Standards Grade Calculation in the Gradebook

Using PowerTeacher Gradebook, teachers have two options for entry of final standards grades. One option is to manually enter final standards grades while another is to link standards to assignments, from which a final standards grade can be calculated. The other is to allow the Gradebook to auto-calculate a final standards grade from assignment scores.

The simplest of these options is to manually enter a final term grade for an individual standard from the Final Grades score sheet view in the Gradebook. By this method, the teacher simply chooses a student, selects the standard to be graded, and then enters a grade in the appropriate score sheet cell. When the grade is saved, it is immediately stored in the StandardsGrades table in PowerSchool and is available for display on standards-based report cards.

A somewhat more complex option is to utilize the ability of the Gradebook to link specific standards to assignments that the teacher has entered. Individual standards can be linked to assignments in the Gradebook by teachers. When they do so, each time they enter a traditional assignment score, PowerSchool will generate a second standards assignment score for that assignment. A standard may be linked to multiple assignments throughout the grading term, meaning there will be multiple standards assignment scores related to a particular standard. These standards assignment scores can then be used to calculate the final standards term grade for an individual standard.

That being said, it is important to understand that how the standards final grade is calculated will depend upon the calculation method that is set on the Standards tab in the Preferences setting window in the Gradebook. Teachers have several options: *Mean; Weighted Mean; Median; Mode; Most Recent Score(s);* or *Highest*. Optionally, they can also choose to use none of these while still having standards based grading with assignments enabled in the Gradebook. Some of these calculation methods rely on using grade values used in the Conversion Scales associated to the standards. For that reason it is important to understand the implications of the **Percent Cutoff** values and the **Grade** values that are set in each conversion scale.

Conversion Scales

Conversion Scale is the term for a grading scale used for standards grading in PowerSchool. They are set up at District Office level and often a district will have several different conversion scales for grading different standards. Each individual standard is usually associated to a Conversion Scale which defines the type of grade that may be used for the standard.

If teachers will be linking Gradebook assignments to standard and plan to have the standards final grade automatically calculated, then it is important to understand the values used for each grade in the Conversion Scales and how they are used in standards grades calculations.

Pictured below is a sample conversion scale. For each Grade/Label that is in the scale, a **Cut-off Percent** and a **Grade Value** must be entered. The Cut-off Percent for a grade is the calculated percentage the student must meet or exceed to receive that grade. The Grade Value is the percentage that will be used for that grade when it is used for standards assignment scores. The district will need to decide what

these values should be as they are critical in the calculation of standards assignment scores and standards final grades.

Name: Achievement Scale

Type: Alpha Scale

New

Grade/Label	Description	Cut-off	Grade Value
4	Exceeding NY State and District Standards	90	100
3.5	Score 3.0 performance and partial success at 4.0	80	89
3	Meeting NY State and District Standards	70	79
2.5	Score 2.0 and partial success at 3.0	60	69
2	Working towards NY State and District Standards	50	59
1.5	Score 1.0 and partial success at 2.0	40	49
1	Not meeting NY State and District Standards	0	39

Cut-Off is the final calculated percentage that the student must meet or exceed to receive that Grade/Label as a final grade.

Grade Value is the percentage used for calculations when this Grade is entered as an assignment score.

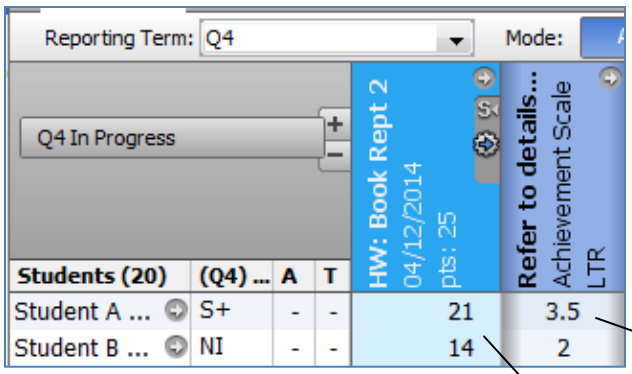
Ensure that each grade/label has both percentages listed.

Example Calculations

The example calculations below will use the values in the above conversion scale.

Standards Assignment Score Calculation:

Scenario: A teacher creates a homework assignment worth 25 points and associates it to the standard "*Refer to details and examples in a text when explaining the text.*" Student A earns a grade of 21 out of 25, while Student B earns a grade of 14 out of 25. The assignment percent grade for Student A is 84% while Student B's is 56%. PowerSchool determines the standards assignment score for each student by comparing the assignment percent grade to the percent cut-off in the conversion scale. Therefore Student A's 84% translates to a standards assignment score of '3.5' while Student B's 56% translates to a '2.'



Standards Assignment Score for the associated standard

Regular Assignment Score

Standards Final Grade Calculation:

The standards final grade may be calculated from the standards assignment scores earned throughout the grading term using one of several methods available. The calculation methods are: *Mean; Weighted Mean; Median; Mode; Most Recent Score(s);* or *Highest*. In this example we will use Mean, which is a simple average of the grade values for each standards assignment score.

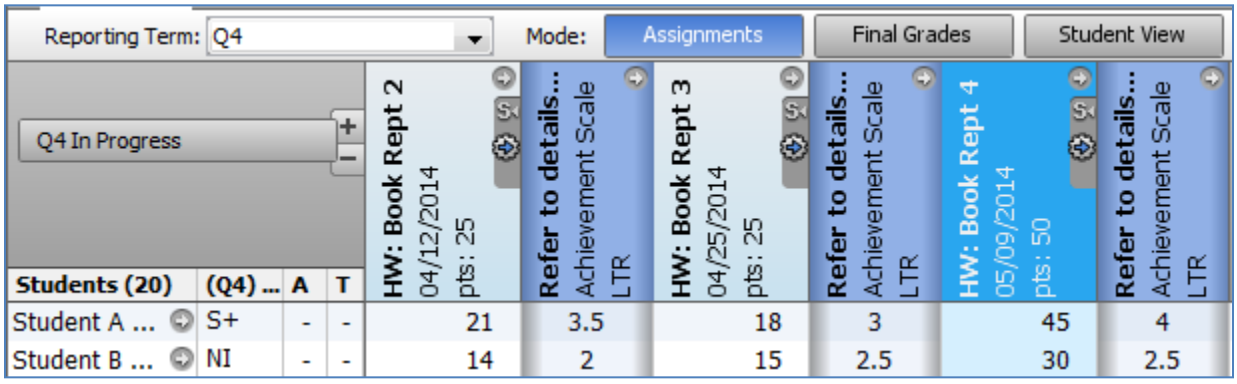
Scenario: A teacher creates three assignments that are each associated to the same standard ("*Refer to details and examples in a text when explaining the text*"). Each time an assignment is graded, a separate standards assignment score is generated. The first two assignments are worth 25 points each and the third assignment is worth 50 points. Assignment scores for Student A and Student B are shown below along with the corresponding Standards Assignment Scores and the Grade Value from the conversion scale.

Student A:

Regular Assignment Scores	21/25 (84%)	18/25 (72%)	45/50 (90%)
Standards Assignment Scores	3.5	3	4
Grade Value	89	79	100

Student B:

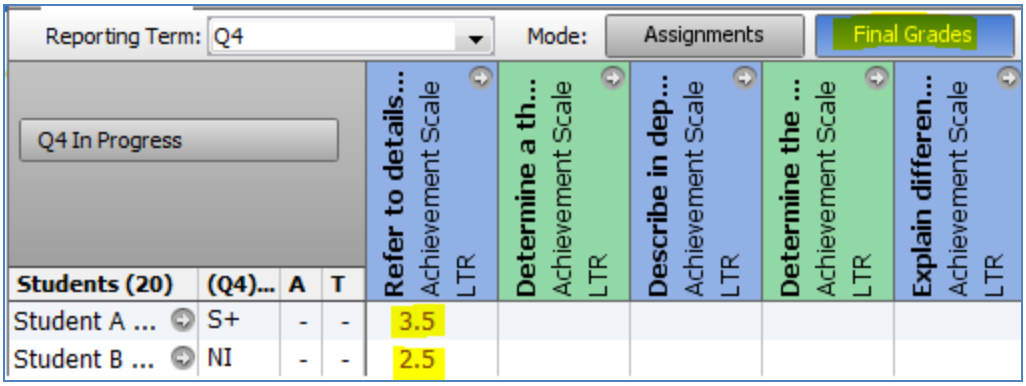
Regular Assignment Scores	14/25 (56%)	15/25 (60%)	30/50 (60%)
Standards Assignment Scores	2	2.5	2.5
Grade Value	59	69	69



When multiple Standards Assignment Scores are to be used to calculate a Standards Final Grade, PowerSchool refers to the conversion scale to pull the Grade Value for each score that is then used to arrive at a final percent grade. This final percent grade is then compared once more to the conversion scale to determine the Standards Final Grade.

In the case of Student A, his three homework Standards Assignment Scores (3.5, 3, and 4) were assigned grade values of 89, 79, and 100 respectively from the conversion scale. If the teacher is using 'Mean' as the calculation method, PowerSchool performs a simple average of the three Grade Values (89 + 79 +100 = 268, 268/3 = 89.3%). The final average of the Standards Assignment Score Grade Values (89.3%)

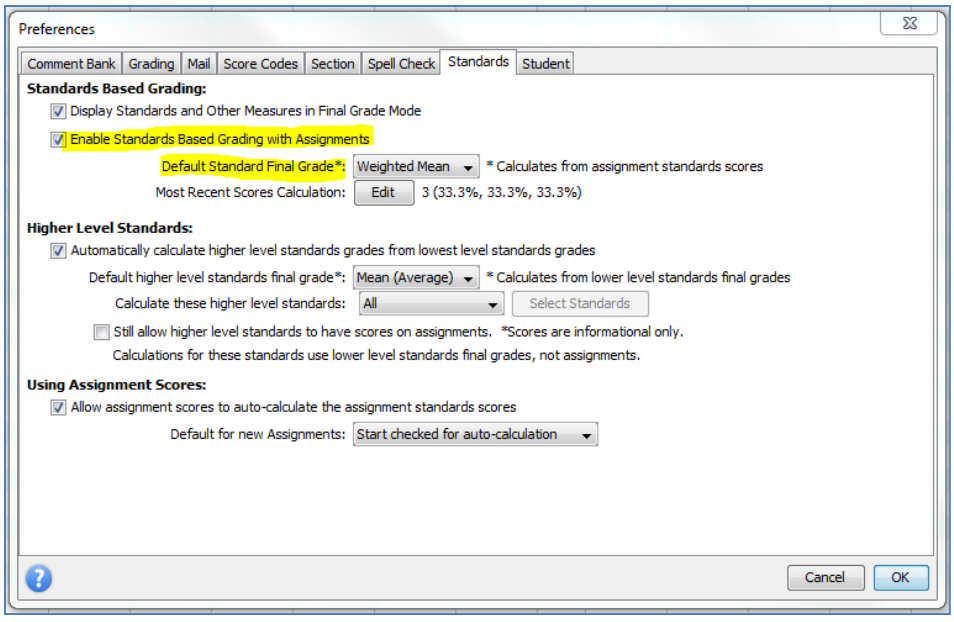
is then compared to the conversion scale where it falls in the percent range to earn a Standards Final Grade of '3.5.' The average of Student B's Grade Values is 65.6% which translates to a Standard Final Grade of 2.5 on the conversion scale (59 + 69 +69 = 197, 197/3 = 65.6%).



The above calculations used 'Mean' as the calculation method, which uses a simple average of the Grade Values for each conversion scale item. If the teacher had selected 'Weighted Mean' instead, PowerSchool would then take into account the differing point values for each of the homework assignments (25 points vs. 50 points) to weight the Grade Values from the conversion scale appropriately to arrive at the Standards Final Grade.

Standards Final Grade Calculation Options

Teachers may select a calculation method for the Gradebook to use in calculating Standards Final Grades. This is done by navigating to ***Tools > Preferences > Standards*** in the Gradebook and selecting the desired method. Alternately, if the district wishes to enforce use of a single method by teachers, this can be done through PT Administrator.



The following table summarizes when to consider using any of the different calculation methods:

Calculation Method	When to Use It	When Not to Use It
Mean	When you have equally important scores at each period of time, and the learning is not cumulative. For example, in History, final unit test scores on unit 1, unit 2, and unit 3 may all be independent. In that case, using the mean (or average) could be a good choice.	When students are introduced to a new concept and the learning is cumulative over time. For example, students start out not understanding a concept, but over the term they get it. Averaging their initial scores (where they were unfamiliar with the work) with their final attempts (when they understood the concepts) may not be the best measure. For example, consider the following scores: 20%, 30%, 40%, 95%, 100%. In this case, the student likely did not understand the concept at the beginning, but by the end they got it. The average here is 57%, which may not be the most reflective of their proficiency at the end of the term.
Weighted Mean	The weighted mean is better than the mean when assignments with high weighted points possible should be counted more heavily.	When all standards scores are valid indicators of performance, the teacher may not care about the specific points possible. This is especially true if there are high point value assignments from early in the semester, and the students have grown tremendously since that time.
Median	When you have multiple data points, and students have been given lots of chances to demonstrate mastery. It allows the student to overcome their initial attempts when they don't understand at the beginning, because only the middle score is used. Some people consider this one of the most consistent measures of performance. This measure throws out high and low outlying scores. For this reason, housing price data is usually listed in terms of the median sales price. There are extremes at either end that can skew average.	When there are only a few data points. In that case, the middle number can simply be luck. Or, when the learning is cumulative, where the students know much more at the end of the term, and their proficiency is significantly better across the board than at the start. For example, consider the following scores: 20%, 30%, 40%, 95%, 100%. In this case, the student likely did not understand the concept at the beginning, but by the end they got it. The median (or middle number) here is 40%, and may not be the most reflective of their proficiency at the end of the term.
Mode	When you have a small range of possibilities. For example, when using letter grades A,B,C,D,F, or a 1-4 scale, there are only a limited range of score options. If a student's scores are A, D, A, B, A, the most frequently occurring value is A.	When there are multiple possible scores, and it is unlikely for the exact score to be consistent. For example, this is not a good measure for percentage scores. Example percentage scores: 90, 91, 25, 100, 99, 81.5, 98, 97, 25, 96, 94. In this data, the mode is 25%. The average is 81.5%. The median is 94%.

Calculation Method	When to Use It	When Not to Use It
Highest	When the student's highest level of demonstrated proficiency is a good indicator of what they know and can do. When assessments are in-depth and highly reliable. In these cases, many districts believe that the student's highest score is a good indicator.	When the highest score could be based on chance or lucky guessing. For example, on multiple choice tests, the student could have guessed right on several questions by chance, boosting their highest score. For example, one student's results for one standard assessed on 5 multiple choice tests were as follows: 70, 95, 70, 70, 70. Although the student did get a 95 once, this score may not be the best reflection of the student's actual level of proficiency on this standard.
Most Recent	When the learning is cumulative, and the students will demonstrate a much higher level of proficiency at the end of the term than at the beginning. In these cases, it makes sense to focus on the most recent scores as a reflection of the student's proficiency.	When some of most recent scores themselves are anomalies. For example, if a student recently was very ill, or experienced some other phenomenon, then the most recent scores may not be reflective of their actual proficiency. This is usually assessed student by student to determine if the most recent scores are accurate. It can also happen when the most recent assessment is not as detailed or reliable as earlier assessments, or there were other distracting factors. For example, students have lots of good quizzes and a unit test with reliable data. That was followed by in-class review worksheets. Half of the students were distracted completing them because there was construction going on outside. In this case, the most recent data may not be the most reflective.