkbox"/>
2	Quiz 1	Q1	Numeric	50	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Quiz 2	Q2	Numeric	50	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Quiz 3	Q3	Numeric	50	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Exams					<input checked="" type="checkbox"/>
6	Exam 1	E1	Numeric	100	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	Exam 2	E2	Numeric	100	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Final					<input checked="" type="checkbox"/>
9	Final		Numeric	200	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	Extra Credit					<input checked="" type="checkbox"/>
11	Extra Credit	(Bonus)	Numeric	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
12	Final Calculated Grade					<input checked="" type="checkbox"/>
13	Final Adjusted Grade					<input checked="" type="checkbox"/>

2. Weighted Gradebook

The percentage calculation for a weighted gradebook is:

$$\frac{(\text{Category 1 Average})(\text{Category 1 Wt}) + (\text{Category 2 Average})(\text{Category 2 Wt}) + \dots}{\text{Sum of category weights with user grades}}$$

The sum of each category average times its weight, all divided by, the sum of category weights *with user grades*

Example 1: $[(\text{Quiz aver}) \times 40 + (\text{Exam aver}) \times 50 + (\text{Final aver}) \times 10] / 100$

$$\frac{(0.80) \times 40 + (0.90) \times 50 + (0.95) \times 10}{(40 + 50 + 10)} = \frac{86.5}{100} = 0.865 = 86.5\%$$

Example 2: $[(\text{Quiz aver}) \times 40 + (\text{Exam aver}) \times 50] / 90$ [no grades in 10% category]

$$\frac{(0.72) \times 40 + (0.81) \times 50}{(40 + 50)} = \frac{69.3}{90} = 0.77 = 77\%$$

Scenario 2.1: Categories are set to *distribute weight by points* across all items in the category. Desire2Learn will automatically calculate the weight of each item in the category relative to the points assigned. Items with more points will have a higher weight and affect the grade more than items with lower points. You are not able to drop the lowest score when the weights are distributed by points.

Category Distribution: Weight by points

Category Average = (Sum of points earned) / (Sum of points possible)

Total points earned divided by total points possible in the category

Weight:	Quizzes 40%			Exams 50%			Final 10%	Total 100%	
Name ▲, First Name	Quizzes (40)			Exams (50)			Final (10)		
	Q1	Q2	Subtotal	E1	E2	Subtotal	Final	Subtotal	Final Calc Grade
ZZZstudent, demo1	47 / 50, 94 %	45 / 50, 90 %	36.8 / 40, 92 %	144 / 150, 96 %	92 / 100, 92 %	47.2 / 50, 94.4 %	- / 200, - %	- / 10, - %	84 / 90, 93.33 %
ZZZstudent, demo2	45 / 50, 90 %	43 / 50, 86 %	35.2 / 40, 88 %	135 / 150, 90 %	- / 100, - %	45 / 50, 90 %	186 / 200, 93 %	9.3 / 10, 93 %	89.5 / 100, 89.5 %

Settings: Weighted, distribute weight by points, drop ungraded items

Category Averages:

zzzdemo1: Quizzes $(47+45)/(50+50)=92/100=92\%$, Exams $(144+92)/(150+100)=236/250=0.944=94.4\%$

zzzdemo2: Quizzes $(45+43)/(50+50)=88/100=88\%$, Exams $135/150=0.90=90\%$, Final $186/200=0.93=93\%$

The Final Calculated Grade Percentage:

zzzdemo1: $(0.92 \times 40 + 0.944 \times 50) / (40 + 50) = 84/90 = 0.9333... = 93.33...% = 93.33\%$

zzzdemo2:

Scenario 2.2: Categories are set to distribute weight evenly across all items in the category. Desire2Learn will automatically distribute the weight evenly among items regardless of the points.

Category Distribution: Distribute weight evenly

Category Average = (Sum of item percents) / (Number of items)

The average of the item percents within the category regardless of points

Weight:	Quizzes 40%			Exams 50%			Final 10%		Total 100%
Name ▲, First Name	[-] Quizzes (40) ▾			[-] Exams (50) ▾			[-] Final (10) ▾		F
	Q1 ▾	Q2 ▾	Subtotal	E1 ▾	E2 ▾	Subtotal	Final ▾	Subtotal	Final Calc Grade ▾
ZZZstudent, demo1	47 / 50, 94 %	45 / 50, 90 %	36.8 / 40, 92 %	144 / 150, 96 %	92 / 100, 92 %	47 / 50, 94 %	- / 200, -%	- / 10, -%	83.8 / 90, 93.11 %
ZZZstudent, demo2	45 / 50, 90 %	43 / 50, 86 %	35.2 / 40, 88 %	135 / 150, 90 %	- / 100, -%	45 / 50, 90 %	186 / 200, 93 %	9.3 / 10, 93 %	89.5 / 100, 89.5 %

Settings: Weighted, distribute weight evenly, drop ungraded items

Category Averages:

zzzdemo1: Quizzes (94% + 90%)/2 = 184%/2 = **92%**, Exams (96% + 92%)/2 = 188%/2 = **94%**

zzzdemo2: Quizzes (90% + 86%)/2 = 176%/2 = **88%**, Exams (90%)/1 = **90%**, Final 93%/1 = **93%**

The Final Calculated Grade Percentage:

zzzdemo1: $(0.92 \times 40 + 0.94 \times 50) / (40 + 50) = 83.8/90 = 0.93111... = 93.111...% = 93.11%$

zzzdemo2:

TRY it!

Student Preview of Grades (zzzdemo1):

Final Calculated Grade

Grade
93.11 %

Grade Items

Grade Item	Points	Weight Achieved	Grade
Quizzes (40)			
Quiz 1	47 / 50		94 %
Quiz 2	45 / 50		90 %
Exams (50)			
Exam 1	144 / 150		96 %
Exam 2	92 / 100		92 %
Final (10)			
Final	- / 200		-%

Note: You must distribute the weight evenly if you want to drop the lowest score(s) in a category.

Edit Category: Exams (50)

Properties Restrictions

General

Name: Exams (50)

Grading

Weight: 50

Allow category grade to exceed category weight

Distribution

- Manually assign weight to items in the category
- Distribute weights by points across all items in the category
- Distribute weight evenly across all items

0 Number of highest non-bonus items to drop for each user

0 Number of lowest non-bonus items to drop for each user

3. Bonus Items in a Weighted Gradebook

Scenario 3.1: Bonus Item in a category with the weights distributed evenly. All items, categories, and the final grade are set to "Can Exceed." Assigning extra credit and *Bonus Items* can make the Final Grade go above 100%. The overall weight of the Bonus Item is equal to the item weight times the category weight. However, the denominator of the calculation will change if there are *categories* with no grades.

Bonus Item in a weighted gradebook category: Distribute weight evenly

$$\text{Percent score} \times \left(\frac{\text{Item weight}}{100} \right) \times \left(\frac{\text{Category weight}}{\text{Sum of category weights with grades}} \right)$$

Percent score (score out of), times the Bonus Item weight divided by 100 (or percent), times the category weight divided by the sum of category weights with user grades

Example 1: $8/10 \times 10/100 \times 50/100 = 0.04 = 4\%$

Example 2: $10/10 \times 10/100 \times 50/90 = 0.05555... = 5.56\%$

Exams Category: Bonus Item 10% Exams Category 50% (overall max % increase: 10% x 50% = 5%)

Last Name ▲, First Name	Quizzes (40)			Exams (50)			Final (10)			Final Calc Grade
	Q1	Q2	Subtotal	E1	E2	E (Bonus)	Subtotal	Final	Subtotal	
ZZZstudent, ZZZdemo1	47 / 50	45 / 50	36.8 / 40, 92 %	144 / 150	92 / 100	8 / 10	51 / 50, 102 %	- / 200	- / 10, -%	87.8 / 90, 97.56 %
ZZZstudent, ZZZdemo2	45 / 50	43 / 50	35.2 / 40, 88 %	135 / 150	- / 100	5 / 10	47.5 / 50, 95 %	186 / 200	9.3 / 10, 93 %	92 / 100, 92 %

Settings: Weighted, *distribute weight evenly*, drop ungraded items, all set to "Can Exceed"

Bonus Item increase:

zzzdemo1: $8/10 \times 10/100 \times 50/90 = 0.04444... = 4.444...%$

zzzdemo2:

The Final Calculated Grade: (Starting values are from Scenario 2.2)

zzzdemo1: $93.111...% + 4.444...% = 97.555...% = 97.56%$

zzzdemo2: $89.5\% +$

Scenario 3.2: Bonus Item in a category with the weight distributed by points. The denominator of the calculation will change if there are ungraded *items* in the category and/or ungraded *categories*.

Bonus Item in a weighted gradebook category: Weight by points

$$(\text{Percent score}) \times \left(\frac{\text{Item weight}}{\text{Sum of item wts with grades}} \right) \times \left(\frac{\text{Category weight}}{\text{Sum of category wts with grades}} \right)$$

Percent score of the Bonus Item, times the Bonus Item weight divided by the sum of item weights with grades *in that category*, times the Category weight divided by the sum of category weights with grades

Example 1: $10/10 \times 10/60 \times 50/100 = 0.0833... = 8.33\%$ (ungraded items worth 40%)

Example 2: $10/10 \times 10/100 \times 50/90 = 0.0555... = 5.56\%$ (ungraded category worth 10%)

Exam 1 weight 60% Exam 2 weight 40% Bonus Item weight 10% in Exams Category 50%

Last Name ▲, First Name	Quizzes (40)			Exams (50)				Final (10)		Final Calc Grade
	Q1	Q2	Subtotal	E1	E2	E (Bonus)	Subtotal	Final	Subtotal	
ZZZstudent, ZZZdemo1	47 / 50	45 / 50	36.8 / 40, 92 %	144 / 150	92 / 100	8 / 10	51.2 / 50, 102.4 %	- / 200	- / 10, -%	88 / 90, 97.78
ZZZstudent, ZZZdemo2	45 / 50	43 / 50	35.2 / 40, 88 %	135 / 150	- / 100	5 / 10	49.17 / 50, 98.33 %	186 / 200	9.3 / 10, 93 %	93.67 / 100, 93.67

Settings: Weighted, **distribute weight by points**, drop ungraded items, all set to “Can Exceed”

Exam Weight Distribution: (item max)/(category total) Manage Grades displays weight distributions

Exam 1: 150/250 = 0.60 = **60%**, Exam 2: 100/250 = 0.40 = **40%**, Bonus Item manually set to **10%**

Bonus Item increase:

zzzdemo1: $8/10 \times 10/(60 + 40) \times 50/90 = 0.04444... = \mathbf{4.444\%}$

zzzdemo2:

The Final Calculated Grade: (Starting values are from Scenario 2.1)

zzzdemo1: 93.333...% + **4.444...%** = 97.777...% = 97.78%

zzzdemo2: 89.5% +

TRY IT!

TRY IT!

Scenario 3.3: A Bonus Item not in any category. If you use a Bonus item with no category, limit its weight to no more than the percent increase you wish to add to the final course percentage. For example, if you do not want to add more than 5% to any given final grade, limit the Bonus Item’s weight to 5. The points can be any amount as it is the weight that makes the difference in the overall percent.

Bonus Item 5%– Category “None”

Points Weight

<input type="checkbox"/> Final (10)					10
<input type="checkbox"/> Final	Numeric	-	200		100
<input type="checkbox"/> Extra Credit Overall	Numeric	-	20		5

Bonus Item in a weighted gradebook: no category

$$(\text{Percent score}) \times \left(\frac{\text{Bonus Item weight}}{\text{Sum of category weights with grades}} \right)$$

Example: $18/20 \times 5/100 = 0.045 = 4.5\%$

Name ▲, First Name	Quizzes (40)			Exams (50)			Final (10)		EC (Bonus)	Final Calc Grade
	Q1	Q2	Subtotal	E1	E2	Subtotal	Final	Subtotal		
ZZZstudent, demo1	47 / 50	45 / 50	36.8 / 40, 92 %	144 / 150	92 / 100	47.2 / 50, 94.4 %	- / 200	- / 10, -%	18 / 20	88.5 / 90, 98.33 %
ZZZstudent, demo2	45 / 50	43 / 50	35.2 / 40, 88 %	135 / 150	- / 100	45 / 50, 90 %	186 / 200	9.3 / 10, 93 %	15 / 20	93.25 / 100, 93.25 %

Settings: Weighted, **distribute weight by points**, drop ungraded items, all set to “Can Exceed”

Bonus Item increase

zzzdemo1: $18/20 \times 5/90 = (0.90 \times 0.0555...) = 0.05 = \mathbf{5\%}$

zzzdemo2: $15/20 \times 5/100 = (0.75 \times 0.05) = 0.0375 = \mathbf{3.75\%}$

The Final Calculated Grade (Starting values are from Scenario 2.1)

zzzdemo1: 93.333...% + **5%** = 98.33...%

zzzdemo2: 89.5% + **3.75%** = 93.25%