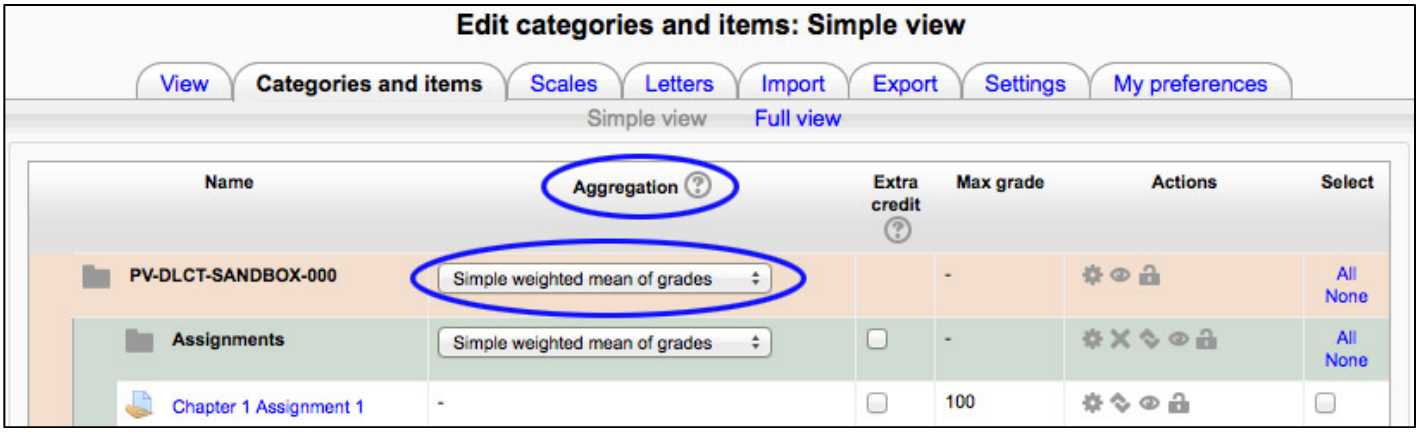
Gradebook Aggregation

Grade (Category) Aggregation

The Aggregation type drop-down menu can be found in the Aggregation column in the Gradebook (see figure below).



The Aggregation menu provides a choice of aggregation strategies that will be used to calculate participants' overall grade for the category (or the entire course Gradebook). The different options are explained in the **Aggregation Types** subsection.

The grades are first converted to percentage values (interval from 0 to 1, this is called normalization), then aggregated using the Aggregation type of your choice and finally converted to the associated category item's range (between *Minimum grade* and *Maximum grade*).

Please Note: An empty grade is simply a missing Gradebook entry, and could mean different things. For example, it could be a participant who hasn't yet submitted an assignment, an assignment submission not yet graded by the teacher, or a grade that has been manually deleted by the Gradebook administrator. Caution in interpreting these "empty grades" is advised.

Aggregation Types

Mean of grades

The sum of all grades divided by the total number of grades. A1 70/100, A2 20/80, A3 10/10, category max 100:
(0.7 + 0.25 + 1.0)/3 = 0.65 --> 65/100

Weighted mean

Each grade item can be given a weight, which is then used in the arithmetic mean aggregation to influence the importance of each item in the overall mean.

A1 70/100 weight 10, A2 20/80 weight 5, A3 10/10 weight 3, category max 100: (0.7*10 + 0.25*5 + 1.0*3)/18 = 0.625 --> 62.5/100

Aggregation Types (continued)

Simple weighted mean

The difference from *Weighted mean* is that weight is calculated as

Maximum grade - Minimum grade for each item. 100 point assignment has weight 100, 10 point assignment has weight 10.

A1 70/100, A2 20/80, A3 10/10, category max 100: (0.7*100 + 0.25*80 + 1.0*10)/190 = 0.526 --> 52.6/100

Mean of grades (with extra credits)

Arithmetic mean with a twist. An old, now unsupported aggregation strategy provided here only for backward compatibility with old activities.

Median of grades

The middle grade (or the mean of the two middle grades) when grades are arranged in order of size. The advantage over the mean is that it is not affected by outliers (grades which are uncommonly far from the mean).

A1 70/100, A2 20/80, A3 10/10, category max 100: median (0.7 ; 0.25 ; 1.0) = 0.7 --> 70/100

Smallest grade

The result is the smallest grade after normalisation. It is usually used in combination with *Aggregate only non-empty grades*.

A1 70/100, A2 20/80, A3 10/10, category max 100: min (0.7 ; 0.25 ; 1.0) = 0.25 --> 25/100

Highest grade

The result is the highest grade after normalization. A1 70/100, A2 20/80, A3 10/10, category max 100: max (0.7 ; 0.25 ; 1.0) = 1.0 --> 100/100

Mode of grades

The mode is the grade that occurs the most frequently. It is more often used for non- numerical grades. The advantage over the mean is that it is not affected by outliers (grades which are uncommonly far from the mean). However it loses its meaning once there is more than one most frequently occurring grade (only one is kept), or when all the grades are different from each other.

A1 70/100, A2 35/50, A3 20/80, A4 10/10, A5 7/10 category max 100: mode (0.7 ; 0.7 ; 0.25 ; 1.0 ; 0.7) = 0.7 --> 70/100

Sum of grades

The sum of all grade values. Scale grades are ignored. This is the only type that does not convert the grades to percentages internally (normalization). The *Maximum grade* of associated category item is calculated automatically as a sum of maximums from all aggregated items.

A1 70/100, A2 20/80, A3 10/10: 70 + 20 + 10 = 100/190