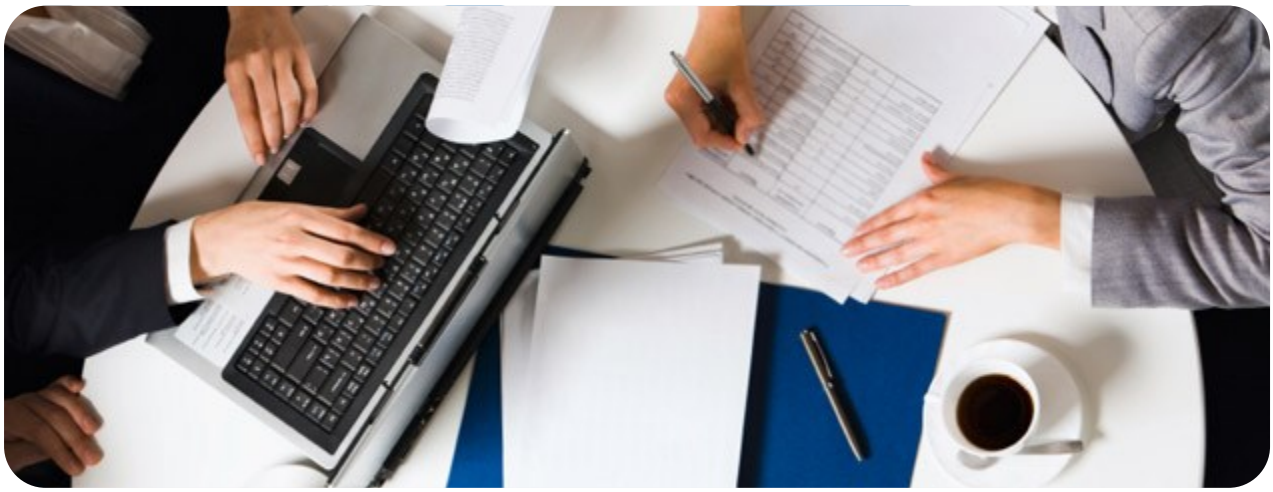
3sys ACADEMIC

Markbook Group Calculations User Guide



WCBS

Document Reference: 3002/1
Developed against 3Sys Academic version 4.3.2.0
Copyright © 2015 West Country Business Systems (Holdings) Ltd.
All rights reserved.
Published by WCBS May 2015.

Helpline: + 44 (0)1458 833055
Telephone: + 44 (0)1458 833344
Fax: + 44 (0)1458 835297
Email: support@wcbs.co.uk
Website: www.wcbs.co.uk

WCBS
Somerset House
Magdalene Street
Glastonbury
Somerset
BA6 9EJ, UK

Contents

Introduction **6**
About this Guide 7
Analysing Group Calculation Data **8**
About Analysing Group Calculation Data 8
About the Group Calculation Process 10
About Group Calculations and Linked Academic Profiles 11
About Viewing Group Calculation Academic Profiles 11
About Analysing Group Calculation Academic Profile Data 12
About Analysing Group Calculations using Report Builder 14
Analysing Group Calculation Data using Mark Inquiry 14
Setting Up Group Calculations **19**
About the Group Calculation Process 20
About the Group Calculation Structure 21
About the Structure of a Multiple Task Type Group Calculation – Diagram A 22
About the Structure of a Multiple Task Type Group Calculation – Diagram B 23
About the Structure of a Multiple Task Type Group Calculation – Diagram C 24
About the Structure of a Multiple Task Type Group Calculation – Diagram D 25
About Weightings and Group Calculations 26
About Tier One Weightings 27
About Tier Two Weightings 28
About Normalisation and Group Calculations 29
About the Types of Calculations 29
About the Calculation Type for Tier One Calculations 30
About the Overall Calculation Type for Tier Two Calculations 31
About Example A – Normalise against Tier One, Weighting against Tier Two 32
About Example B – Weighting against Tier One, Normalise against Tier Two 33
About Automatically Including New Tasks 34
About Setting Up Group Calculations with NO Existing Tasks - Diagram E 36
About Manually Including Existing Tasks 37
About Credit Scores and Group Calculations 37
About Setting the Credit Score using 3Sys Academic 39

About Setting the Credit Score using PASS 39
About Grade Tables and Group Calculations 40
About Grade Tables 40
About Grade Tables and Group Calculations 40
About Example Scenarios 42
About a Multiple Task Type Group Calculation – Scenario One 43
About a Single Task Type Group Calculation – Scenario Two 44
About Multiple Task Type Group Calculations with Credit Scores – Scenario Three 45
About the 'Maths' Multiple Task Type Group Calculation (Scenario Three) 46
About the 'English' Multiple Task Type Group Calculation (Scenario Three) 48
About the 'Science' Multiple Task Type Group Calculation (Scenario Three) 50
About Creating Group Calculations 52
About the Group Calculation Task Search screen 52
About the Add Group Calculation Task wizard 54
About Step 1 – Group Calculation wizard 54
About Step 2 – Group Calculation wizard 55
About Step 3 – Group Calculation wizard 55
About Step 3 – Group Calculation wizard: Task Type Calculations panel 56
About Step 3 – Group Calculation wizard: Overall Calculation for Group required panel? 58
About Step 4 – Group Calculation wizard 59
Creating Group Calculations 61
Maintaining Group Calculations 71
Configuring the Group Calculation Batch Run 73
About Configuring the Group Calculation Batch Run 73
About the Markbook Group Calculation Batch Run screen 73
About the Markbook Group Calculation Batch Log 74
Configuring the Group Calculation Batch Run 75
Manually Running the Group Calculation Batch Run 76
Configuring Setup Settings for Group Calculations 78
About Configuring the 'Subject Set' Page Layout and Field Access for Group Calculations 78
About Configuring 'Subject Set' Page Designer for Group Calculations 78
About Configuring 'Subject Set' Field Access for Group Calculations 79
Configuring the 'Subject Set' Page Layout and Field Access for Group Calculations 79
About Configuring Permissions for Group Calculations 83
About Configuring Markbooks Administration Permissions 83

About Configuring Subject Set Permissions 84
Editing Profiles 84
Frequently Asked Questions 87
Appendix A – Markbook Algorithms 88
About the 'Total' Algorithm 88
About the 'Weighted Total' Algorithm 89
About the 'Mean Total' Algorithm 89
About the 'Normalised Total' Algorithm 89
About the 'Normalised Weighted' Algorithm 90
Contacting Us 91

Introduction

Markbook Group Calculations enables you to:

- Configure pre-set calculations within **3Sys Markbooks** at the beginning of an Assessment Period, rather than having to wait until all Tasks have been completed.
- Analyse real-time, period to date, academic data.
- Set up Group Calculations that include ALL Tasks associated with a chosen Task Type (and other filtering criteria), and which provide the total/average mark for that Task Type. For example, you could set up a Group Calculation that includes all English Homework for Semester 1.
- Set up Group Calculations that include multiple Task Types with Overall Total marks, with weightings and normalisation applied where required. For example, you could set up a Group Calculation for a specific Subject where the Overall Total marks are comprised of the following: Homework - 15%; Projects - 25%; and the Exam - 60%.
- Specify whether the 'qualifying' Tasks are automatically added to the appropriate Group Calculations, or are manually added.
- Specify whether Overall Total marks are converted to a Grade and whether they have a Credit Score applied to them, from which a Grade Point Average (GPA) can be calculated. (Additional calculated columns 'Credit Applied Total' and 'Grade Total', are added to the resultant Group Calculation data set.)
- View and perform functions and calculations against Group Calculation data, using Group Calculation Academic Profiles. (These are automatically generated by a batch process for each Group Calculation.)

You use the **Markbook Group Calculations** module to set up the necessary Group Calculations. For each Group Calculation you can specify a range of criteria with which to filter the Tasks included within the Calculation, such as Subject, Subject Sets and Task Types. You can optionally set weightings for those Calculations which include Tasks from more than one Task Type, and you can opt to have specific types of Tasks automatically included within the Group Calculation.

You can also set up Group Calculations so that any new 'qualifying' Tasks which are added to the system, are automatically included within existing Group Calculations. After adding new 'qualifying' Tasks, you need to run the Batch Run for these new Tasks to appear in the linked Group Calculation Academic Profile.

The Group Calculation Batch Run automatically generates linked Group Calculation Academic Profiles, and updates existing Group Calculation Academic Profiles. You use the Group Calculation Academic Profiles within the **Mark Inquiry** module to analyse the resultant Group Calculation data, or you could use the ODBC views in Report Builder. If necessary you can perform further functions and calculations on that data. For example, you could use the Target RAG (red, amber and green) summary or the Column by column RAG summary to view pupils' progress over the Tasks included within a Group Calculation Academic Profile.

Once the Batch Run has initially created Group Calculation Academic Profiles, if you subsequently add or alter marks against pupils for Tasks already included within these linked Group Calculation Academic Profiles, then those updated marks are automatically reflected in the Task columns and the calculated columns in the relevant linked Group Calculation Academic Profiles.

About this Guide

This Guide has been developed for those users who need to set up Group Calculations, configure the Batch Run, and to analyse Group Calculation data. In addition, this Guide includes information regarding permission settings for the System Administrator to configure.

This Guide is divided into the following sections:

- Analysing Group Calculation Data – for those users who need to analyse the resultant Group Calculation data, such as teachers. This can only be done after the Group Calculations have been set up and the Batch Run undertaken.
- Setting Up Group Calculations – for those users who need to set up and configure the Group Calculations, such as Directors of Studies or those with similar responsibilities.
- Configuring the Group Calculation Batch Run – for those users responsible for configuring batch runs, such as System Administrators or those with similar responsibilities.
- Configuring Setup Settings for Group Calculations – for those users responsible for configuring the system, such as System Administrators or those with similar responsibilities.
- Frequently Asked Questions – for any user with queries regarding Group Calculations.
- Appendix A – Markbook Algorithms – for those interested in the algorithms used in Group Calculations.

The following conventions are used in this Guide:

- **3Sys Academic** is referred to as **3Sys**.
- The **Add Group Calculation Task** wizard is referred to as the **Group Calculation** wizard.
- The 'Target RAG' summary refers to the function performed against Tasks with the same marking method, with the results being displayed visually by the use of various shades of red, amber and green. (RAG stands for red, amber and green.)
- Tier One weighting refers to the weighting set against Tasks.
- Tier Two weighting refers to the weighting set against Task Types within the **Group Calculation** wizard.
- Tier One calculations are calculations that are performed against pupils' marks for those Tasks included within the Task Types within the Group Calculation.
- Tier Two calculations are performed against the 'Task Type Total' values calculated in Tier One.

Analysing Group Calculation Data

This section is intended for those users, such as teachers, who need to analyse the resultant Group Calculation data, which you can only do AFTER the Group Calculations have been set up and the Batch Run undertaken. If you need information regarding how to set up Group Calculations, please see *Setting Up Group Calculations on p.19*.

You can view the data produced from Group Calculations via Academic Profiles using the **Mark Inquiry** module. This enables you to analyse real-time, period to date, academic data. Before you start to view and analyse this data, you need to understand the following:

- What a Group Calculation includes – see *About Analysing Group Calculation Data on p.8*.
- The Group Calculation Process – see *About the Group Calculation Process on p.10*.
- The link between Group Calculations and Academic Profiles – see *About Group Calculations and Linked Academic Profiles on p.11*.

Once you have read and understood the above, you are ready to view and analyse the Group Calculation Academic Profiles, see *Analysing Group Calculation Data using Mark Inquiry on p.14*.

About Analysing Group Calculation Data

A Group Calculation enables you to undertake two tiers of calculations simultaneously. A helpful way to visualise what this means is to return to a time before computers…

Do you remember a time when an old fashioned paper-based markbook was used? If not, picture an A4 pad with each page containing a list of pupils on the left and a set of columns on the right. At the beginning of a school year, or term, for each subject set that a teacher was teaching they would enter a list of pupils and enter tasks that the pupils would undertake as the term or year progressed. Once the relevant tasks were marked, the teacher would enter the grades or numeric marks in the relevant task column. Perhaps the teacher had a separate page for each subject set for each type of task they expected the pupils to undertake, for example a page for 'Homework' tasks, a page for 'Project' tasks and a page for 'Exam' tasks.

When the teacher wanted to assess the pupils' progression over the year or to find a pupil's average for specific type of task such as 'Homework' tasks, on the 'Homework' page they would add an extra 'Total' column to the right of the last task column, then make the calculations. If the teacher then wanted to make an overall calculation for each pupil, which included all the calculated marks from the 'Total' columns for all three tasks, then the teacher might spend a long time flipping between the pages or copying the relevant results to a new page and performing the overall calculation for each pupil.

Markbook Group Calculations undertakes these two levels of calculations for you. The first tier of calculations is undertaken on the Tasks within a specific Task Type, for example the 'Total' column on the 'Homework' page. The second tier of calculations is undertaken on the multiple 'Total' columns on each Task Type page to gain an Overall Total.

The paper-based example described above gives a very simplified picture of what Group Calculations does, but it's a useful visual reference point to consider as you read this Guide. **Markbook Group Calculations** provides an automated process to implement and perform two tiers of calculations against one or more Subject Sets within one Subject. It also has a host of important time-saving features, such as: the optional automatic inclusion of relevant Tasks into the relevant Group Calculations; the optional inclusion of Task and Task Type weighting and normalisation calculations against both tiers of calculation; and the optional inclusion of pupils' Credit Scores (ready for you to perform the final calculation required to produce Grade Point Average (GPA) data for each pupil).

NOTE: You cannot combine multiple Subjects within one Group Calculation.

If you are responsible for analysing Group Calculation data, then you can do so using **Mark Inquiry** and **Report Builder** (once Group Calculations have been configured and the Batch Run process has been run). Once a Batch Run has been undertaken (typically a nightly automated occurrence), linked Academic Profiles are automatically created for each new Group Calculation and existing Group Calculation Academic Profiles are updated to reflect relevant changes, such as the addition of newly added Tasks. Each Group Calculation Academic Profile is given the same name as the Group Calculation, with the suffix 'profile'. For example, a Group Calculation named 'Eng YR7' would automatically generate an Academic Profile called 'Eng YR7 profile'.

NOTE: If you give your Group Calculation a long name, the name of the resultant linked Group Calculation Academic Profile might be truncated.

NOTE: Once the Batch Run has initially created Group Calculation Academic Profiles, if you subsequently add or alter marks against pupils for Tasks already included within these linked Group Calculation Academic Profiles, then those updated marks are automatically reflected in the Task columns and the calculated columns in the relevant linked Group Calculation Academic Profiles.

You can use **Mark Inquiry** functionality to perform functions and calculations against Group Calculation columns if required. For example, you could use the Target RAG (red, amber and green) summary to highlight any areas for concern, and to track pupils' progress on a Task by Task basis.

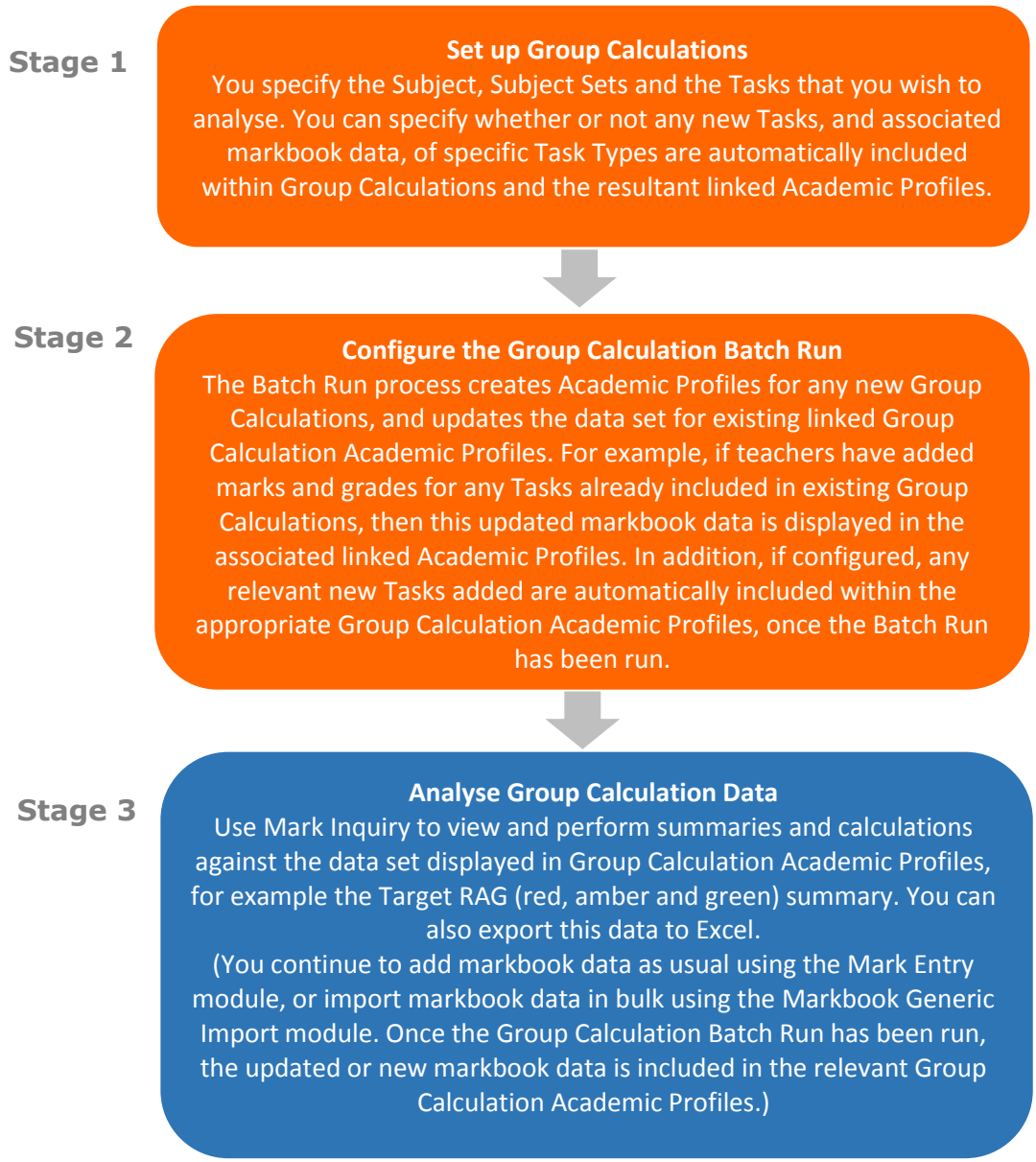
Before you start to view and use Group Calculation Academic Profiles, you need to have an understanding of the process involved in creating Group Calculations, see:

- *About the Group Calculation Process on p.10*.
- *About Group Calculations and Linked Academic Profiles on p.11.*

NOTE: The person responsible for setting up Group Calculations should give you guidance on how to set up Tasks, the application of weighting against Tasks, and the assigning of Task Types and Assessment Periods to Tasks. For a detailed explanation on how to configure Group Calculations, please refer to *Setting Up Group Calculations on p.19*.

About the Group Calculation Process

There are three main stages to creating and using Group Calculations. You may only be involved with viewing and analysing the Group Calculation data (the third stage). However, it is useful for you to understand the whole process behind the creation of Group Calculations. This process diagram summarises what is involved in each of the three main stages:



NOTE: If you have added new Tasks, and this data is not reflected in the expected Group Calculation Academic Profiles, it is likely that the Batch Run process has not been undertaken since you added the new Tasks. The Group Calculation Batch Run is typically undertaken once a day outside of office hours.

About Group Calculations and Linked Academic Profiles

You can view Group Calculation Academic Profiles and you can use them to analyse the academic data contained in them. For more details, see:

- *About Viewing Group Calculation Academic Profiles on p.11*.
- *About Analysing Group Calculation Academic Profile Data on p.12*.

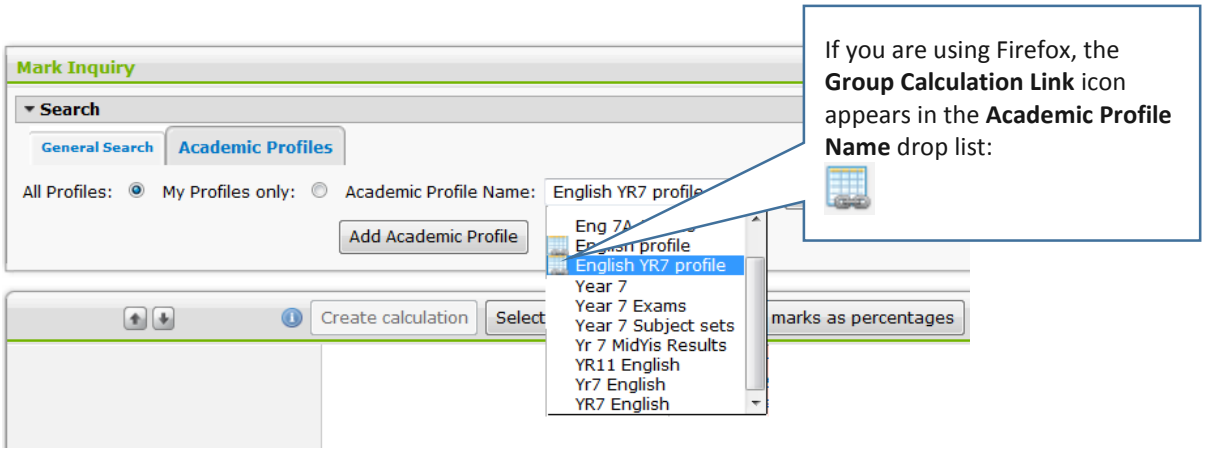
About Viewing Group Calculation Academic Profiles

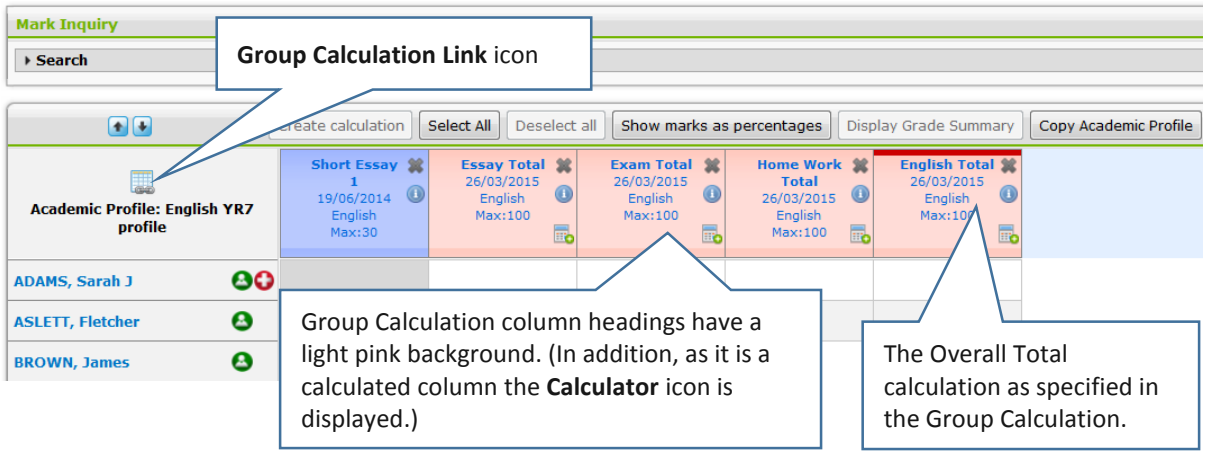
You view Group Calculation data using Academic Profiles within the **Mark Inquiry** module. In order to differentiate between Academic Profiles that have been created using the **Add Academic Profile** wizard, and those that have been generated automatically from Group Calculations, the following distinguishing features are used:

- In the **Academic Profile** table, the **Group Calculation Link** icon appears above the name of the Academic Profile.
- The background colour of the column headings in the **Academic Profile** table is set to light pink rather than blue.

NOTE: In order to distinguish between normal Academic Profiles and Group Calculation Academic Profiles, it is suggested that you prefix the name of your Group Calculations with 'GC_'.

For an example of each, refer to the two screenshots below.





A Group Calculation Academic Profile includes all of the:

- Source Task columns included in the Group Calculation.
- Task Type Totals Calculation column(s).
  By default, the column heading is labelled as '<Task Type> Total', for example 'Essay Total'.
  You can alter this using the **Group Calculation** wizard.
- Overall Total calculations.
  By default, the column heading is labelled as '<Subject> Total', for example 'English Total'.
  You can alter this using the **Group Calculation** wizard.

NOTE: Academic Profiles for Group Calculations only appear once Group Calculations have been set up, and once the Group Calculation Batch Run has taken place after the configuration of the Group Calculations. For more details about the process, see *About the Group Calculation Process on p.10*.

About Analysing Group Calculation Academic Profile Data

When you use **Mark Inquiry** to analyse a linked Group Calculation Academic Profile, you are able to run summaries against the data, i.e. those functions which appear in the **Summaries** drop menu, such as the Target RAG (red, amber and green) summary and the Column by column RAG summary.

If you wish to perform calculations (i.e. those functions available from the **Create Calculations** button) against data in a linked Group Calculation Academic Profile you must first copy the linked Group Calculation Academic Profile in order to be able to save the newly added calculated columns to the Profile.

If you copy an existing linked Group Calculation Academic Profile from within the **Mark Inquiry** module, then the **Add Academic Profile** wizard opens enabling you to create a new profile based on the existing Group Calculation one. To indicate that the copied Profile is no longer linked to a Group Calculation, the **Group Calculation Link** icon is removed from the column heading above the pupil list. (If you are using Firefox, then the **Group Calculation Link** icon is also removed from the **Academic Profile Name** drop list.)

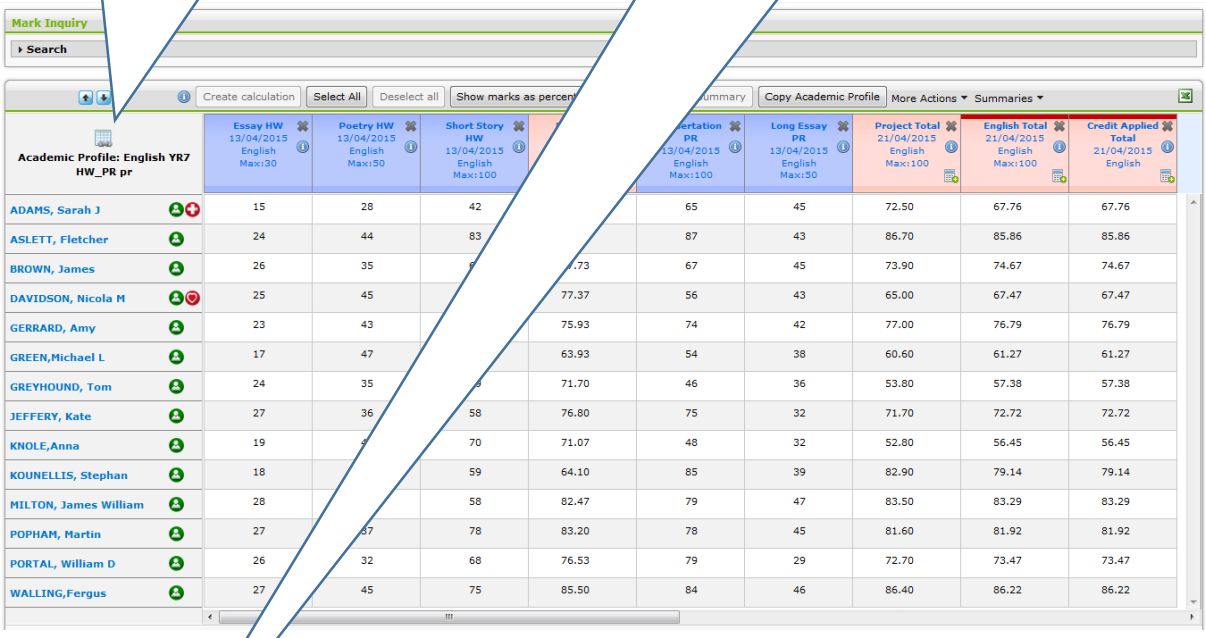
When you copy a linked Group Calculation Academic Profile it is disconnected from the source Group Calculation. Consequently, any COPIED Group Calculation Academic Profiles are NOT refreshed when the Group Calculation Batch Run is run, such as the inclusion of newly added Tasks if the auto include option was set to 'Yes'. However, any changes and additions to marks within Tasks that are included in the copied and the source Group Calculation Academic Profiles are updated automatically.

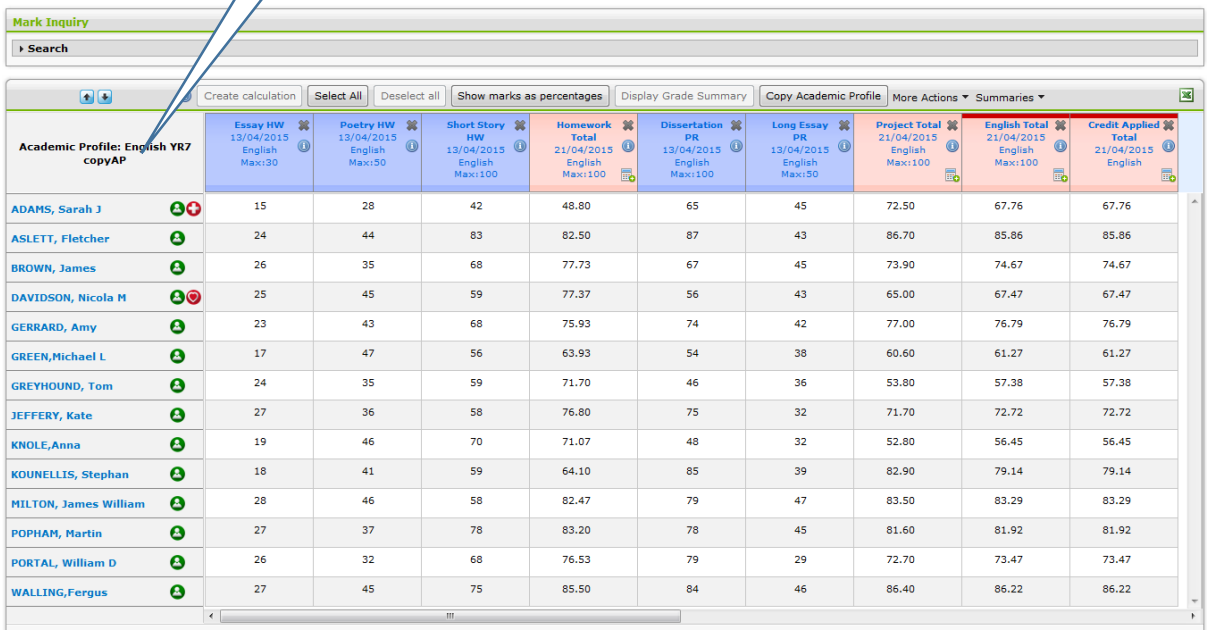
You are unable to save newly added calculations to linked Group Calculation Academic Profiles for two reasons: 1) these are shared with all users that have rights to view it, so that to change it for one user would change it for all users; 2) when the Batch Run is run all data in existing Group Calculation Academic Profiles is updated based on the settings in the Group Calculation.

For example, the first image below shows **Mark Inquiry** displaying a linked Group Calculation Academic Profile, and the second image shows the unlinked copied Academic Profile.

A **linked** Group Calculation Academic Profile. Note the **Group Calculation Link** icon, indicating it is linked to a Group Calculation.

The copied Group Calculation Academic Profile. Note the **Group Calculation Link** icon has disappeared, indicating that the link has been broken, so you able to perform and save additional calculations against this Profile.





About Analysing Group Calculations using Report Builder

The resultant Group Calculation Academic Profile data is stored in the following ODBC views:

- XZ_AC_MARKBOOK
- XZ_AC_MARKBOOK_TASKS

Consequently, you can view and analyse Group Calculation data as with any other calculation data using Report Builder. For example, the screenshot below shows an example Report Builder template:

The Camelot School - English Tasks April 2015

BROWN, James

Explanation of Marks and Grades.

The marks and grades shown below show James's results in English for the current month. Each piece of work is allocated to one of two task types, and an overall total for each task type is shown.

The final mark out of 100 is calculated using the weightings shown at the top of each section to give an overall percentage. From this a current perfomance grade is calculated.

Home Work			20%	Project		80%		
Essay HW	Poetry HW	Short Story HW	Home Work Total	Long Essay PR	Dissertation PR	Project Total	Credit Applied Total	Grade Total
26	35	68	77.73	45	67	73.9	74.67	5

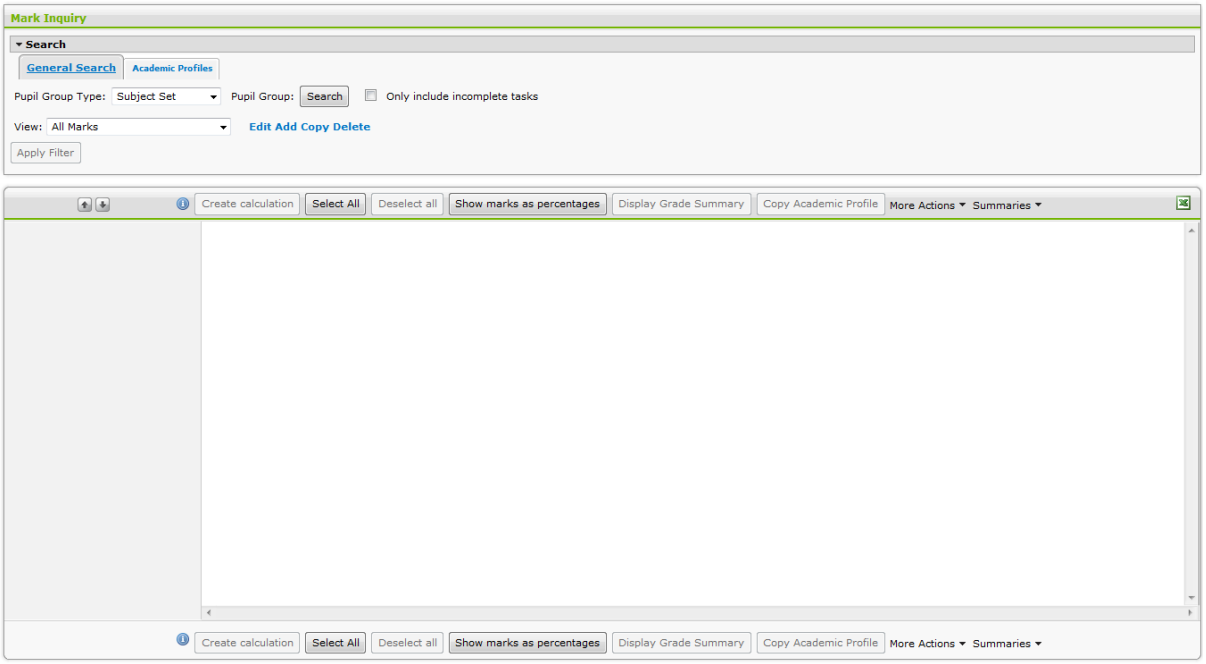
Analysing Group Calculation Data using Mark Inquiry

For an overview, see *About Analysing Group Calculation Data on p.8*.

To analyse Group Calculation Data using Mark Inquiry:

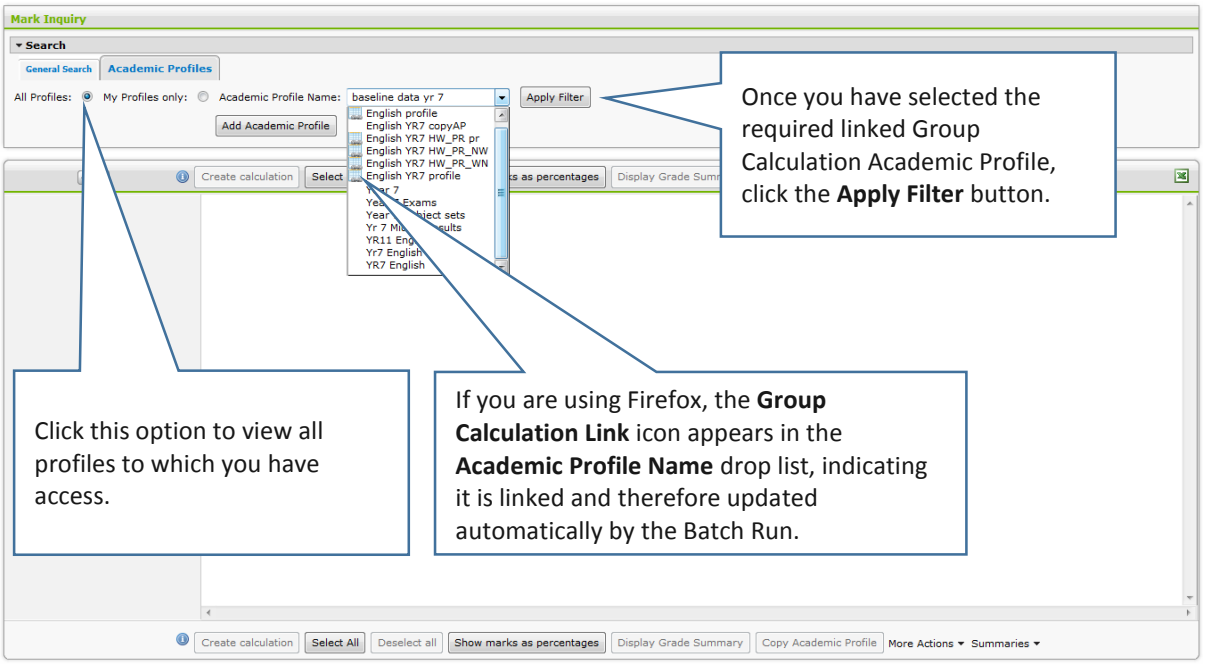
1. Open the **Mark Inquiry** module using one of these three options:
   - **All Functions** tab, click the **Mark Inquiry** icon.
   - **Calendar**
   - **Custom Links** menu.

The **Mark Inquiry** screen appears.



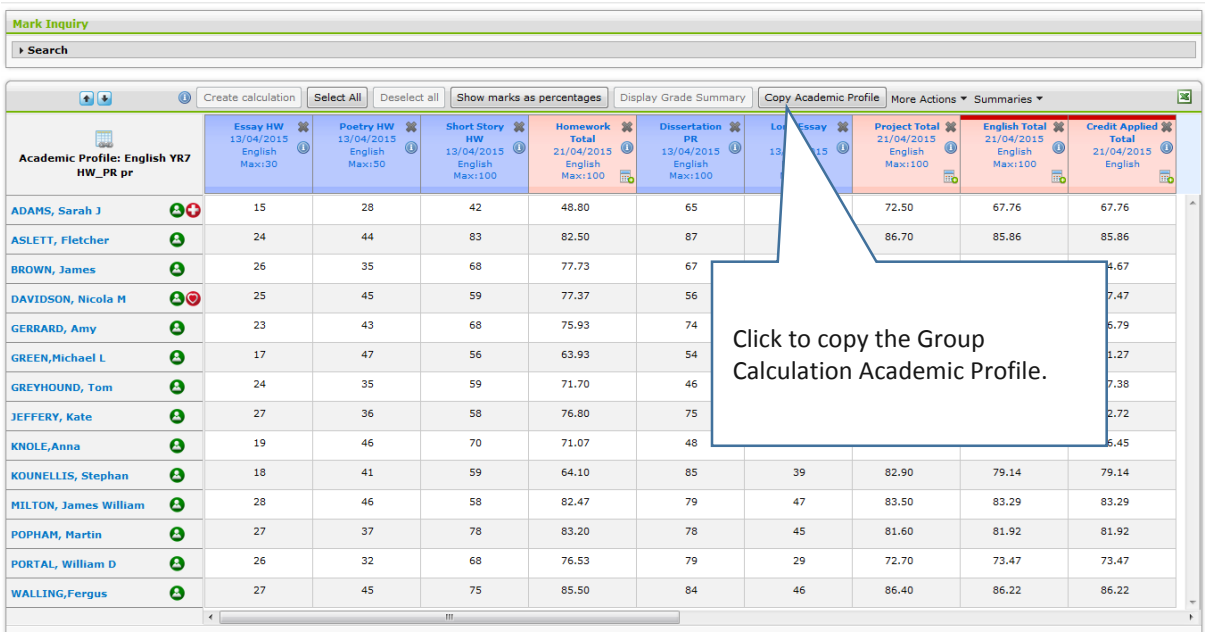
2. Click the **Academic Profiles** tab.
3. (Optional) Click the **All Profiles** option to view all Academic Profiles, rather than just the ones you have created.

   NOTE: You may need to view All Profiles in order to view the linked Group Calculation Academic Profiles, depending how the permissions have been configured.



4. From the **Academic Profile Name** drop list, select the relevant linked Group Calculation Academic Profile.
5. Click the **Apply Filter** button.

   The selected Group Calculation Academic Profile is displayed.



	Essay HW 13/04/2015 English Max:30	Poetry HW 13/04/2015 English Max:50	Short Story HW 13/04/2015 English Max:100	Homework Total 21/04/2015 English Max:100	Dissertation PR 13/04/2015 English Max:100	Project Total 21/04/2015 English Max:100	English Total 21/04/2015 English Max:100	Credit Applied Total 21/04/2015 English
ADAMS, Sarah J	15	28	42	48.80	65	72.50	67.76	67.76
ASLETT, Fletcher	24	44	83	82.50	87	86.70	85.86	85.86
BROWN, James	26	35	68	77.73	67			4.67
DAVIDSON, Nicola M	25	45	59	77.37	56			7.47
GERRARD, Amy	23	43	68	75.93	74			6.79
GREEN,Michael L	17	47	56	63.93	54			1.27
GREYHOUND, Tom	24	35	59	71.70	46			7.38
JEFFERY, Kate	27	36	58	76.80	75			2.72
KNOLE,Anna	19	46	70	71.07	48			6.45
KOUNELLIS, Stephan	18	41	59	64.10	85	82.90	79.14	79.14
MILTON, James William	28	46	58	82.47	79	83.50	83.29	83.29
POPHAM, Martin	27	37	78	83.20	78	81.60	81.92	81.92
PORTAL, William D	26	32	68	76.53	79	72.70	73.47	73.47
WALLING,Fergus	27	45	75	85.50	84	86.40	86.22	86.22

NOTE: If the expected pupil or markbook data fails to appear, then it is likely that the Batch Run has yet to be run to pull the relevant pupil and markbook data into this Group Calculation Academic Profile.

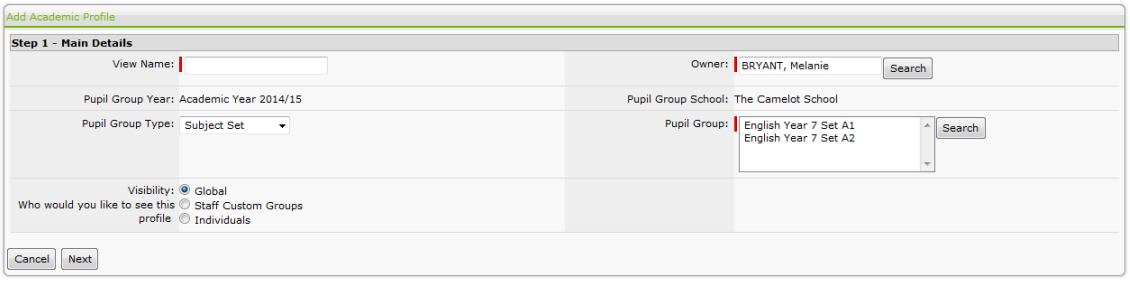
6. (Optional) Run summaries against the data, i.e. those functions which appear in the **Summaries** drop menu, such as the Target RAG (red, amber and green) summary and the Column by column RAG summary.

   NOTE: For the two RAG summaries, you need to select the target Task by clicking on its column heading before the menu option is enabled.

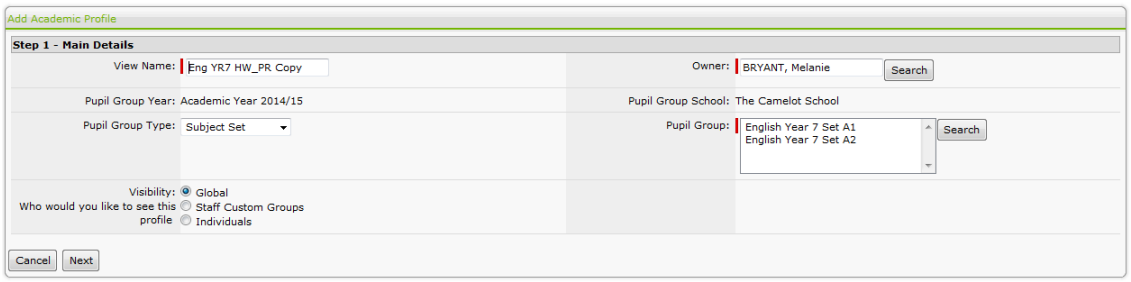
7. (Optional) Copy the linked Group Calculation Academic Profile enabling you to perform additional calculations against the data, i.e. those calculations available from the **Create Calculations** button:

   NOTE: When you copy a linked Group Calculation Academic Profile it is disconnected from the source Group Calculation. Consequently, any COPIED Group Calculation Academic Profiles are NOT refreshed when the Group Calculation Batch Run is run, such as the inclusion of newly added Tasks if the auto include option was set to 'Yes'. However, any changes and additions to marks within Tasks that are included in the copied and the source Group Calculation Academic Profiles are updated automatically.

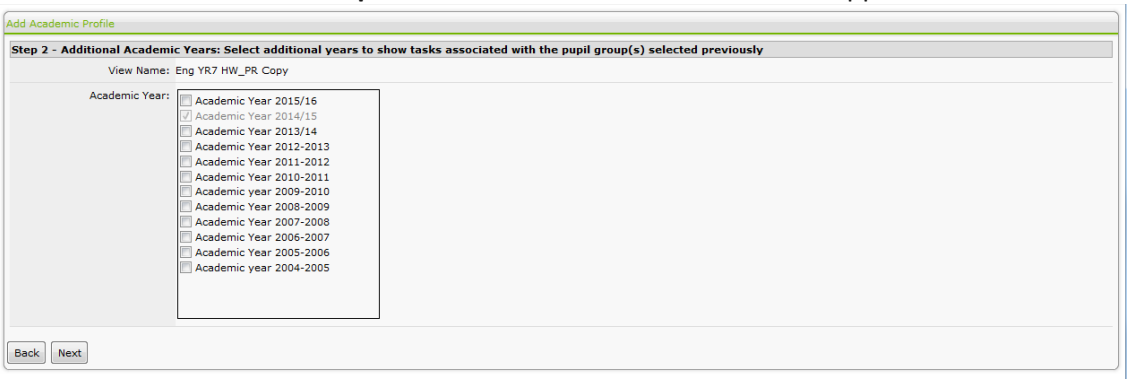
   a. Click the **Copy Academic Profile** button. The **Add Academic Profile** wizard appears.



   b. In the **View Name** field, enter a new name for the copied Group Calculation Academic Profile, and change the visibility or the owner of the Academic Profile, if necessary.
   NOTE: Apart from the Name, Visibility and Owner, we advise you to accept the defaults presented by the copied Profile, and click the **Next** button from **Step 2** onwards of this wizard, without making any changes.

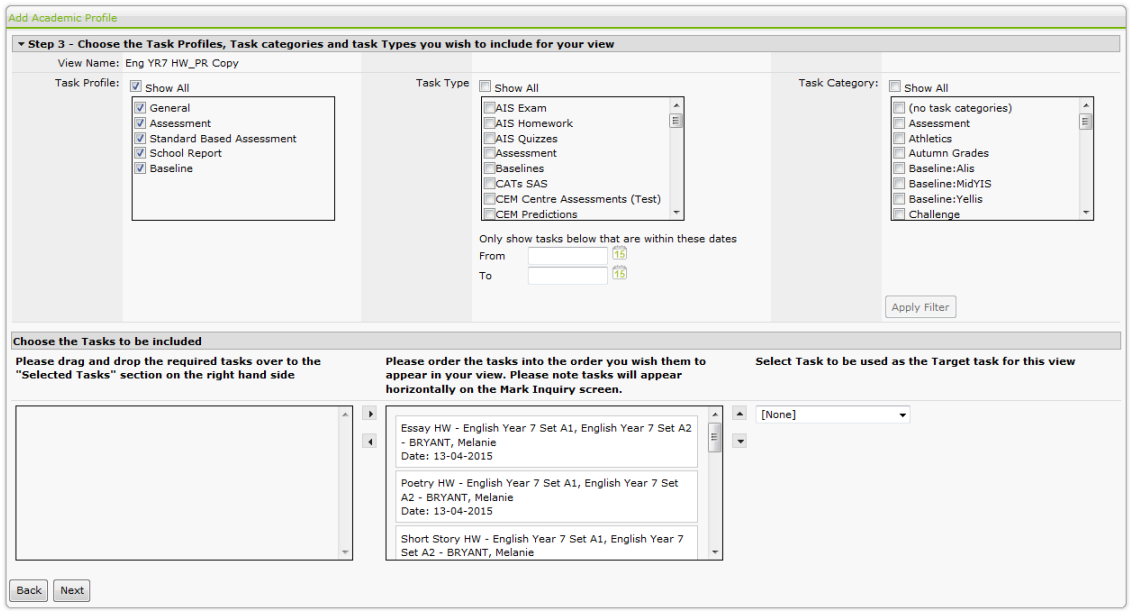


c. Click the **Next** button. The **Step 2** of the **Add Academic Profile** wizard appears.



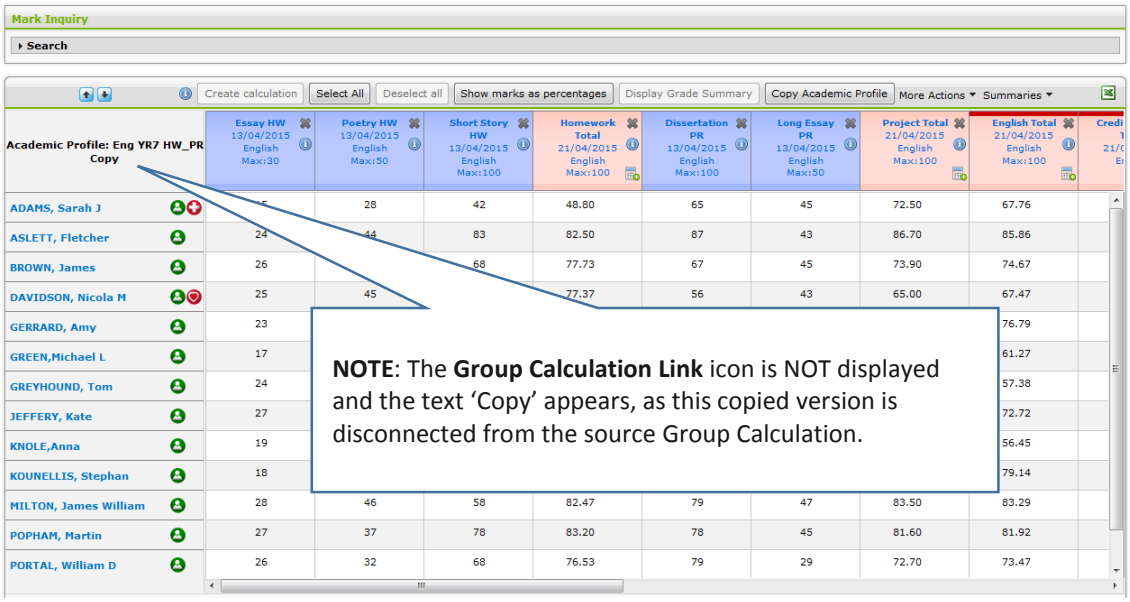
NOTE: Group Calculations apply within one Academic Year only, so we advise you not to add additional Academic Years.

d. Click the **Next** button. The **Step 3** of the **Add Academic Profile** wizard appears, displaying the Tasks included within the original Group Calculation Academic Profile.



e. Click the **Next** button. The **Step 4** of the **Add Academic Profile** wizard appears.

f. Click the **Finish and View** button. **Mark Inquiry** opens displaying the copied Group Calculation Academic Profile, ready for you to perform additional calculations.



g. Perform additional calculations against this data, i.e. those functions available from the **Create Calculation** button.

8. (Optional) Export the Group Calculation Academic Profile to Excel, by clicking on the **Excel** icon. All the Task columns and their mark values are exported to Excel.

   NOTE: You can export linked Group Calculation Academic Profiles, as well any copied unlinked Group Calculation Academic Profiles. If you have displayed the Target RAG summary or the Column by column RAG summary, this colour coding is also exported to Excel.

   For further information, please refer to the *Bulk Import of Markbook Data User Guide*, this document is available from our Customer Centre.

Setting Up Group Calculations

This section is intended for those users, such as Directors of Studies or those with similar responsibilities, who need to set up and configure Group Calculations ready for users to analyse the resultant data. If you need information regarding analysing the resultant Group Calculation data, please see *Analysing Group Calculation Data on p.8*.

Before you start creating Group Calculations, you need to know and understand the following:

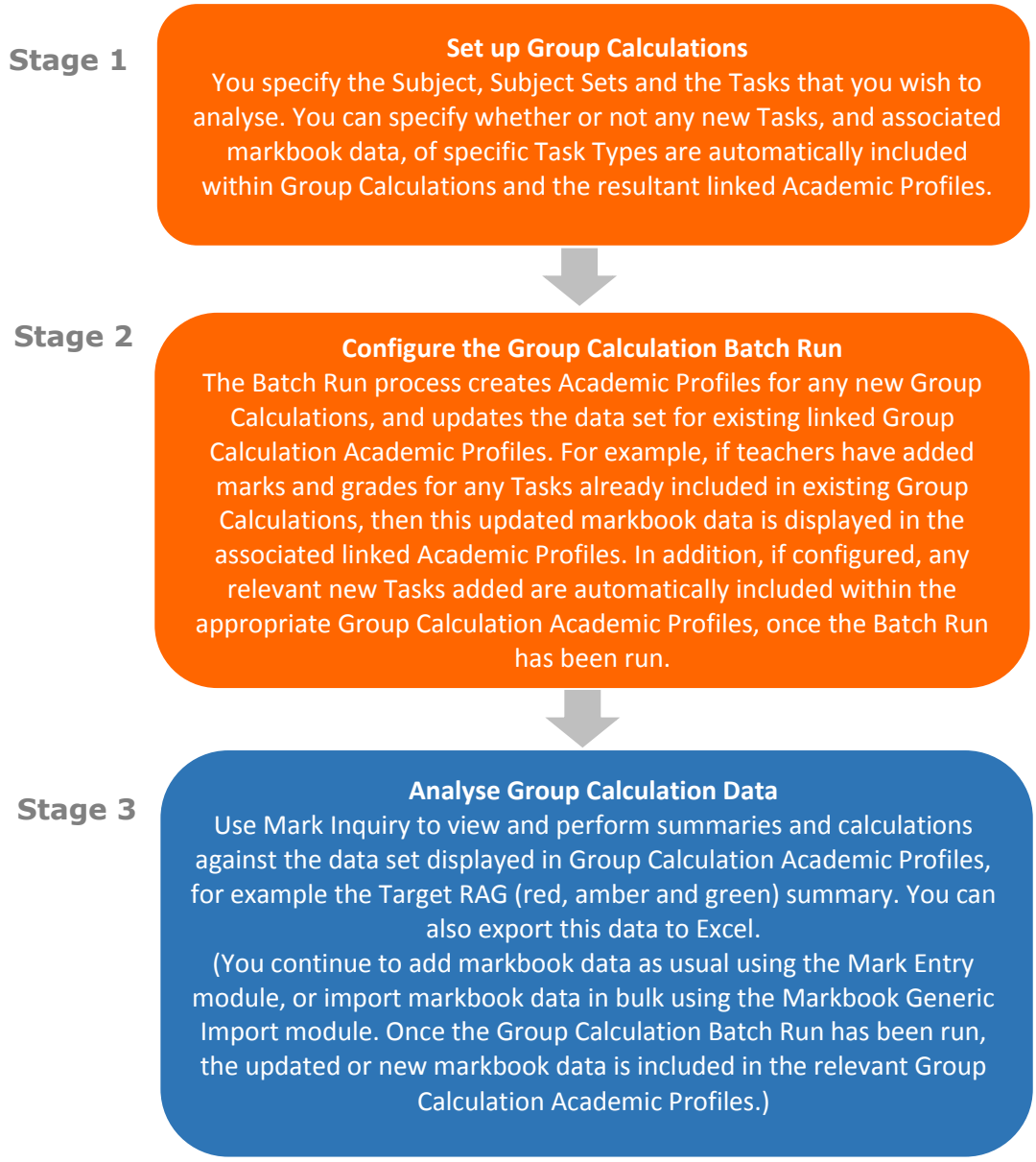
- *About the Group Calculation Process on p.20*.
- *About the Group Calculation Structure on p.21*.
- *About Weightings and Group Calculations on p.26*.
- *About Normalisation and Group Calculations on p.29*.
- *About the Types of Calculations on p.29*.
- *About Automatically Including New Tasks on p.34*.
- *About Manually Including Existing Tasks on p.37*.
- *About Credit Scores and Group Calculations on p.37*.
- *About Grade Tables and Group Calculations on p.40*.
- *About Example Scenarios on p.42*.
- *About Creating Group Calculations on p.52*.

Once you have read and understood the above concepts, you can start to configure Group Calculations, see *Creating Group Calculations on p.61*.

NOTE: We recommend that the person responsible for setting up Group Calculations gives guidance to other staff on how to set up Tasks, the application of weighting against Tasks, and the assigning of Task Types and Assessment Periods to Tasks.

About the Group Calculation Process

There are three main stages to creating and using Group Calculations. You may only be involved with viewing and analysing the Group Calculation data (the third stage). However, it is useful for you to understand the whole process behind the creation of Group Calculations. This process diagram summarises what is involved in each of the three main stages:



NOTE: If you have added new Tasks, and this data is not reflected in the expected Group Calculation Academic Profiles, it is likely that the Batch Run process has not been undertaken since you added the new Tasks. The Group Calculation Batch Run is typically undertaken once a day outside of office hours.

About the Group Calculation Structure

In order for you to make decisions regarding how your school will implement and use Group Calculations, you need to understand how Group Calculations are structured. The following four diagrams demonstrate how a multiple Task Type Group Calculation is structured, with example Tasks, Task Types, and weightings held against each Task and against each Task Type.

NOTE: Each Task included within a Group Calculation is within the current Academic Year, and for the school in which the creator of the Group Calculation was logged in as.

- Diagram A – Displays the Group Calculation structure for an 'English' Group Calculation based on the Task Types of 'Homework' and 'Project'. The 'Homework' Task Type has three Tasks associated with it, and the 'Project' Task Type has two Tasks associated with it. Each Task has a weighting set against it, as specified using the **Create Task** or **Edit Task** screen in the **Markbook Tasks** module (shown within the blue oval). As part of the Group Calculation, the two Task Types also have weightings associated with them (shown within the orange oval). You specify the weighting held against each Task Type in **Step 3** of the **Group Calculation** wizard.
- Diagram B – Displays **Step 3** of the **Group Calculation** wizard, in which you set the Calculation Type for both the Task Type Totals and the Overall Calculation. The type of calculation you choose to perform will impact the resultant data.
- Diagram C – Displays the **Mark Inquiry** module with the example 'English' Group Calculation Academic Profile shown, with explanatory text.
- Diagram D – Demonstrates the relationship between items in **Step 3** of the **Group Calculation** wizard and the resultant data set displayed in the **Mark Inquiry** module.

KEY

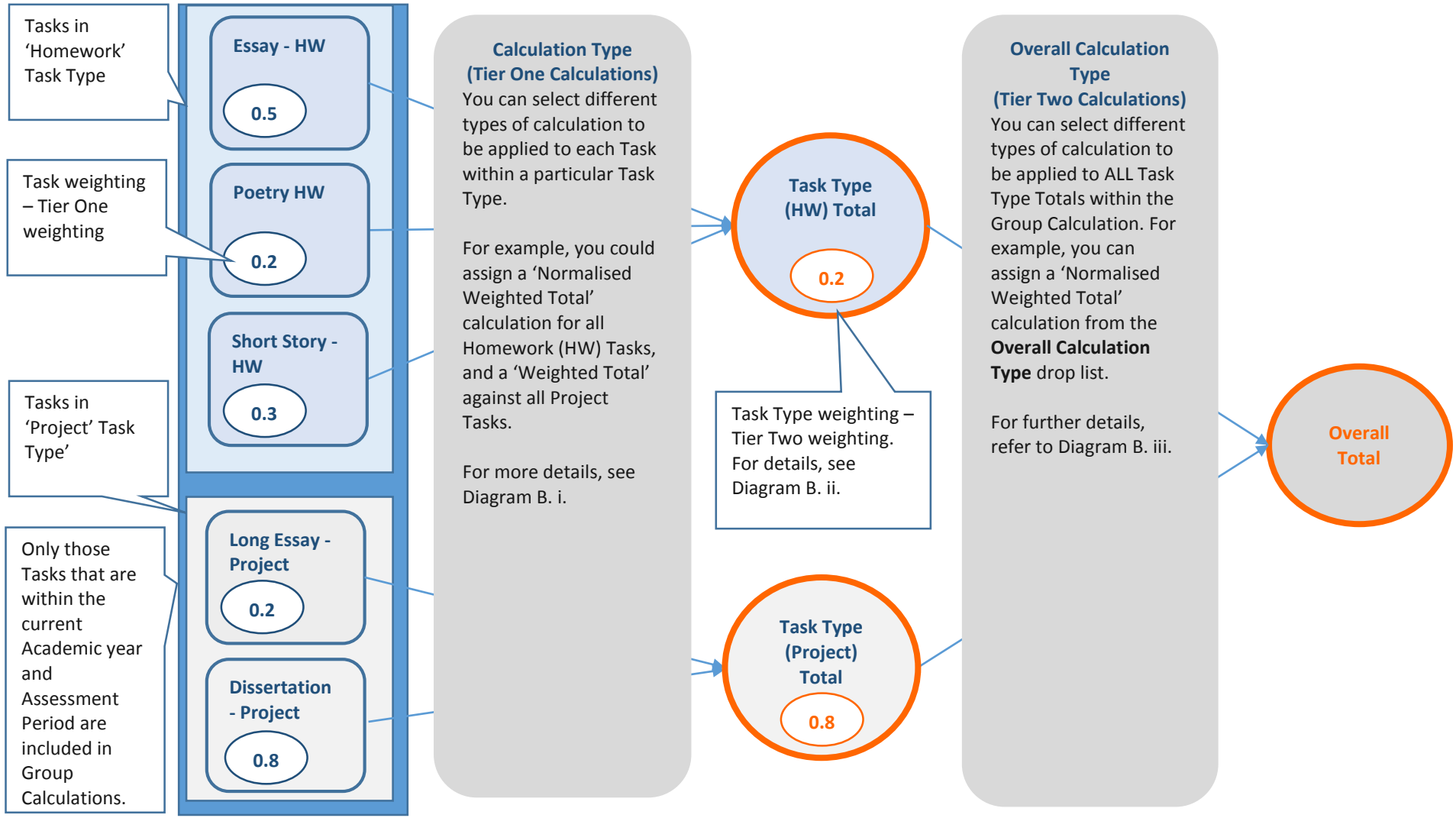
Task Weighting - Tier One weightings
(Example figures are used.)

Task Type Weighting - Tier Two weightings
(Example figures are used.)

NOTE: The first two diagrams are given on landscape orientated pages.

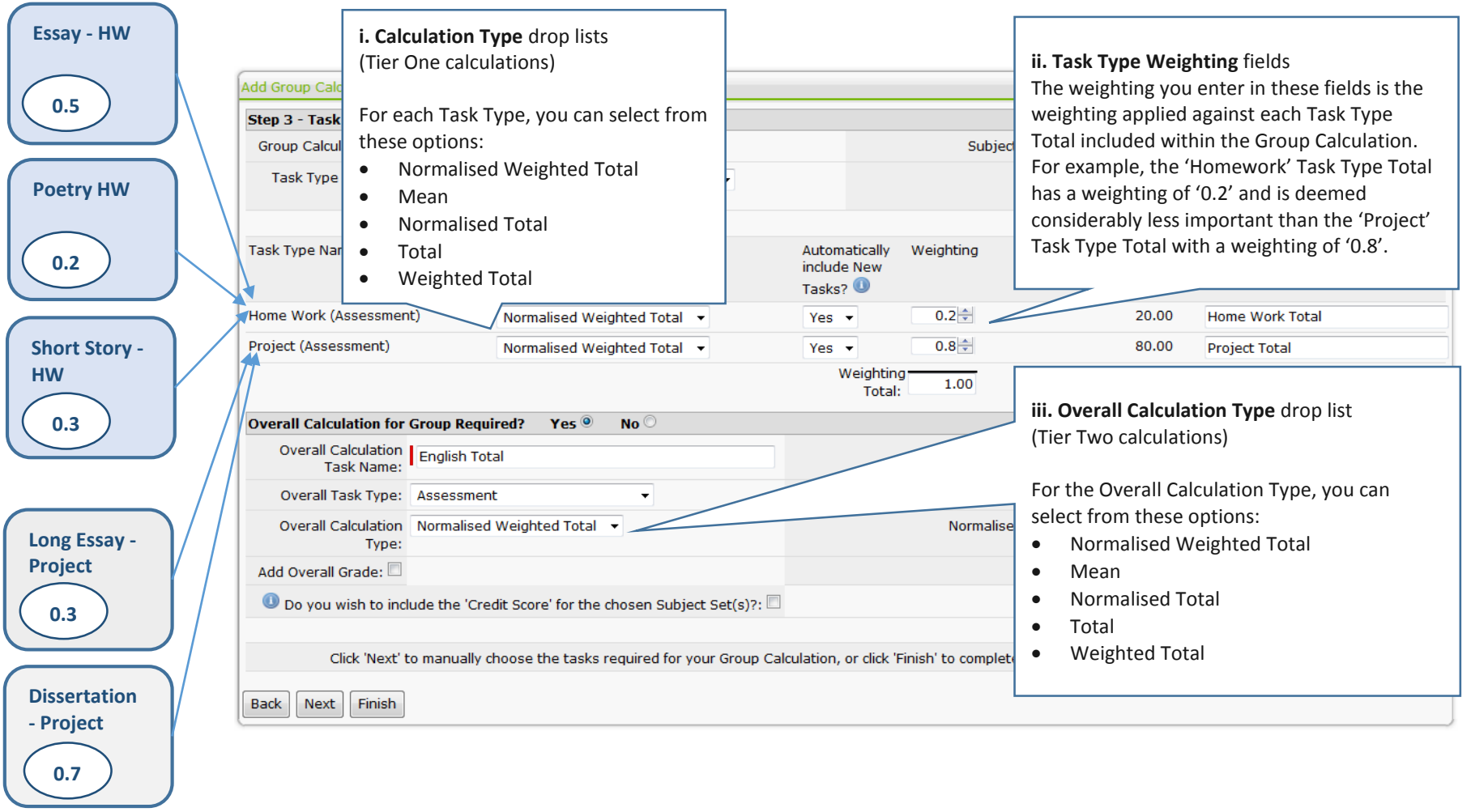
About the Structure of a Multiple Task Type Group Calculation – Diagram A

Summary: 'English' Group Calculation with two Task Types - 'Homework' and 'Project'. Each Task and each Task Type has a weighting assigned.



About the Structure of a Multiple Task Type Group Calculation – Diagram B

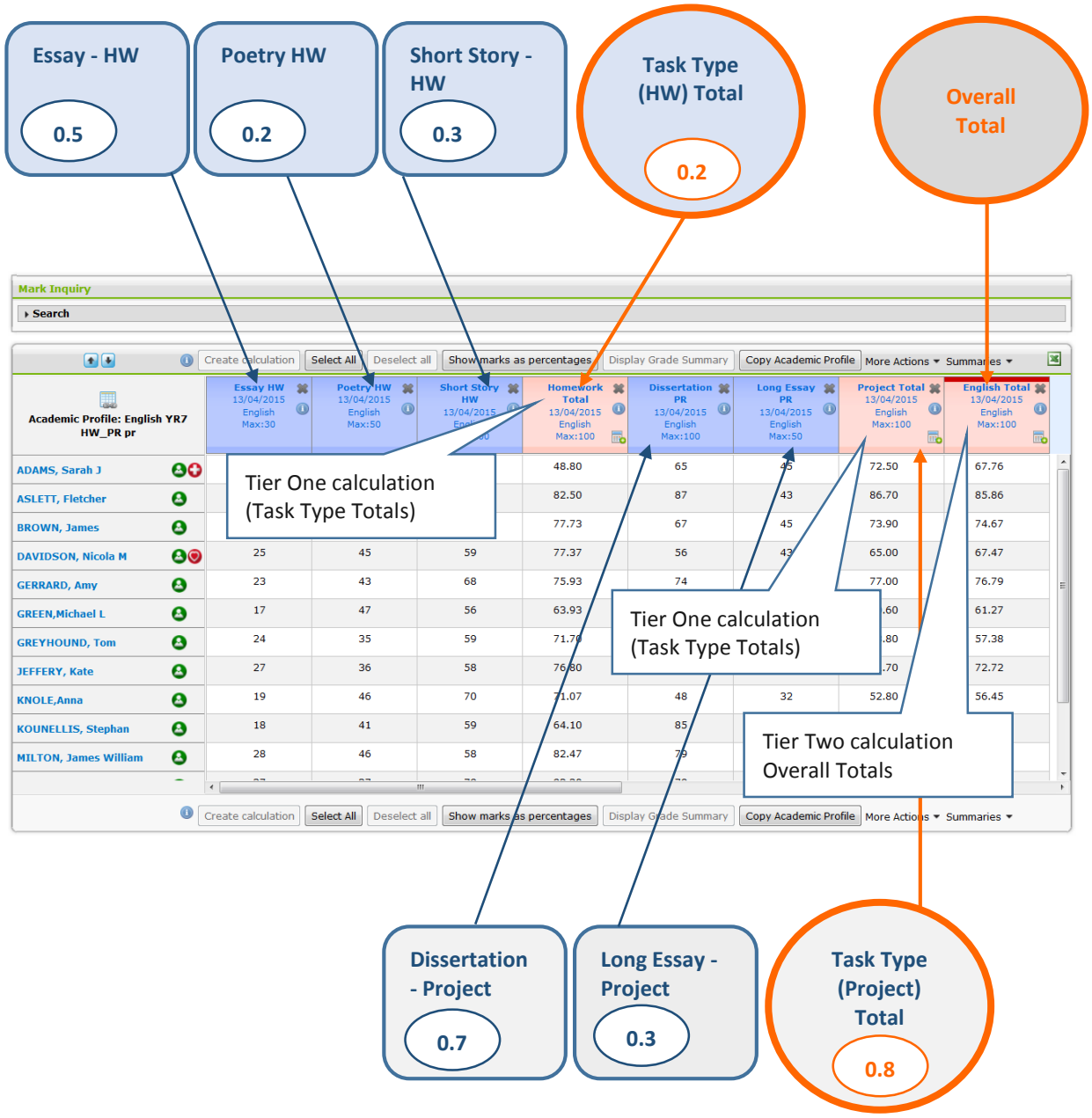
Summary: **Step 3** of the **Group Calculation** wizard. Note the following: the **Calculation Type** selected to be applied against each Task Type (i); the weighting to be assigned to each Task Type (ii); and the **Overall Calculation Type** to be applied against all Task Type Totals included within the Group Calculation (iii).



About the Structure of a Multiple Task Type Group Calculation – Diagram C

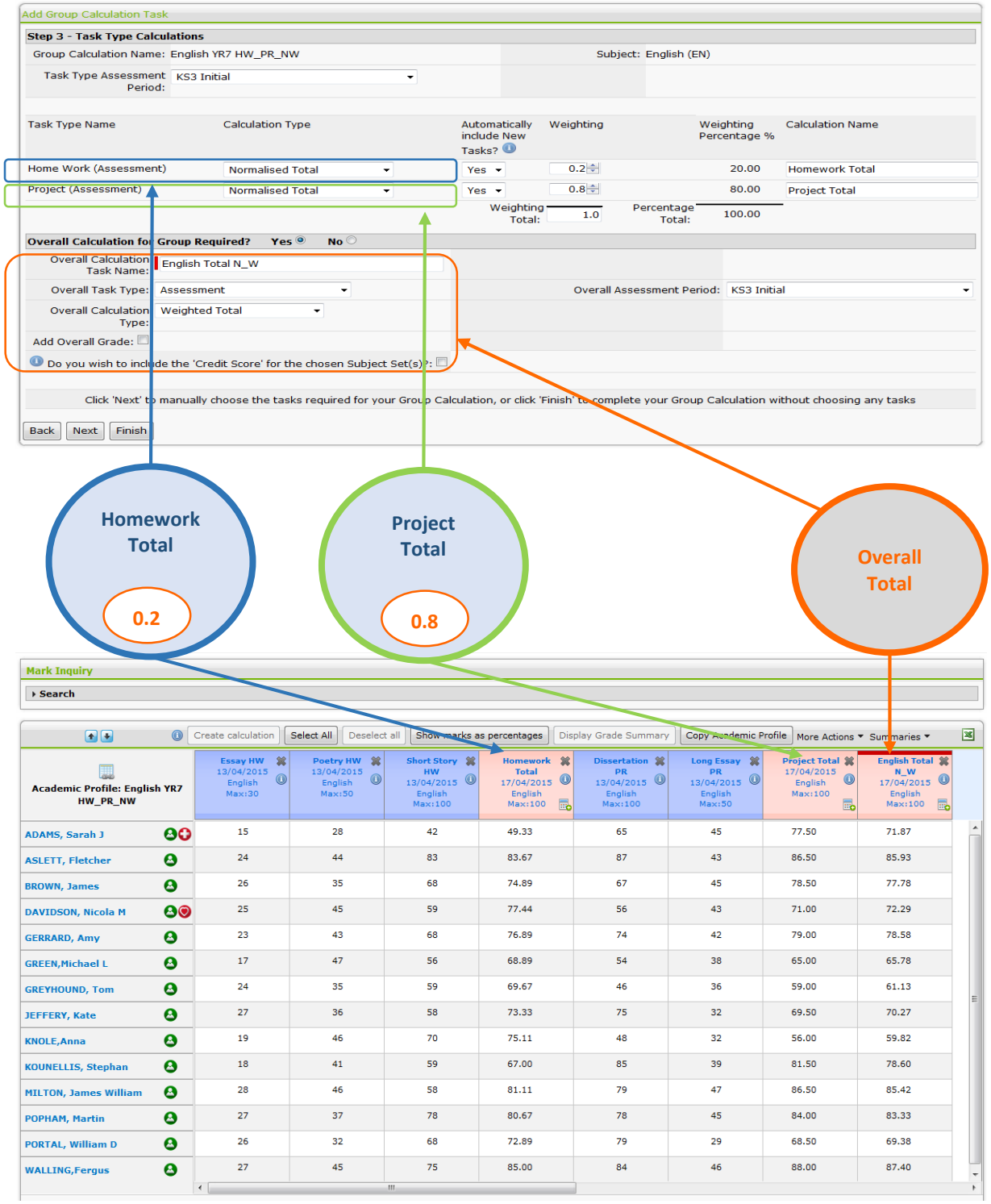
Summary: **Mark Inquiry** module, **Academic Profiles** tab displaying the 'English' Group Calculation from Diagram A and B.

NOTE: This example shows the resultant data from the 'English' Group Calculation described in Diagram A and B. The 'Normalised Weighted Total' was chosen as the calculation type for both the Task Types and the Overall Calculation.



About the Structure of a Multiple Task Type Group Calculation – Diagram D

Summary: Another way to demonstrate which components of the Group Calculation generate which columns in the resultant linked Academic Profile. The same example 'English' Group Calculation has been used as in Diagram A, B and C. This diagram shows the relationship between the Task Type and Overall Calculation as specified in the **Group Calculation** wizard and the resultant columns in the **Mark Inquiry** module. Note that the Tier One Task Type Totals calculation has been set to 'Normalised Total' and the Tier Two Overall Calculation has been set to 'Weighted Total'.



About Weightings and Group Calculations

Weightings enable you to specify the proportional value of:

- Tasks against other Tasks (within Group Calculations, the proportional value of Tasks are compared against Tasks of the same Task Type). Within this Guide, these are referred to as Tier One weightings.
- Task Type Totals against other Task Type Totals within the Group Calculation. Within this Guide, these are referred to as Tier Two weightings.

Weightings enable you to specify the proportional value of a specific Task against other Tasks (of the same Task Type within Group Calculations), and to specify the proportional value of a specific Task Type Total in comparison to other Task Type Totals. You can set up Group Calculations to have a two tiered hierarchical weighted calculation structure.

You can set up weightings against each Task, using the **Markbook Tasks** module, and against each Task Type Total using the **Group Calculation** wizard. The weightings you apply to Tasks can be used by calculations with **Mark Inquiry** and within the **Group Calculation** wizard. The weightings you apply to Task Type Totals within the **Group Calculation** wizard are only used for Group Calculations.

Within the **Group Calculation** wizard, the type of calculation you specify to run against each Task of a specific Task Type will determine whether the weightings set against the Task are included within the calculation (Tier One weightings), so that the value of each Task is proportional, or whether you exclude Tier One weightings from the Group Calculation. By default in the **Calculated Type** column, the 'Normalised Weighted Total' is selected, which takes into account the weighting ratio held against the Tasks.

NOTE: If you wish to exclude Task weightings from Group Calculations most of the time, but think that you may use Tier One weightings in the future, within the **Markbook Tasks** module set the weightings for Tasks to 1.0 (which is the default), and within the **Group Calculation** wizard set the **Calculation Type** to 'Normalised Weighted Total' or 'Weighted Total'. If the Tier One weightings are set to 1.0, then all Tasks are classified as being equally important so the weighting part of the calculation is effectively ignored. If you subsequently decide to specify different weighting ratios for Tasks, the Group Calculations are ready to incorporate these weighting ratios (as the calculations being performed against the markbook data are ones that take account of Task weighting).

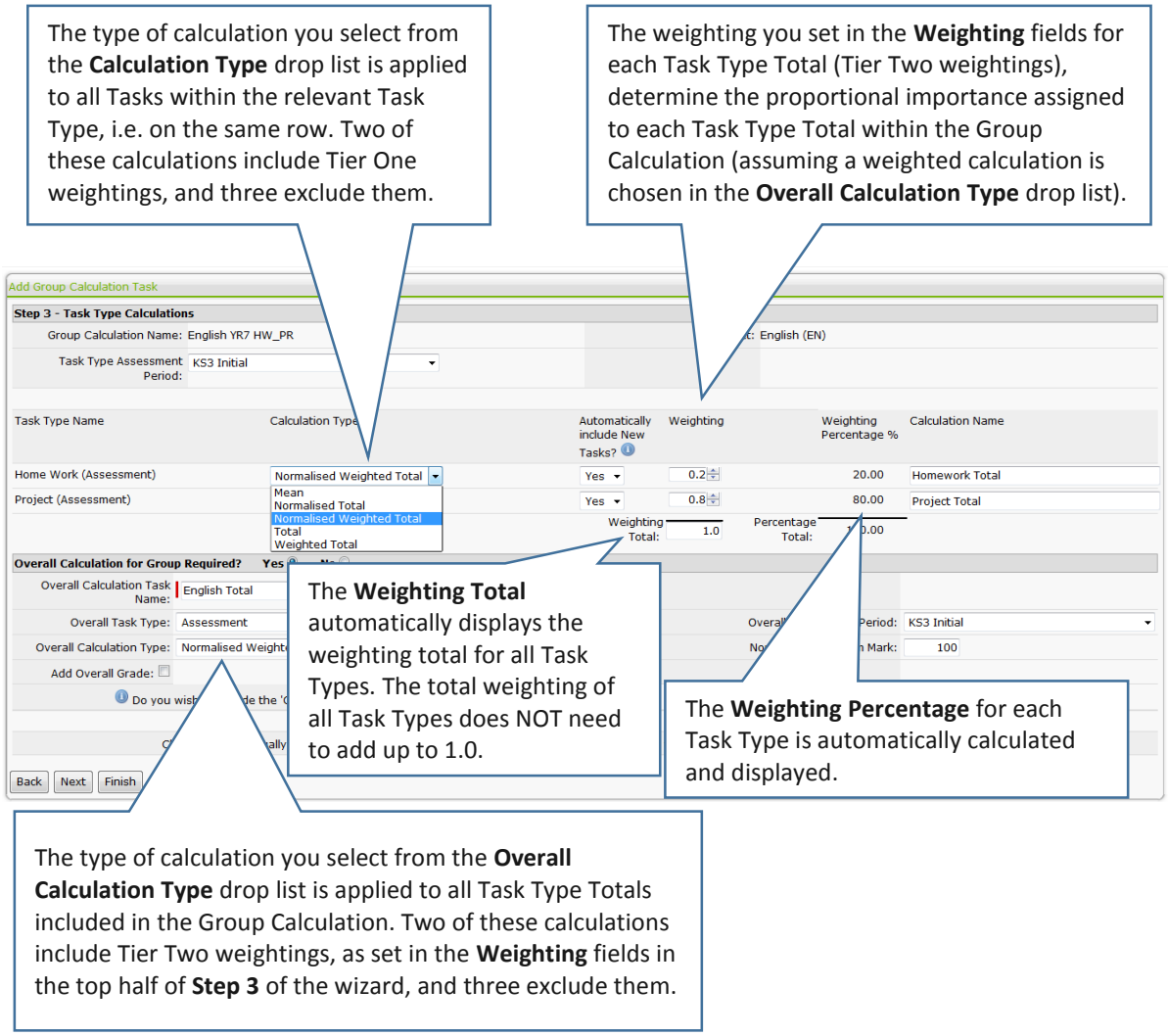
In the diagrams A-D above, the Tier One weightings are shown within blue ovals. As part of the Group Calculation, you specify how important each Task Type is in relation to one another by setting a weighting against the Task Type Totals (Tier Two weightings). In the diagrams A-D above, the Tier Two weightings are shown within orange ovals.

The screenshot below shows where you:

- Specify which **Calculation Type** you require (which determines whether or not Tier One weighting is included within the calculation).
- Set the weighting against the Task Type Totals (the Tier Two weighting).

NOTE: The **Weighting Total** does NOT need to add up to 1.0. The **Group Calculation** wizard automatically calculates the weighting percentage for you.

The screenshot below shows **Step 3** of the **Group Calculation** wizard with annotations against those 'weighting' related fields.



For a detailed description of the two types of weighting tiers, see below.

About Tier One Weightings

When you create a Task, you can specify the weighting for that Task using the **Markbook Tasks** module. The weighting you assign to a Task denotes how important that Task is in relation to other Tasks within a calculation. By default, when you set up Tasks the weighting is set to 1.0. If you have the Task weightings set to 1.0 for all Tasks, then you have specified that all Tasks are proportionality equal.

For example in the Diagrams A-D above, the 'Homework' Tasks had the following weightings (shown in blue ovals): 'Essay' Task 0.5, 'Poetry' Task 0.2, and 'Short Story' 0.3. Out of the 'Homework' Tasks the 'Essay' Task was deemed the most important Task, so it has the highest weighting value, and the 'Poetry' Task was deemed the least important, so it has the lowest weighting value. Similarly, out of the 'Project' Tasks the 'Dissertation' was deemed more than twice as important as the 'Long Essay' Task, with weightings of 0.7 and 0.3 applied respectively.

When you create a Group Calculation, you can choose to include or exclude the Tier One weightings from the calculation, i.e. the weighting held against each Task. If you choose a non-weighted type of calculation to run against the Task Type, using the **Calculation Type** drop list, such as the 'Mean',

'Normalised Total' or 'Total', then the weighting assigned to the Tasks is ignored. (Each Task is treated as having an equal value of 1.0.) If you choose a weighted type of calculation to run against the Task Type, such as the 'Normalised Weighted Total' or 'Weighted Total', then the weighting assigned to the Tasks are included in the calculation. The figures produced from these calculations will reflect the proportional importance of each Task within the Task Type. For further details, see *About the Types of Calculations on p.29*.

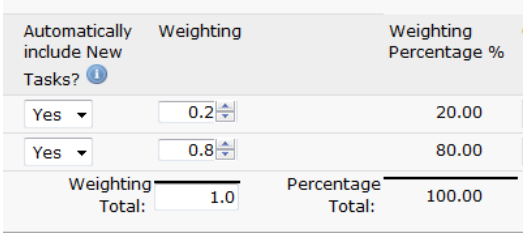
The **Group Calculation** wizard automatically calculates the proportional value of the Tasks in relation to other Tasks of the same Task Type, i.e. the percentage value for each Task. This is important as you do not have to decide on the number of Tasks and their proportional value from the outset. You can continue to add Tasks with varying weightings within **Markbook Tasks**. These Tasks can be automatically included in the relevant Group Calculation (using the auto include option), and the **Group Calculation** wizard performs the relevant calculations to work out the proportional values of the weightings for each Task.

However if you are using weighted calculations, then you must ensure that whoever adds Tasks and weightings for those Tasks does so in a manner that makes sense proportionally. You have to ensure that you set the weightings in relation to existing weightings held against Tasks of the same Task Type. For example, the results of the Group Calculation would display skewed resultant data if one teacher was entering weighting values in units against Tasks, such as '2', and another was entering weighting values in tens, such as '30'.

About Tier Two Weightings

When you create Group Calculations, you can specify how important each Task Type is in relation to one another by setting a weighting against each Task Type Total. The weighting you assign denotes how important that Task Type is relation to the other Task Types within the Group Calculation, i.e. what proportion of the Overall Calculation is derived from each Task Type Total.

For example in the Diagrams A-D above, the 'Homework' Task Type has a weighting of '0.2' and is deemed considerably less important than the 'Project' Task Type with a weighting of '0.8'.



When you create a Group Calculation, you can choose to include or exclude the Tier Two weightings from the calculation, i.e. the weighting held against each Task Type. If you choose a non-weighted type of calculation for the **Overall Calculation Type**, such as the 'Mean', 'Normalised Total' or 'Total', then the weighting assigned to the Task Type Totals is ignored. (Each Task Type Total is treated as having an equal value of 1.0.) If you choose a weighted type of calculation for the **Overall Calculation Type**, such as the 'Normalised Weighted Total' or 'Weighted Total', then the weighting assigned to the Task Types are included in the calculation. The figures produced from these calculations will reflect the proportional importance of each Task Type Total within the Group Calculation. For further details, see *About the Type on p.29*.

In the **Group Calculations** wizard, you can choose how you apply and enter this weighting information for Tier Two weightings (against the Task Types), as the wizard automatically works out the ratio and corresponding percentages. For example, you could enter '1, 2 and 3'. This is the equivalent of saying 1/6, 2/6 and 3/6, as 1+2+3=6. You can also enter ratios using decimal places, for example 0.2 and 0.8. The wizard automatically displays the weighting percentage for each Task Type Total in the **Weighting Percentage** fields.

NOTE: You cannot enter a fraction in the **Weighting** fields, for example you cannot enter 1/6.

About Normalisation and Group Calculations

For Tier One calculations, normalised calculations takes into account the situation where maximum marks differ for different Tasks within one calculation, so that marks are given the appropriate proportional value. If you do not normalise your mark data and your Tasks have differing maximum marks, then you are not comparing like with like.

For example if you had two Tasks, one with a maximum mark of 10 and one with a maximum mark of 100. If a pupil got 9/10 for the first Task and 20/100 for the second Task, the 'Normalised Total' result for this pupil is 55/100. This ensures that the 9/10 mark is not worth less than twice the 20/100, just because the maximum mark is set to 10, it does not mean that a pupil's mark of 9 is worth less than twice the mark of 20 when that 20 was out of 100. If you had performed a 'Total' calculation, then the result for that pupil would be 29/110, as the Total calculation assumes that each Task has the same maximum mark.

By default, the normalisation calculations calculate the percentage value of each mark for each Task, i.e. out of 100, and then divide by the number of Tasks to get the overall percentage value. If you want to specify a normalisation total value other than '100', you can do so for both Tier One and Tier Two calculations simultaneously within **Step 3** of the **Group Calculation** wizard in the **Normalised Maximum Mark** field.

NOTE: If you select a normalised calculation for Tier One calculations against the Tasks within a particular Task Type, and you select a non-normalised calculation for Tier Two against the Task Type, then the normalised value used for Tier One is '100'.

For Tier Two calculations, the normalised calculations ensure that the Task Type Totals are proportionally equal, i.e. if the Tier One calculation was not normalised, then the Tier Two normalisation would ensure that the value of the total maximum mark (derived from adding the maximum mark for each Task within each Task Type together) was proportionally equal between the different Task Types, with the mark values adjusted accordingly.

NOTE: The algorithms for each calculation are provided in the Appendix, see *Appendix A – Markbook Algorithms on p.88*.

About the Types of Calculations

The type of calculation you select has a significant impact on the way in which the Group Calculation is performed. By default, the **Calculation Type** of 'Normalised Weighted Total' is applied against the Tasks within each Task Type, and also for the **Overall Calculation Type**. You can alter this if required. You apply two tiers of calculations using the **Group Calculations** wizard. The Tier One calculations are performed against the Tasks within the specified Task Types, and the Tier Two calculations are performed against the Task Type Totals.

For example, some schools may choose to use Group Calculations to normalise the figures held against each Task (i.e. to calculate the percentage figure for each Task for each pupil), and then apply the weighting. Whereas other schools may choose to use Group Calculations to apply the weighting against each Task, then normalise the figures held against each Task. If you are unsure what normalisation means, see *About Normalisation and Group Calculations on p.29*.

Each type of calculation is explained for both Tier One and Tier Two calculations, and subsequently two examples are given of how you may choose to combine the Tier One and Two calculations, see:

- *About the Calculation Type for Tier One Calculations on p.30*.
- *About the Overall Calculation Type for Tier Two Calculations on p.31*.
- *About Example A – Normalise against Tier One, Weighting against Tier Two on p.32*.
- *About Example B – Weighting against Tier One, Normalise against Tier Two on p.33*.

NOTE: The algorithms for each calculation are provided in the Appendix, see *Appendix A – Markbook Algorithms on p.88*.

About the Calculation Type for Tier One Calculations

Both the **Calculation Type** drop list, for Tier One calculations, and the **Overall Calculation Type** drop list, for Tier Two calculations, contain the same calculation options, but the calculations for Tier One are applied against the Tasks, and the calculations for Tier Two are applied against the Task Type Totals. The following table describes the options available in the **Calculation Type** drop list for Tier One calculations:

Calculation Type list item	Item Description
Normalised Weighted Total	By default, this item is chosen. This calculation performs the following against each Task within the specified Task Type: 1. For each pupil, the mark for each Task is normalised against the other Tasks within that Task Type. 2. Applies the weightings to the normalised marks.
Mean	This calculation performs the following against each Task within the specified Task Type: • For each pupil, the marks for each Task are added together, then divided by the number of Tasks. **NOTE**: This calculation does not take into account if the Tasks have different Maximum Marks or the weighting specified for the Tasks.
Normalised Total	This calculation performs the following against each Task within the specified Task Type: • For each pupil, the mark for each Task is normalised against the other Tasks within that Task Type. **NOTE**: This calculation does not take into account the weighting specified for the Tasks.
Total	This calculation performs the following against each Task within the specified Task Type: • For each pupil, the marks for each Task are added together. **NOTE**: This calculation does not take into account if the Tasks have different Maximum Marks or the weighting specified for the Tasks.
Weighted Total	This calculation performs the following against each Task within the specified Task Type: 1. For each pupil, applies the weightings to the mark for each Task. 2. Adds up all the weighted marks. **NOTE**: This calculation does not take into account if the Tasks have different Maximum Marks.

NOTE: For information about normalisation, see *About Normalisation and Group Calculations on p.29*.

About the Overall Calculation Type for Tier Two Calculations

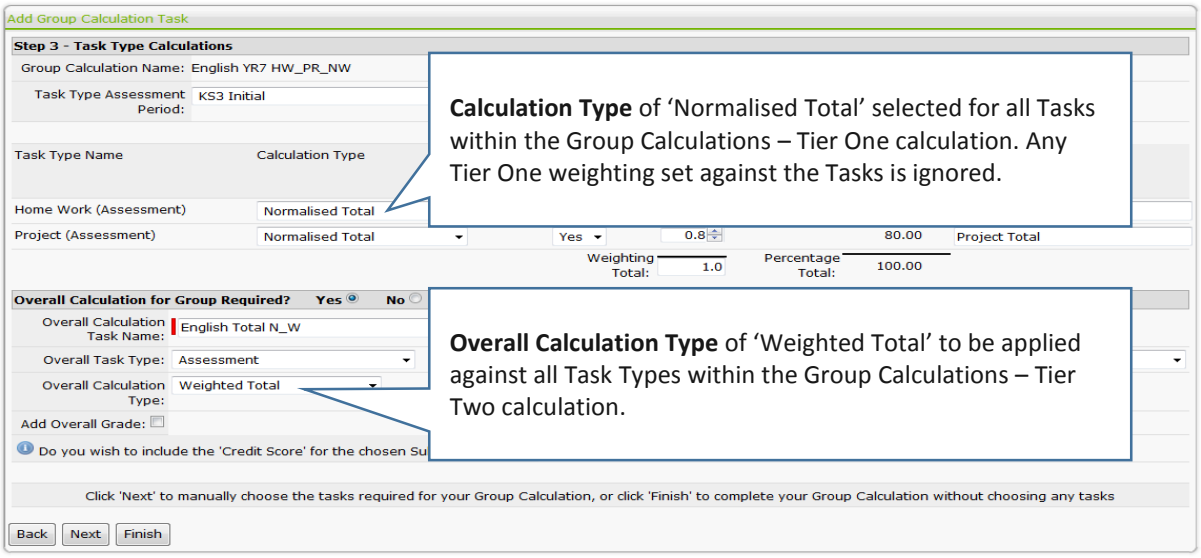
Both the **Calculation Type** drop list, for Tier One calculations, and the **Overall Calculation Type** drop list, for Tier Two calculations, contain the same calculation options, but the calculations for Tier One are applied against the Tasks, and the calculations for Tier Two are applied against the Task Type Totals. The following table describes the options available in the **Overall Calculation Type** drop list for Tier Two calculations:

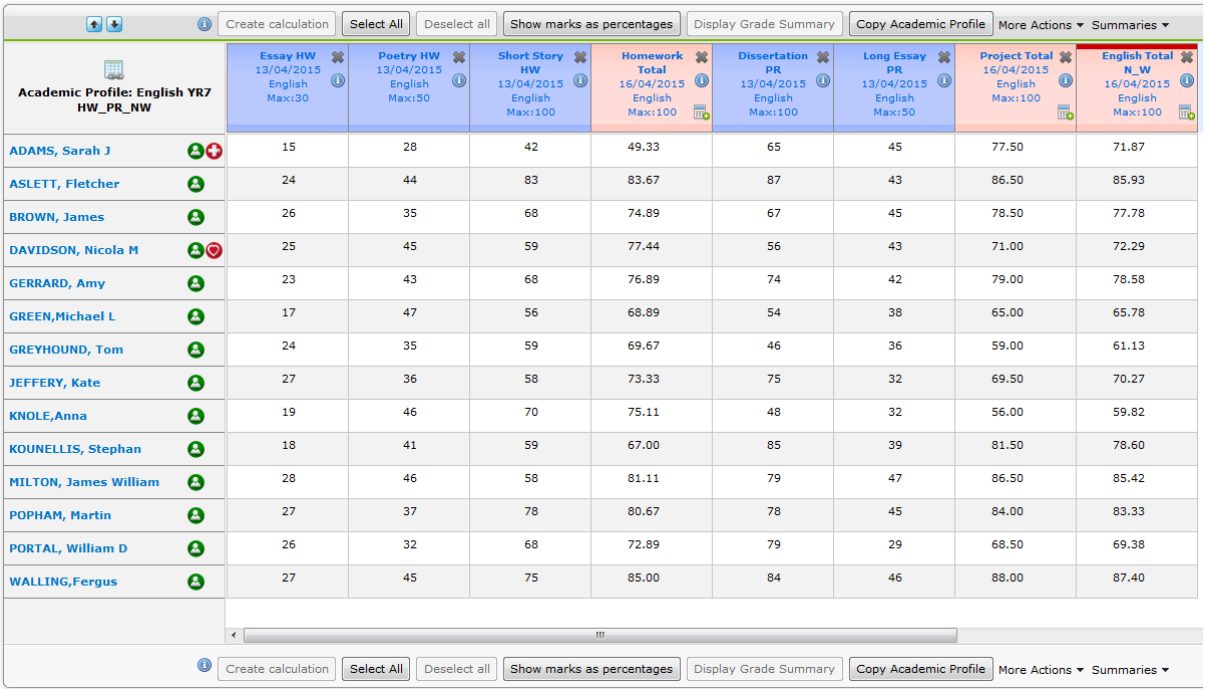
Overall Calculation Type list item	Item Description
Normalised Weighted Total	By default, this item is chosen. This calculation performs the following against each Task Type Total specified: 1. For each pupil, the mark for each Task Type Total is normalised. 2. Applies the weightings to the normalised marks.
Mean	This calculation performs the following against each Task Type Total specified: • For each pupil, the marks for each Task Type Total are added together, then divided by the number of Task Types. **NOTE**: This calculation ignores Tier Two weighting and does not normalise the Task Type Totals in relation to one another.
Normalised Total	This calculation performs the following against each Task Type Total specified: • For each pupil, the mark for each Task Type Total is normalised against the other Task Type Totals within the Group Calculation. **NOTE**: This calculation ignores Tier Two weighting.
Total	This calculation performs the following against each Task Type Total specified: • All marks and the maximum marks for each Task Type Total are added up. **NOTE**: This calculation ignores Tier Two weighting and does not normalise the Task Type Totals in relation to one another.
Weighted Total	This calculation performs the following against each Task Type Total specified: 1. For each pupil, applies the weightings to the mark for each Task Type Total. 2. Adds up all the weighted marks. **NOTE**: This calculation does not normalise the Task Type Totals in relation to one another.

NOTE: For information about normalisation, see *About Normalisation and Group Calculations on p.29*.

About Example A – Normalise against Tier One, Weighting against Tier Two

Some schools may choose to use Group Calculations to normalise the figures held against each Task (i.e. to calculate the percentage figure for each Task for each pupil), and then apply the weighting. In this scenario, in the **Calculation Type** drop list for each Task Type, you would choose 'Normalised Total', and in the **Overall Calculation Type** drop list you would choose 'Weighted Total' (see the example screenshot below).

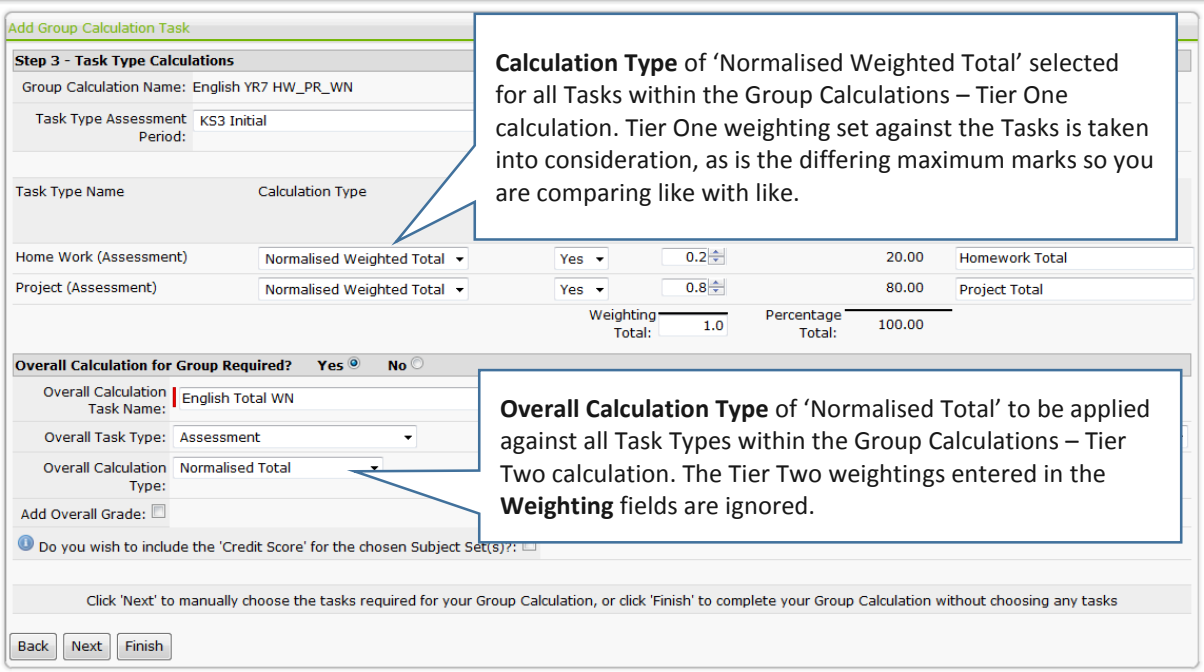


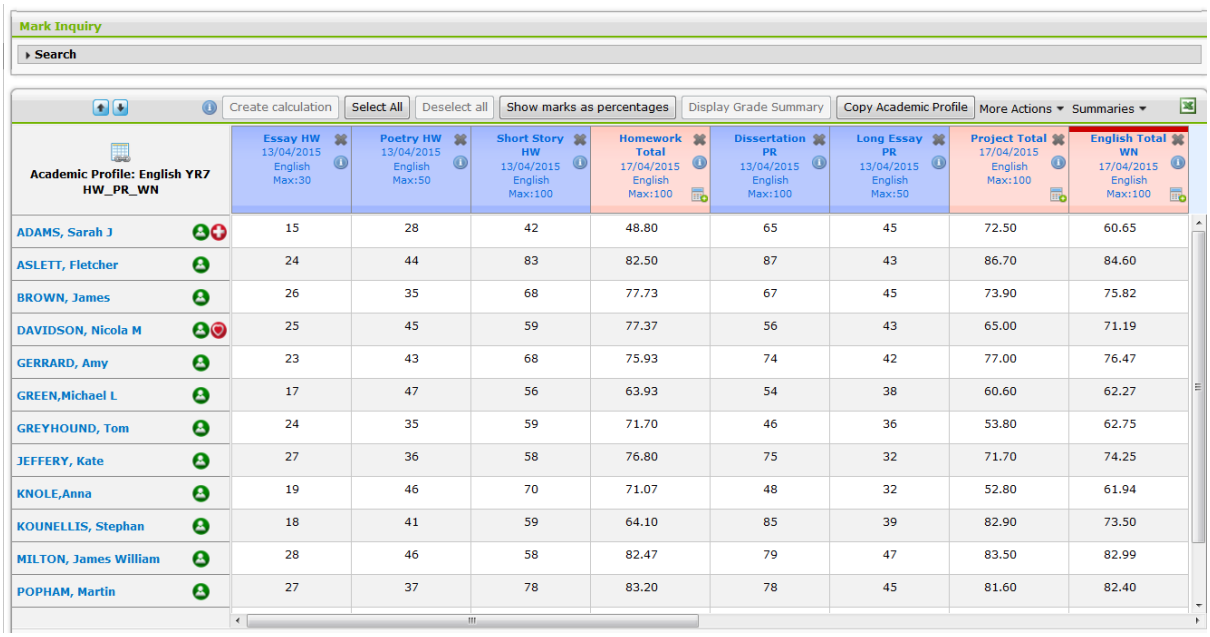


NOTE: If all your Tasks have a weighting of 1.0, which is the default, you could apply 'Normalised Weighted Total' to the Tier One calculations, i.e. against the Tasks, as the result will be the same as if you choose 'Normalised Total'. The benefit of applying the weighting after normalisation is that those staff members, typically teachers, creating the Tasks will not need to alter the default Task weighting of '1.0', and the staff member responsible for setting up Group Calculations, typically a Director of Studies, can control the weighting of the Group Calculation against the Task Types (the Tier Two calculations).

About Example B – Weighting against Tier One, Normalise against Tier Two

Some schools may choose to use Group Calculations to apply the weighting against each Task, then normalise the figures held against each Task Type (i.e. to calculate the percentage figure for each Task for each pupil). In this scenario, in the **Calculation Type** drop list for each Task Type, you would choose 'Normalised Weighted Total' (normalised as the tasks have different maximum marks, and weighted as the Tasks have different weightings applied), and in the **Overall Calculation Type** drop list you would choose 'Normalised Total' (see the example screenshot below).





NOTE: The different Task Type Total marks and the different Overall Total marks between Example A and Example B (the Total columns have a pink background). The base markbook data is the same, but the Total columns differ because of the different types of calculations performed against the data.

About Automatically Including New Tasks

The option to automatically include all relevant new Tasks within a Group Calculation is a significant and powerful tool. By default the option to automatically include new Tasks fulfilling the relevant criteria is set to 'Yes'. Only those new Tasks that match the following criteria are automatically added to a Group Calculation:

- The Task Type of the Task (as set up in **Markbook Tasks**), matches the Task Type specified in the Group Calculation (in **Step 2** of the **Group Calculation** wizard), and the auto include option is set to 'Yes' (in the **Automatically include New Tasks?** drop list, in **Step 3** of the **Group Calculation** wizard.)
- The Assessment Period for the Task (as set up in **Markbook Tasks**), matches that given in the **Task Type Assessment Period** drop list in **Step 3** of the **Group Calculation** wizard.
- The school in which the Task was created matches the school with which the Group Calculation is associated with, i.e. Group Calculations are created within the context of a particular school. Consequently if you swap between schools you will only see the Group Calculations that have been set up for that school.
- The academic year in which you are logged in as matches that in which the Group Calculation was created.

The benefit of the auto include option is that at the beginning of the academic year you, as the Director of Studies or someone with similar responsibilities, may not know how many 'Homework' pieces each teacher will set for each subject, but you are likely to know the proportionate value that you wish to assign to that Task Type of 'Homework' within the Group Calculation. For example the teacher of English 10A, may set 9 or 10 'Homework' Tasks and 4 or 5 'Project' Tasks over an academic term, whereas the teacher of English 10B may set 4 or 5 'Homework' Tasks and 5 or 6 'Project' Tasks. Within the Group Calculation, you may place a percentage value of 20% for the 'Homework' Tasks (regardless of how many pieces of homework were produced and marked), and a percentage value of 80% against the 'Project' Tasks (again regardless of the number 'Project' Tasks produced and marked). If you set the auto include option to 'Yes', it does not matter how many Tasks each teacher creates for each Task Type, as **3Sys Markbooks** will automatically retrieve the relevant Tasks and markbook data and include them in the relevant linked Group Calculation Academic Profiles. In most circumstances, it is likely the auto include option is set to 'Yes'. However, from time to time it might be applicable to exclude newly created tasks, so the system provides this flexibility for you.

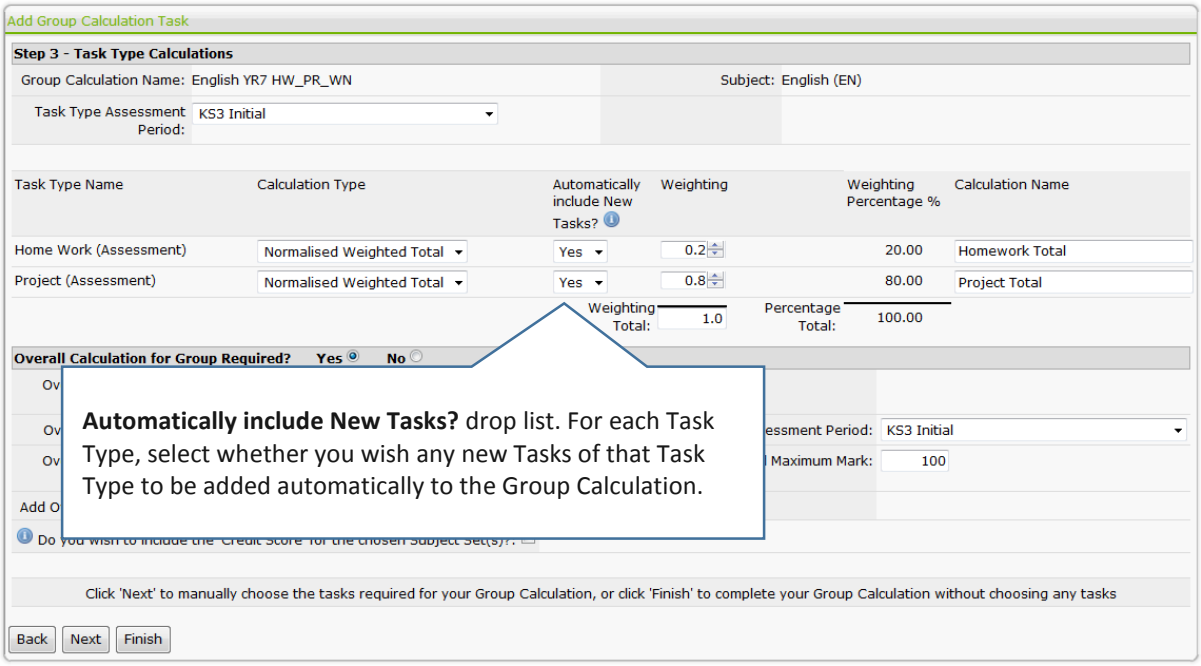
If the auto include option is set to 'Yes':

- Only those Tasks that are created AFTER the configuration of the Group Calculation will be automatically included.
- Any historical Tasks that already exist on the system will NOT be included by selecting 'Yes' in the auto include option. (If you wish to add existing Tasks to the Group Calculation, you must do so manually.)

If the auto include option is set to 'No':

- Newly added Tasks are NOT automatically included in the Group Calculation. You will need to manually add existing Tasks to the Group Calculation.

You set the auto include option using the **Automatically include New Tasks?** drop list, from within **Step 3** of the **Group Calculation** wizard, as shown in the screenshot below.



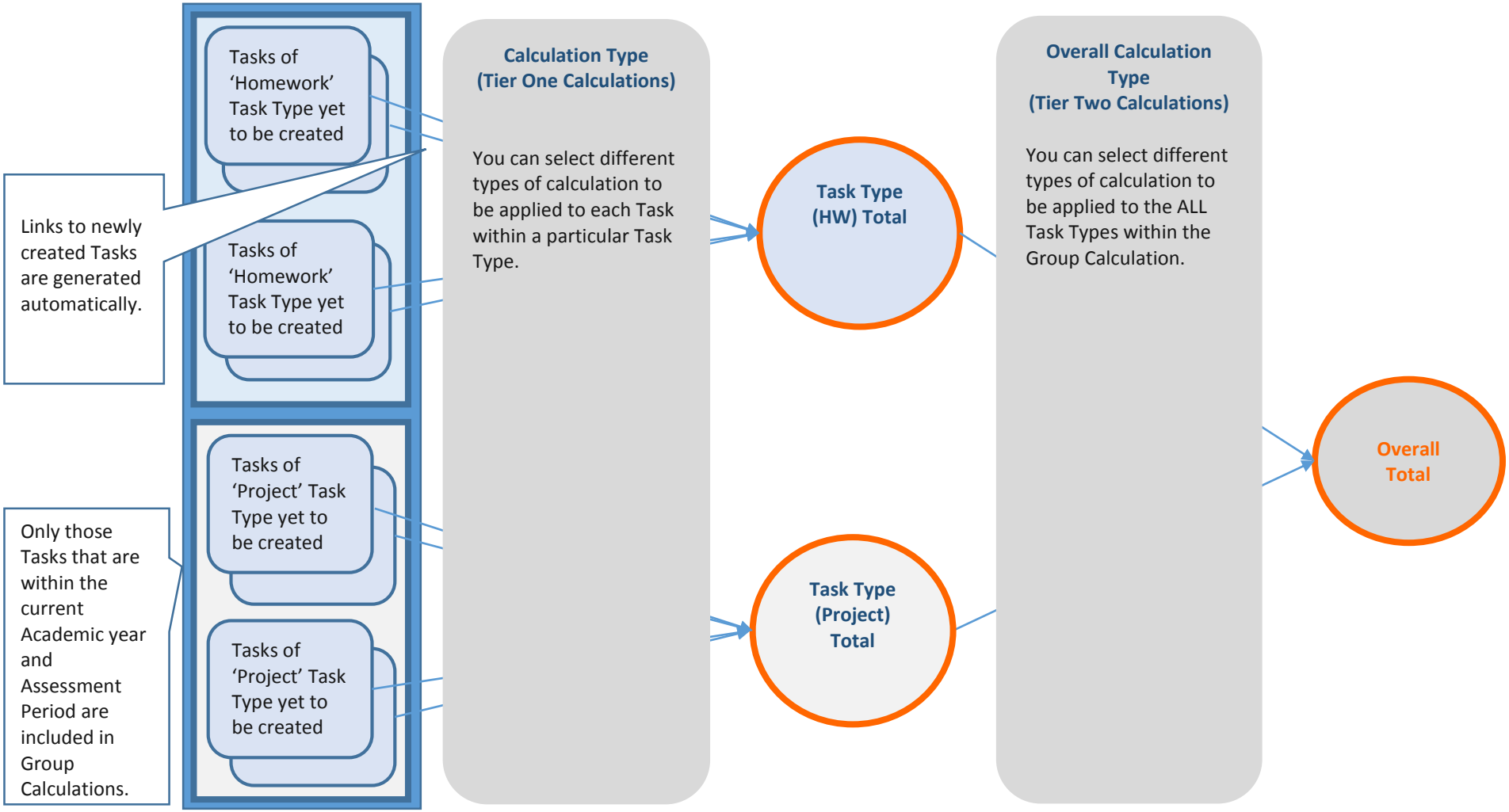
NOTE: If the **Automatically include New Tasks?** drop list is amended from 'Yes' to 'No', then any Tasks that have been added to the Group Calculation already will remain in the Group Calculation, but no further newly created Tasks of that Task Type will be automatically added to the Group Calculation. If the **Automatically include New Tasks?** drop list is amended from 'No' to 'Yes', then new Tasks will be automatically added to the Group Calculation from the day of the change. (If you wish to include Tasks that exist before the day of the change, you will need to do so manually.)

Diagram E below shows a Group Calculation with no existing Tasks in the Task Types, but the auto include option has been set to 'Yes'. In this scenario, until the new Tasks of the relevant Task Types have been added to **3Sys Markbooks**, the linked Group Calculation Academic Profile will have no Task columns or markbook data.

If you wish to manually add Tasks to Group Calculations, see *About Manually Including Existing Tasks on p.37*.

About Setting Up Group Calculations with NO Existing Tasks - Diagram E

Summary: This diagram serves to illustrate that if you have the auto include option set to 'Yes', then you can create Group Calculations to include Tasks that have yet to be created.



About Manually Including Existing Tasks

As well as setting up Group Calculations to automatically include the relevant new Tasks, which have been added after the Group Calculations have been created, you can also manually add existing Tasks to Group Calculations. This is particularly relevant if you've yet to set up Group Calculations but you already have Tasks and markbook data entered into **3Sys Markbooks**. This situation might occur if your academic year or term has already started and you have yet to set up Group Calculations. You can manually include existing Tasks when you first create a Group Calculation or when you subsequently edit a Group Calculation.

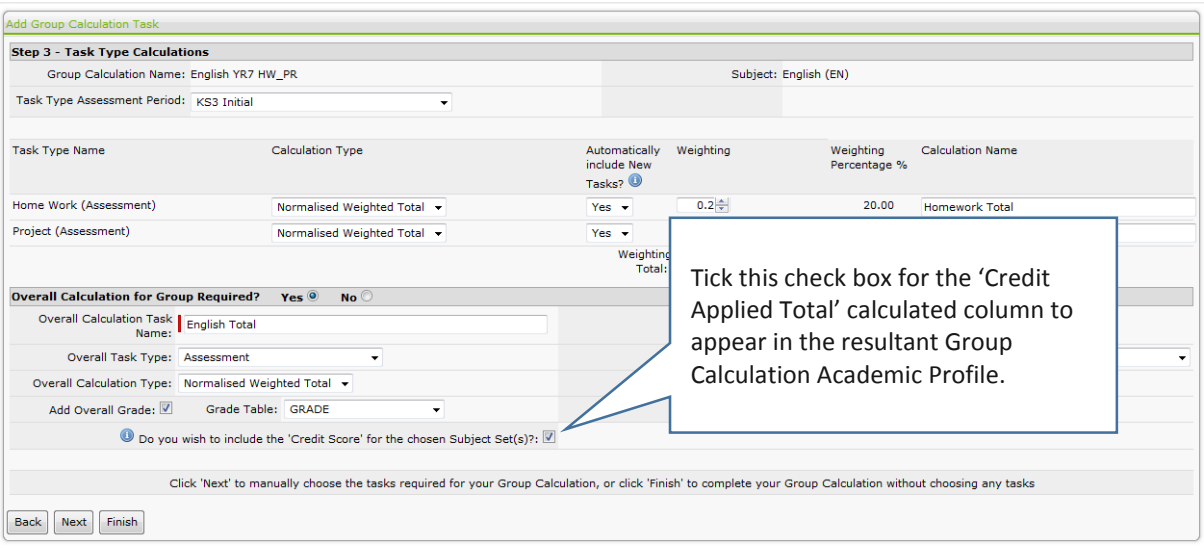
NOTE: If you do not manually add EXISTING Tasks to Group Calculations then these existing Tasks will not appear in the resultant linked Group Calculation Academic Profiles.

You manually add existing Tasks to Group Calculations using **Step 4** of the **Group Calculation** wizard. For details, see *About Step 4 – Group Calculation wizard on p.59*.

About Credit Scores and Group Calculations

When you set up Subject Sets, you can specify a Credit Score against it. A Credit Score enables you to specify the proportional value for each Subject Set. For example, an 'A level' Subject Set may have a Credit Score of '1.0', whereas an 'AS level' Subject Set may have a Credit Score of '0.5', as the 'AS level' is worth half of an 'A level'.

Within the **Group Calculation** wizard you can choose whether to include an additional 'Credit Applied Total' calculated column, which applies across the Subject Sets for each pupil, and takes into account the Credit Scores held against each Subject Set. You specify whether or not you wish to include a calculated column for Credit Scores in **Step 3** of the **Group Calculation** wizard, using the **Do you wish to include the 'Credit Score' for the chosen Subject Set(s)?** check box. For example:



If your Group Calculation included 'A level' and 'AS level' Subject Sets with proportional Credit Scores set against them, and you choose to include those Credit Scores within the Group Calculation, then the resultant data set would include pupils from two year groups undertaking two different sets of work and exams. Consequently, the data in the 'Credit Applied Total' column would reflect the Credit Score applicable to each pupil, depending whether they were taking an 'A level' or an 'AS level' course. For example, if the pupil 'Joseph Peters' was undertaking an 'A level' course, then the Credit Score held against the 'A level' Subject Set would be used as the multiplier to derive the Credit Score for 'Joseph', whereas if 'Tony Smith' was undertaking an 'AS level' course, then the Credit

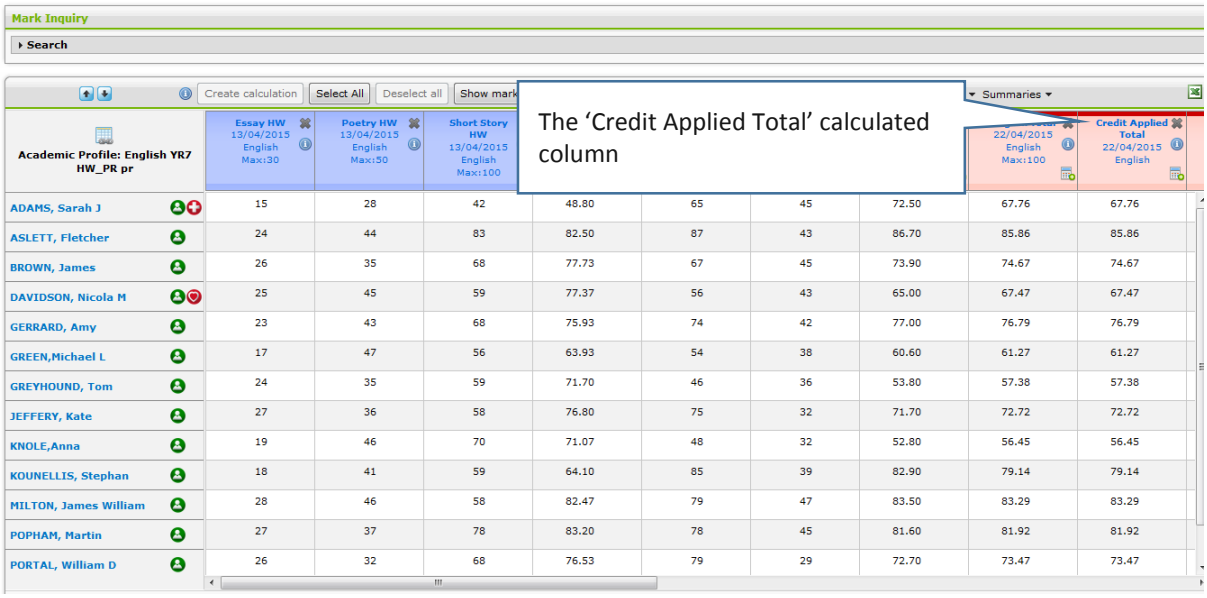
Score held against the 'AS level' Subject Set would be used as the multiplier to derive the Credit Score for 'Tony'.

Credit Scores are applied as multipliers against the Overall Totals. So in the example given above with 'Joseph Peters' and 'Tony Smith', if their Overall Totals were as follows and the Credit Score of '1.0' was applied to the 'A' level and the Credit Score of '0.5' was applied to the 'AS' level, then the following calculation would be performed:

Pupil Names	Overall Total	Credit Applied Total	Calculation for the Credit Applied Total
Joseph Peters	5	5	1 x 5
Tony Smith	7	3.5	0.5 x 7

NOTE: The assumption has been made that a pupil only belongs to one Subject Set within a specific Subject.

In linked Group Calculation Academic Profiles, the Credit Score is shown in its own calculated column called the 'Credit Applied Total' column.



NOTE: If you decide to include the Credit Score within Group Calculations, you must ensure that you have set up Credit Scores against the Subject Sets appropriately. By default, the value of the Credit Score is set to '1.0'.

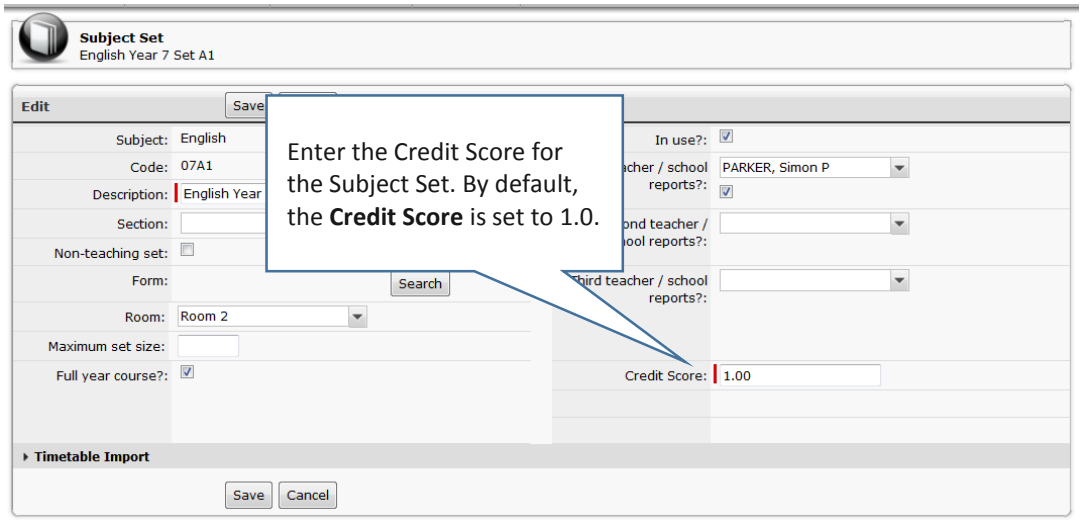
One approach to help to understand the implementation of the Credit Score within a Group Calculation, is to think of the Credit Score as a third tier of weighting, but this weighting is applied at the Subject Set level and gives the separate calculated column of 'Credit Applied Total'.

You set up Credit Scores against Subject Sets in **3Sys** or in **PASS**:

- *About Setting the Credit Score using 3Sys Academic on p.39*.
- *About Setting the Credit Score using PASS on p.39*.

About Setting the Credit Score using 3Sys Academic

You can use **3Sys** to set the Credit Score against each Subject Set, when editing an existing Subject Set or creating a new one, using the **Subject Set** screen. For example:

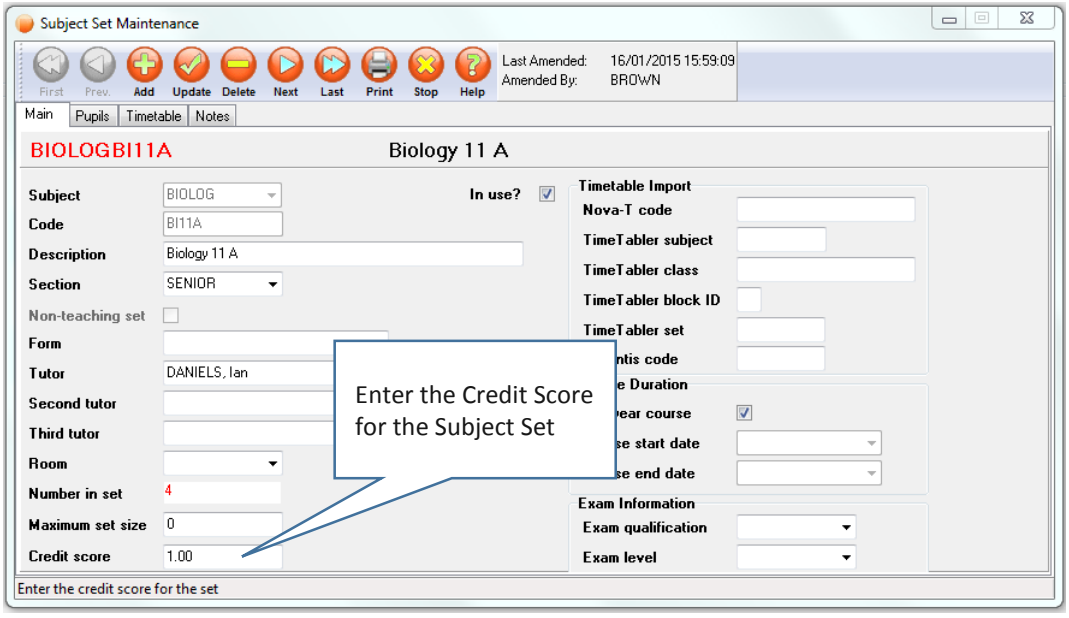


To display the **Subject Set** screen, open the **Subject Sets** module, and from the **Subject Set Search** screen in the **Actions** column click on the relevant **Edit** link, or click the **Add** button to display the **Subject Set** screen.

NOTE: For the **Credit Score** field to appear you need to have configured your Setup settings appropriately. For details, see *Configuring Setup Settings for Group Calculations on p.78*.

About Setting the Credit Score using PASS

You can use **PASS** to set the Credit Score against each Subject Set, using the **Subject Set Maintenance** screen. For example:



Within **PASS** you open the **Subject Set Maintenance** screen by clicking **Academic > Subject Sets > Subject Sets**, and by choosing to add a new or edit an existing Subject Set from the **Subject Set Listing** screen.

About Grade Tables and Group Calculations

You can set up **Group Calculations** so that your pupils' numeric scores are automatically converted into grade text values. Grade Tables are used as part of this process.

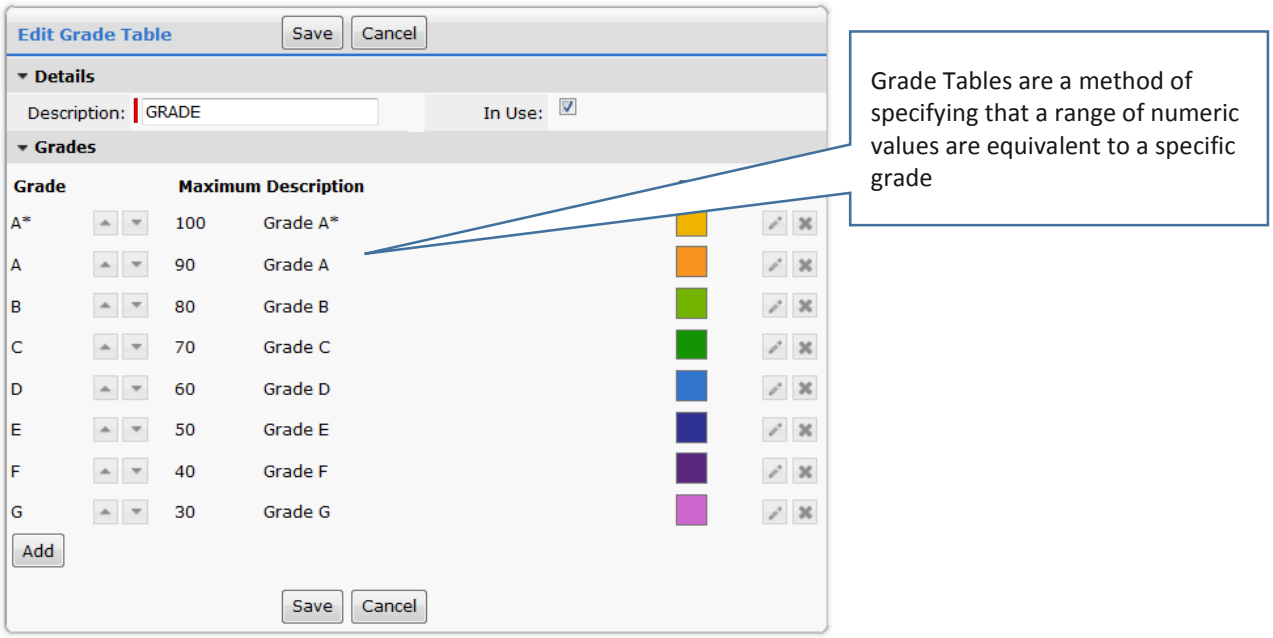
About Grade Tables

A Grade Table specifies each grade and the range of numeric values which fall within that grade. A Grade Table provides a method by which a numeric value can be converted into grade text value.

For example in the Grade Table shown in the screenshot below the range of numeric values that apply to each grade are as follows:

A*	100	100
A	90	90-99
B	80	80-89
C	70	70-79 etc.

Consequently if a pupil gained a numeric score of '81', then the pupil would gain a grade 'B' when the numeric value of '81' is converted to a grade text value using this Grade Table lookup:



It is likely that Grade Tables will have been configured already. You can alter existing Grade Tables or add new Grades Tables using the **Setup** menu, and selecting **Markbooks Management > Grade Tables** menu.

About Grade Tables and Group Calculations

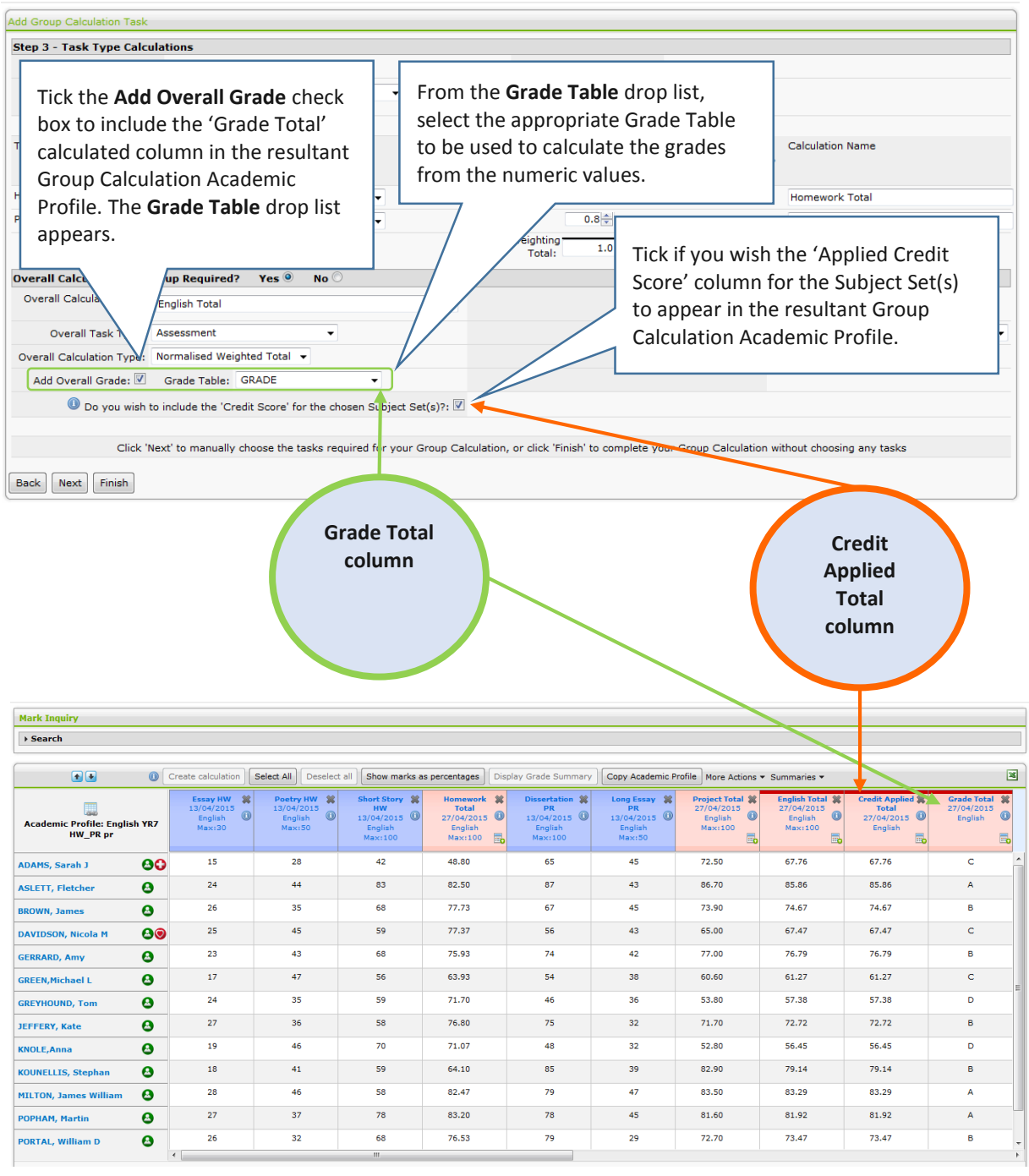
You can set up **Group Calculations** so that your pupils' numeric scores are automatically converted into grade text values. An additional 'Grade Totals' column appears in the resultant Group Calculation Academic Profile.

In **Step 3** of the **Group Calculation** wizard, if you tick the **Add Overall Grade** check box and select a relevant Grade Table from the **Grade Table** drop list, then the 'Grade Total' calculated column appears at the far right of the linked Group Calculation Academic Profile.

The 'Grade Total' column is calculated against data in the '<Subject> Total' calculated column, unless a Credit Score has been included within the Group Calculation in which case the 'Grade Total' column is calculated against the data in the 'Credit Applied Total' calculated column.

For example, the diagram below shows:

- **Step 3** of the **Group Calculations** wizard - with the **Overall Grade** check box ticked, and the Grade Table to reference selected in the **Grade Table** drop list. The **Credit Score** check box has also been selected.
- **Mark Inquiry** - with the resultant Group Calculations Academic Profile with the 'Grade Total' calculated column displayed. (As the **Credit Score** check box was selected in **Step 3** of the **Group Calculations** wizard, the values in the 'Grade Total' column have been calculated against the values in the 'Credit Applied Total' column, using the **Grade Table** specified in **Step 3**.)



	Essay HW 13/04/2015 English Max:30	Poetry HW 13/04/2015 English Max:50	Short Story HW 13/04/2015 English Max:100	Homework Total 27/04/2015 English Max:100	Dissertation PR 13/04/2015 English Max:100	Long Essay PR 13/04/2015 English Max:50	Project Total 27/04/2015 English Max:100	English Total 27/04/2015 English Max:100	Credit Applied Total 27/04/2015 English	Grade Total 27/04/2015 English
ADAMS, Sarah J	15	28	42	48.80	65	45	72.50	67.76	67.76	C
ASLETT, Fletcher	24	44	83	82.50	87	43	86.70	85.86	85.86	A
BROWN, James	26	35	68	77.73	67	45	73.90	74.67	74.67	B
DAVIDSON, Nicola M	25	45	59	77.37	56	43	65.00	67.47	67.47	C
GERRARD, Amy	23	43	68	75.93	74	42	77.00	76.79	76.79	B
GREEN,Michael L	17	47	56	63.93	54	38	60.60	61.27	61.27	C
GREYHOUND, Tom	24	35	59	71.70	46	36	53.80	57.38	57.38	D
JEFFERY, Kate	27	36	58	76.80	75	32	71.70	72.72	72.72	B
KNOLE,Anna	19	46	70	71.07	48	32	52.80	56.45	56.45	D
KOUNELLIS, Stephan	18	41	59	64.10	85	39	82.90	79.14	79.14	B
MILTON, James William	28	46	58	82.47	79	47	83.50	83.29	83.29	A
POPHAM, Martin	27	37	78	83.20	78	45	81.60	81.92	81.92	A
PORTAL, William D	26	32	68	76.53	79	29	72.70	73.47	73.47	B

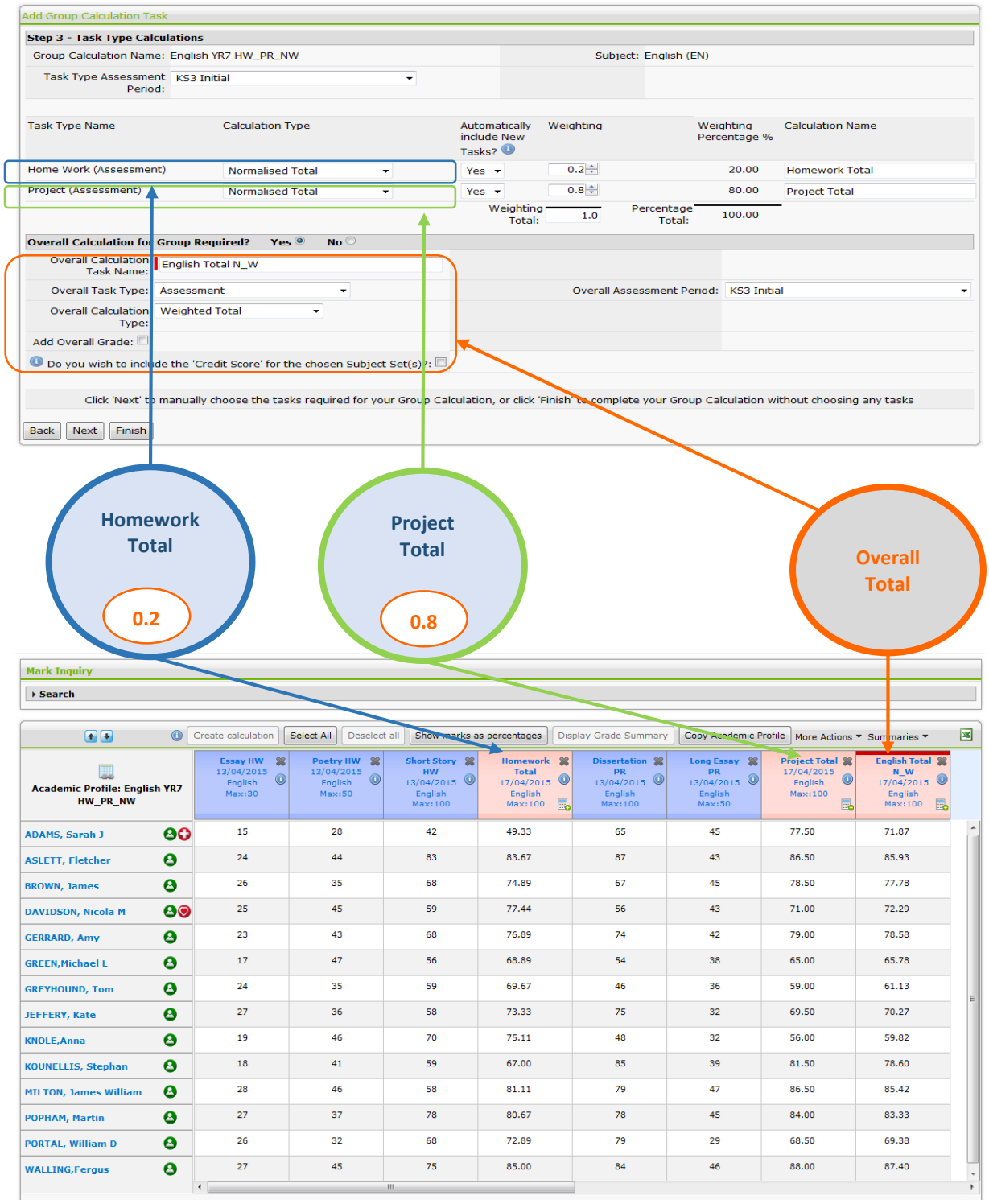
About Example Scenarios

This section provides examples of what you can achieve using Group Calculations and why you may wish to use them. The following example scenarios demonstrate how you can use Group Calculations to perform the following calculations:

- Multiple Task Type calculation.
  For example, you may wish to set up Group Calculations that contain multiple Task Types, such as 'Homework' and 'Projects', where Homework accounts for 20% and Projects 80% of the Overall Mark. For details, see *About a Multiple Task Type Group Calculation – Scenario One on p.43*.
- Single Task Type.
  For example, you may require a Total calculation for all English Homework for Semester One. For details, see *About a Single Task Type Group Calculation – Scenario Two on p.44*.
- Multiple Task Type calculations with Credit Scores, ready for subsequent GPA calculations.
  For example, you may wish to use Group Calculations to automatically calculate the vast majority of the data you need to produce your Grade Point Average (GPA) data for these three subjects: English, Maths and Science. For details, see *About Multiple Task Type Group Calculations with Credit Scores – Scenario Three on p.45*.

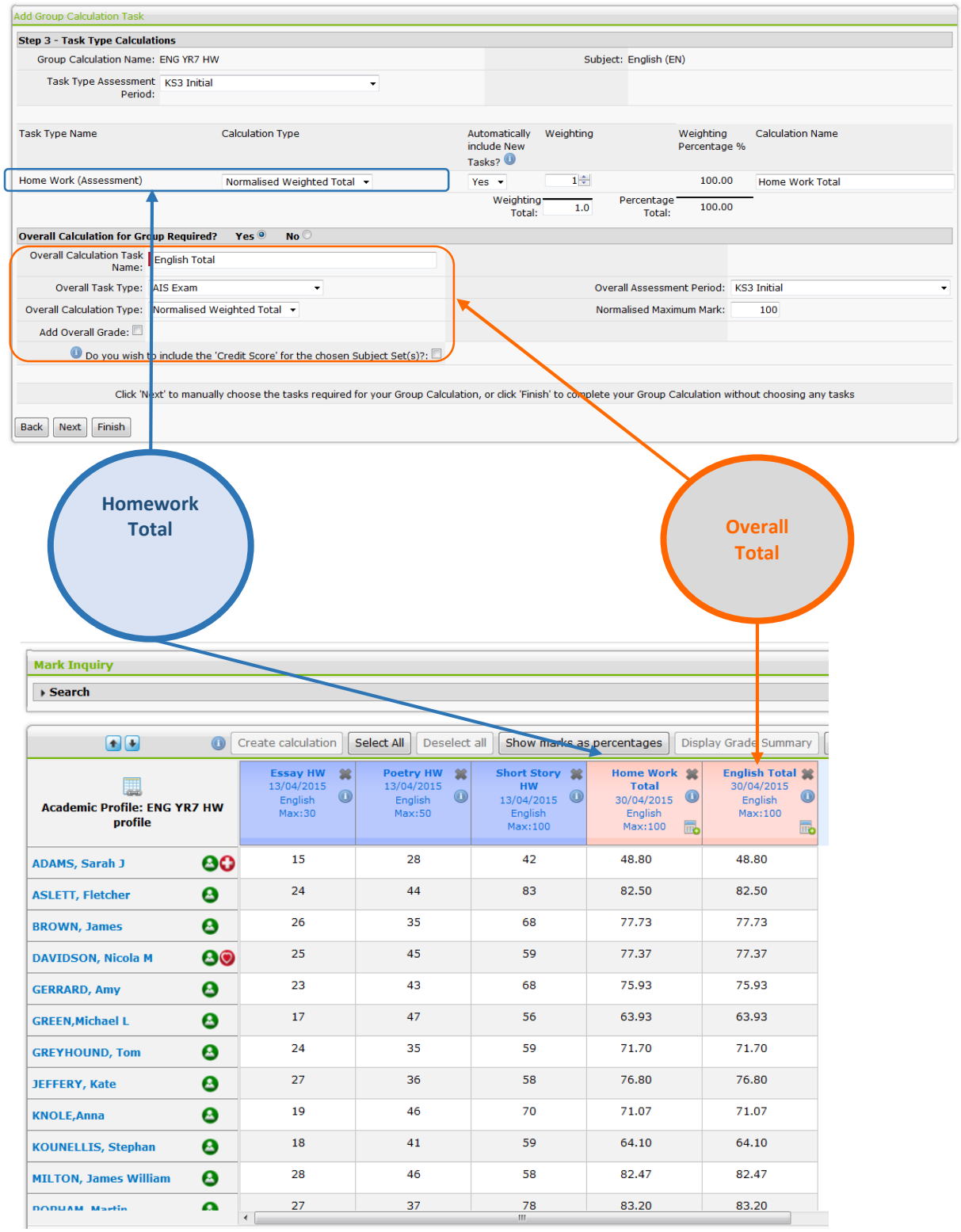
About a Multiple Task Type Group Calculation – Scenario One

You may wish to set up Group Calculations that contain multiple Task Types, such as 'Homework' and 'Projects'. The diagram below demonstrates which components of the Group Calculation generate which columns in the resultant linked Group Calculation Academic Profile, for a Group Calculation with **multiple** Task Types. It also shows the relationship between the Task Type and Overall Calculation as specified in the **Group Calculation** wizard and the resultant columns in the **Mark Inquiry** module. Note that the Tier One Task Type Totals calculation has been set to 'Normalised Total' and the Tier Two Overall Calculation has been set to 'Weighted Total'.



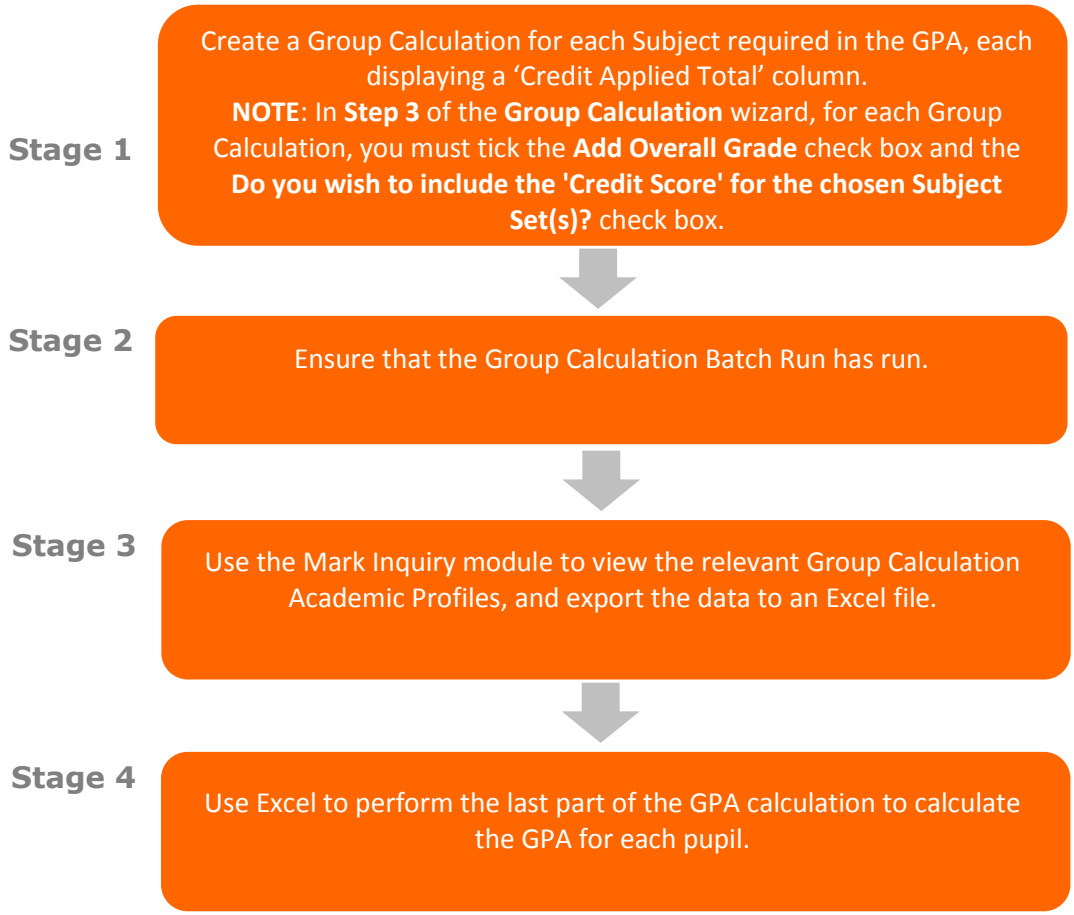
About a Single Task Type Group Calculation – Scenario Two

You don't have to include multiple Task Types within Group Calculations, you can include just one Task Type. For example, you may require a Total calculation for all English Homework for Semester One. The diagram below demonstrates which components of the Group Calculation generate which columns in the resultant linked Group Calculation Academic Profile, for a Group Calculation with a **single** Task Type. It also shows the relationship between the Task Type and Overall Calculation as specified in the **Group Calculation** wizard and the resultant columns in the **Mark Inquiry** module.



About Multiple Task Type Group Calculations with Credit Scores – Scenario Three

You can use Group Calculations to automatically calculate the vast majority of the data you need to produce your Grade Point Average (GPA) data, by undertaking the following process:



NOTE: You could also use Report Builder to view the resultant Academic Profile data.

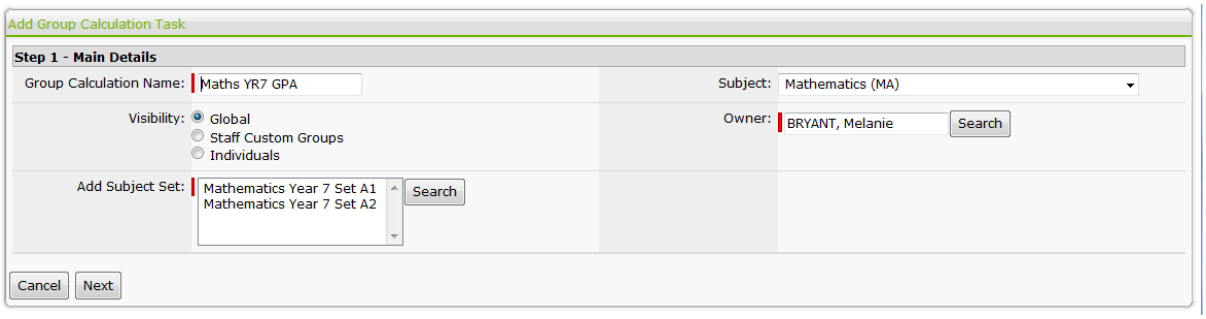
This example details deriving GPA results based on the following three Subjects, each of which has multiple Task Types:

- Maths – with Exam and Project Task Types.
- English – with Homework and Project Task Types.
- Science – with Exam and Project Task Types.

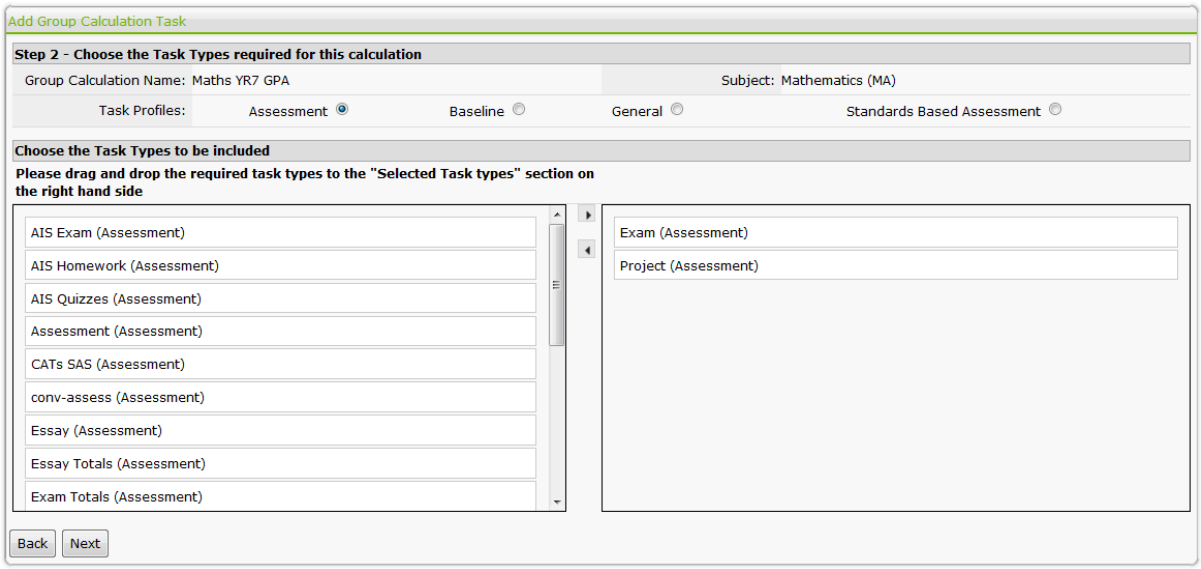
About the 'Maths' Multiple Task Type Group Calculation (Scenario Three)

This example provides a screenshot for each step within the **Group Calculation** wizard, and the resultant linked Group Calculation Academic Profile.

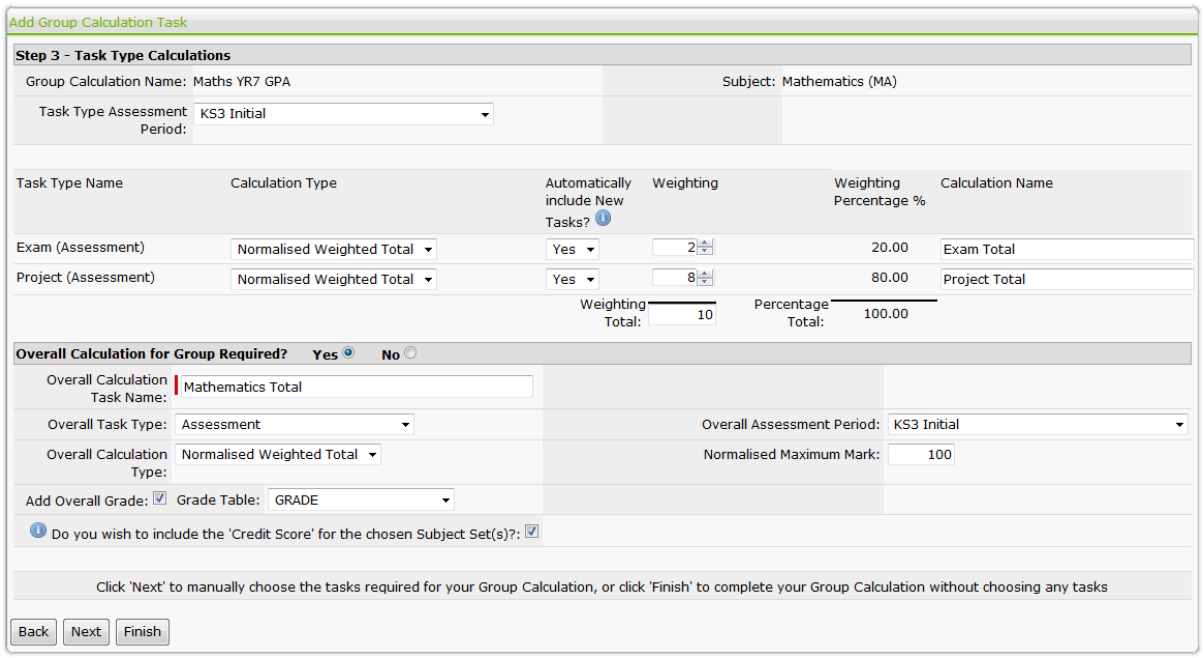
Step 1 – Group Calculation wizard – Mathematics Group Calculation for Scenario Three:



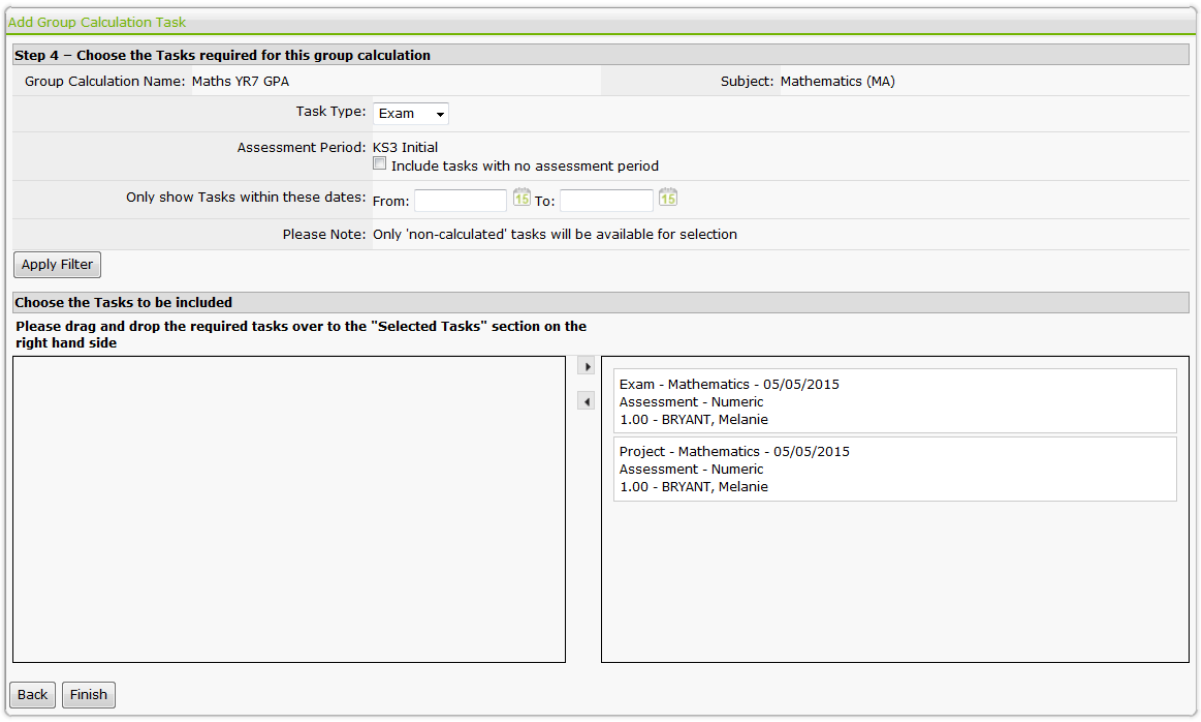
Step 2 – Group Calculation wizard – Mathematics Group Calculation for Scenario Three:



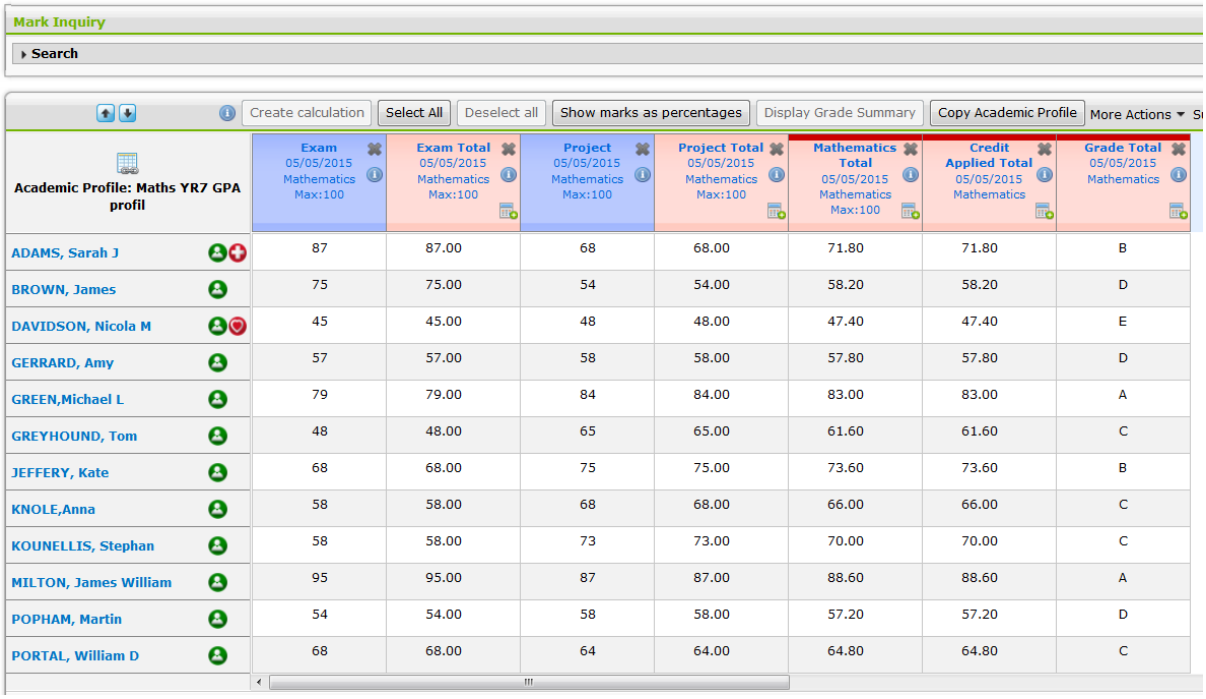
Step 3 – Group Calculation wizard – Mathematics Group Calculation for Scenario Three:



Step 4 – Group Calculation wizard – Mathematics Group Calculation for Scenario Three:



Mark Inquiry - resultant linked Group Calculation Academic Profile – Mathematics Group Calculation for Scenario Three:

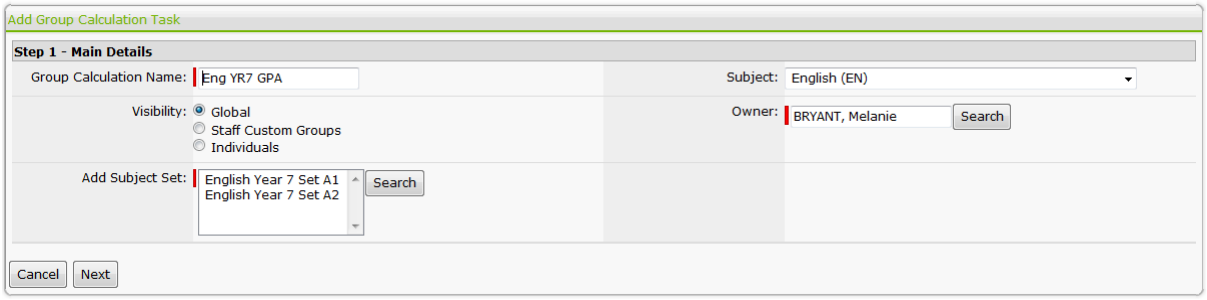


Academic Profile: Maths YR7 GPA profil	Exam 05/05/2015 Mathematics Max:100	Exam Total 05/05/2015 Mathematics Max:100	Project 05/05/2015 Mathematics Max:100	Project Total 05/05/2015 Mathematics Max:100	Mathematics Total 05/05/2015 Mathematics Max:100	Credit Applied Total 05/05/2015 Mathematics	Grade Total 05/05/2015 Mathematics
ADAMS, Sarah J	87	87.00	68	68.00	71.80	71.80	B
BROWN, James	75	75.00	54	54.00	58.20	58.20	D
DAVIDSON, Nicola M	45	45.00	48	48.00	47.40	47.40	E
GERRARD, Amy	57	57.00	58	58.00	57.80	57.80	D
GREEN,Michael L	79	79.00	84	84.00	83.00	83.00	A
GREYHOUND, Tom	48	48.00	65	65.00	61.60	61.60	C
JEFFERY, Kate	68	68.00	75	75.00	73.60	73.60	B
KNOLE,Anna	58	58.00	68	68.00	66.00	66.00	C
KOUNELLIS, Stephan	58	58.00	73	73.00	70.00	70.00	C
MILTON, James William	95	95.00	87	87.00	88.60	88.60	A
POPHAM, Martin	54	54.00	58	58.00	57.20	57.20	D
PORTAL, William D	68	68.00	64	64.00	64.80	64.80	C

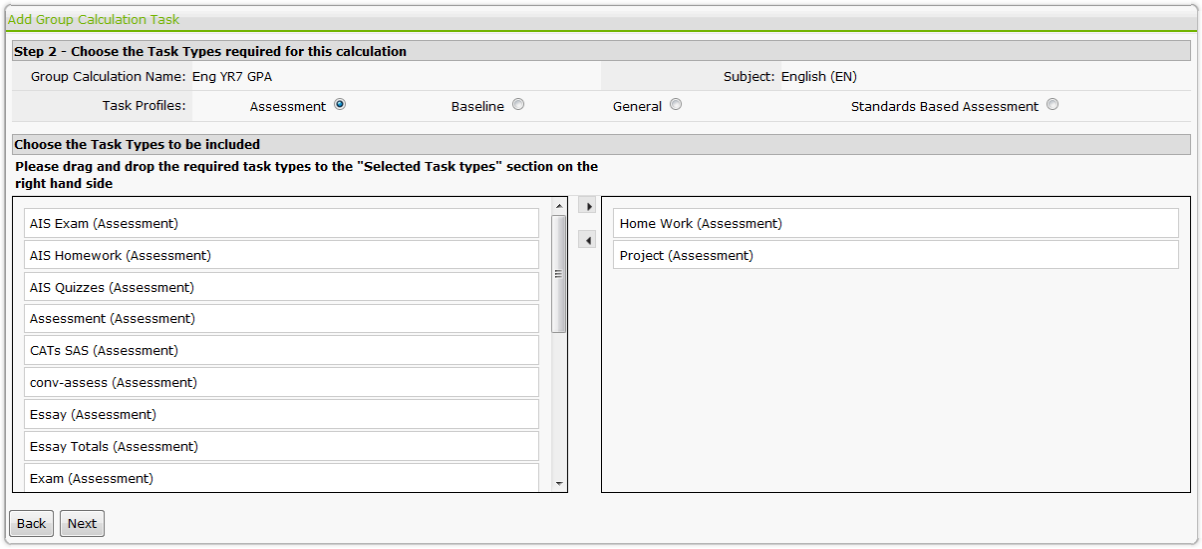
About the 'English' Multiple Task Type Group Calculation (Scenario Three)

This example provides a screenshot for each step within the **Group Calculation** wizard, and the resultant linked Group Calculation Academic Profile.

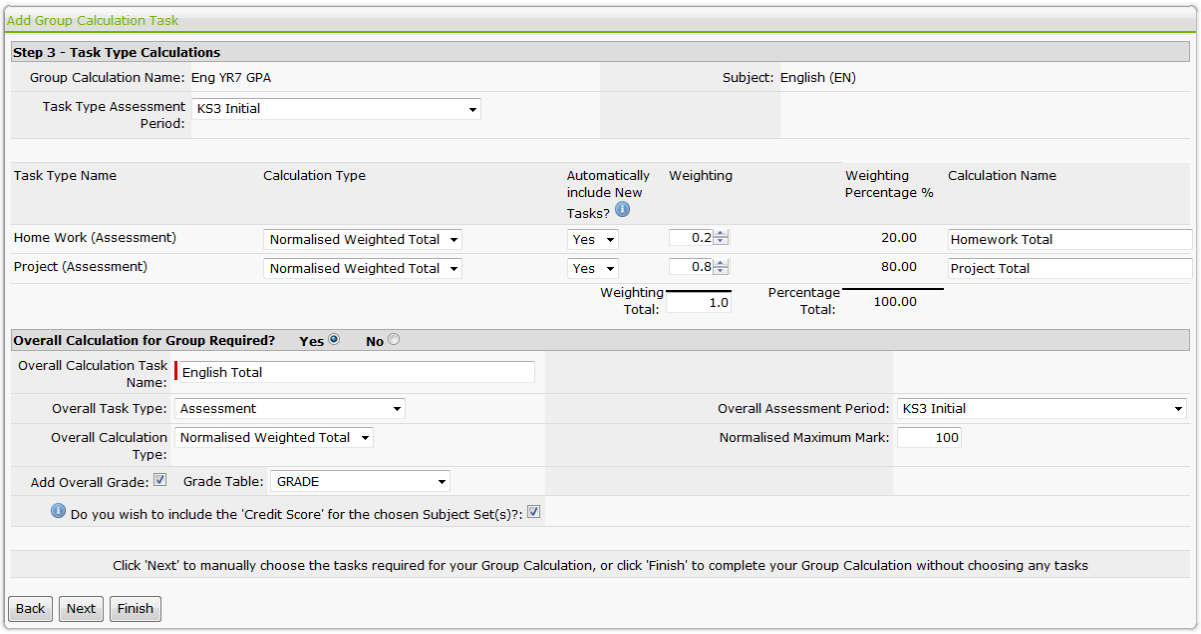
Step 1 – Group Calculation wizard – English Group Calculation for Scenario Three:



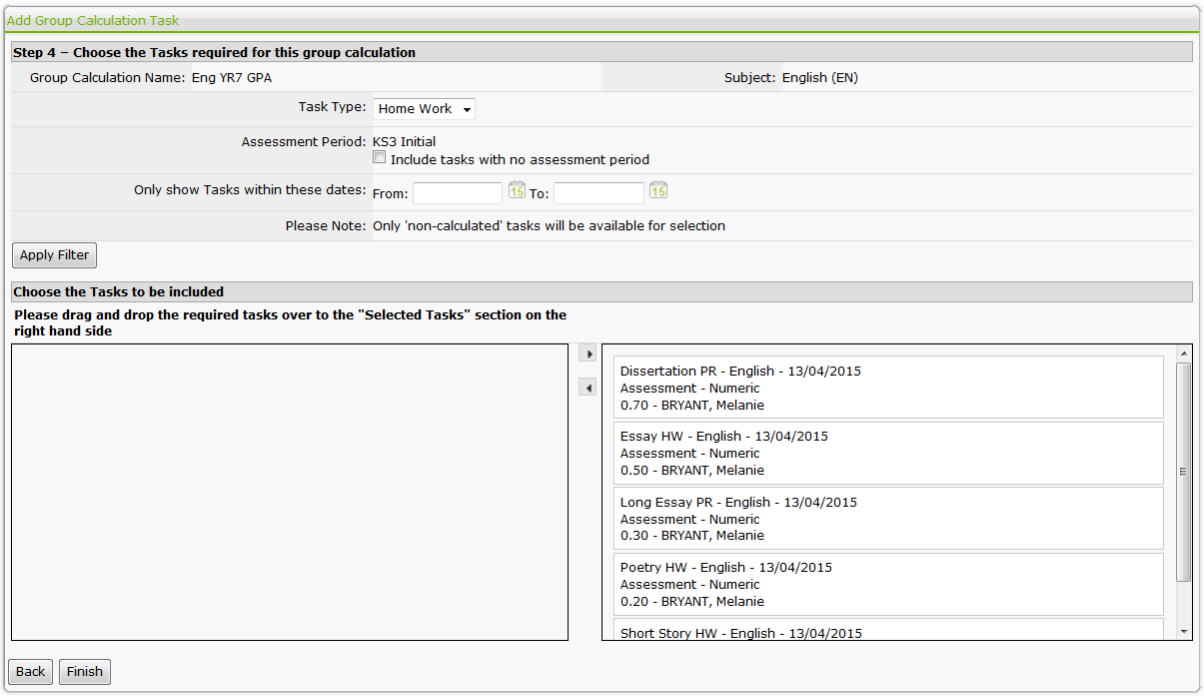
Step 2 – Group Calculation wizard – English Group Calculation for Scenario Three:



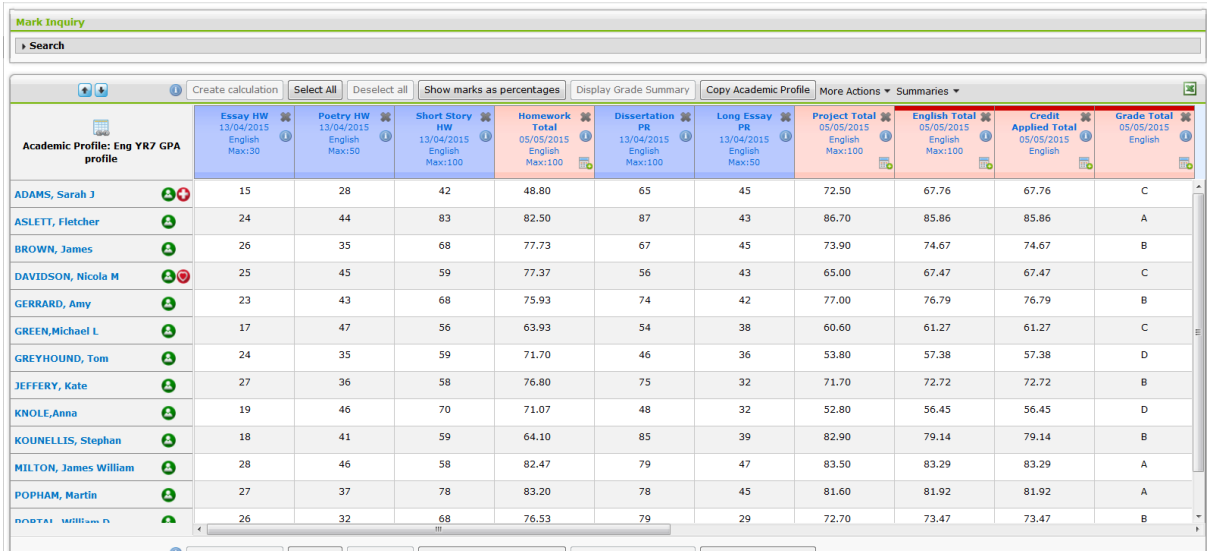
Step 3 – Group Calculation wizard – English Group Calculation for Scenario Three:



Step 4 – Group Calculation wizard – English Group Calculation for Scenario Three:



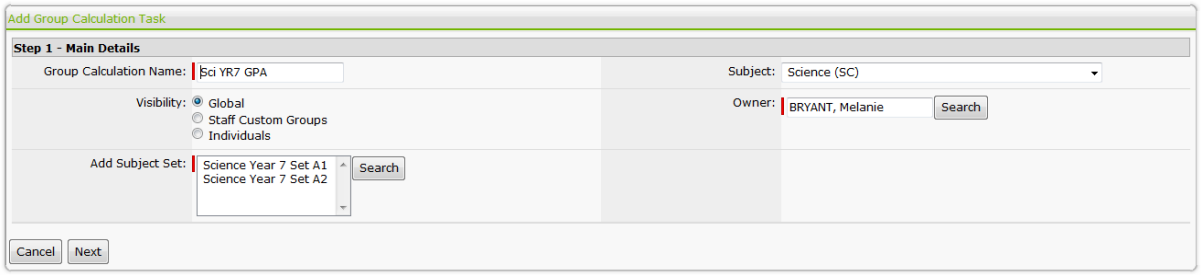
Mark Inquiry - resultant linked Group Calculation Academic Profile – English Group Calculation for Scenario Three:



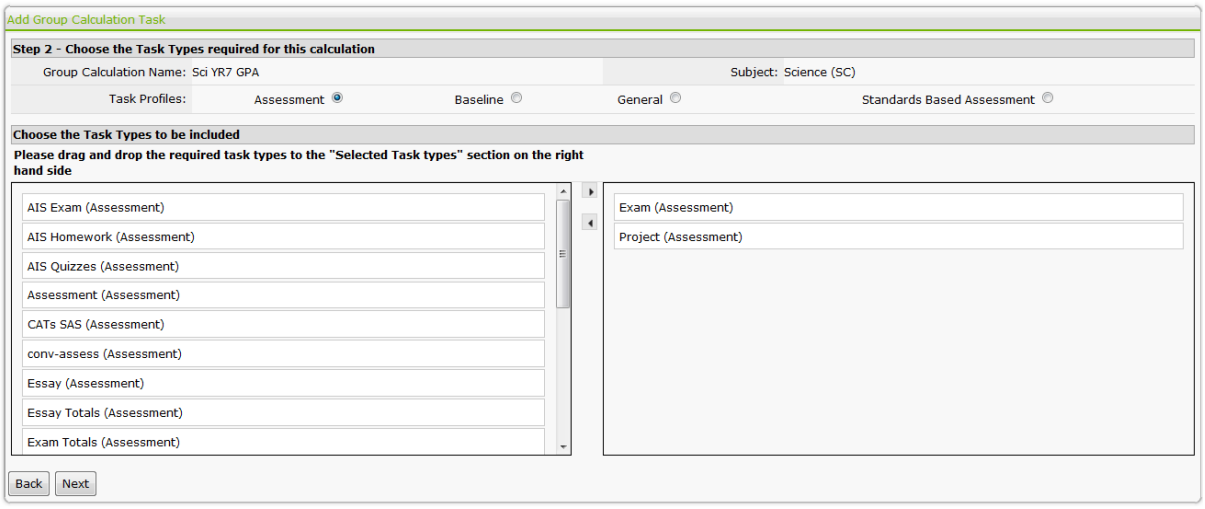
About the 'Science' Multiple Task Type Group Calculation (Scenario Three)

This example provides a screenshot for each step within the **Group Calculation** wizard, and the resultant linked Group Calculation Academic Profile.

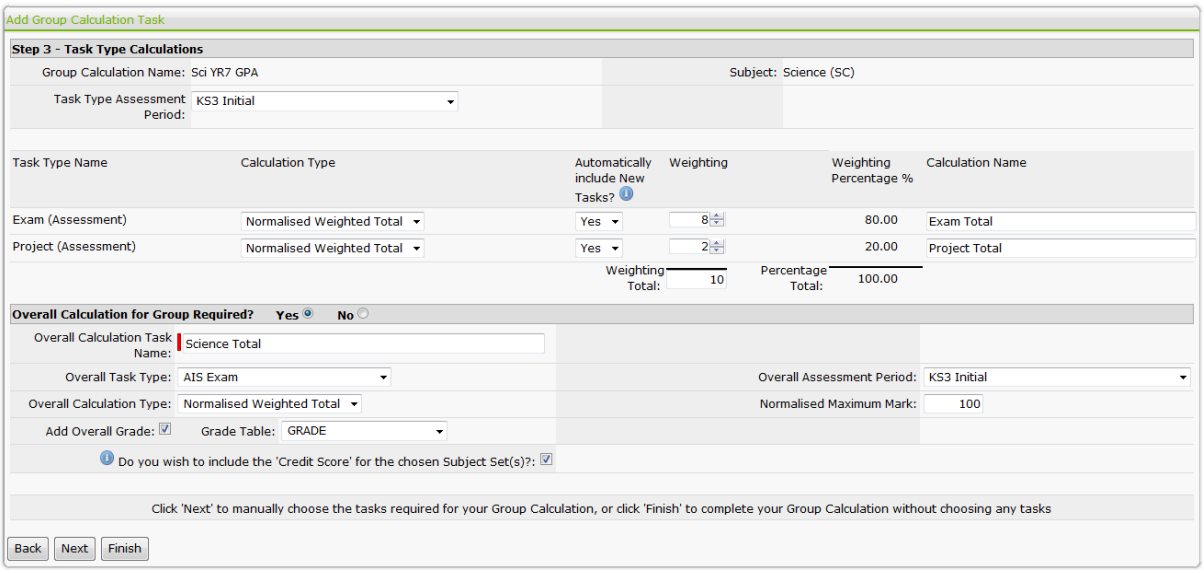
Step 1 – Group Calculation wizard – Science Group Calculation for Scenario Three:



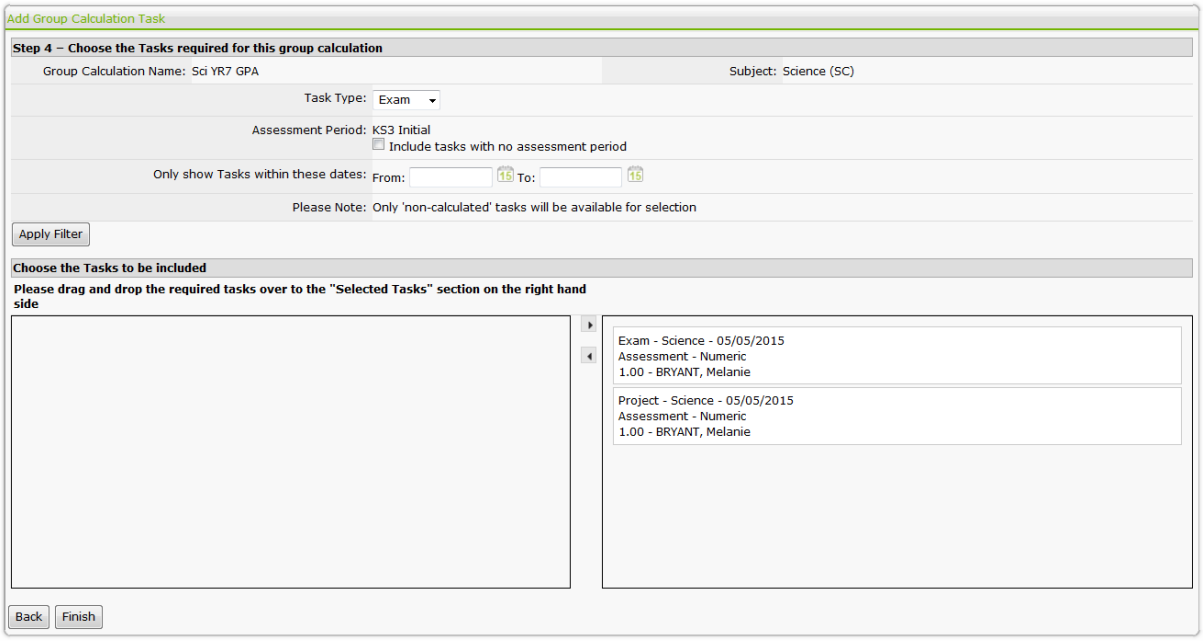
Step 2 – Group Calculation wizard – Science Group Calculation for Scenario Three:



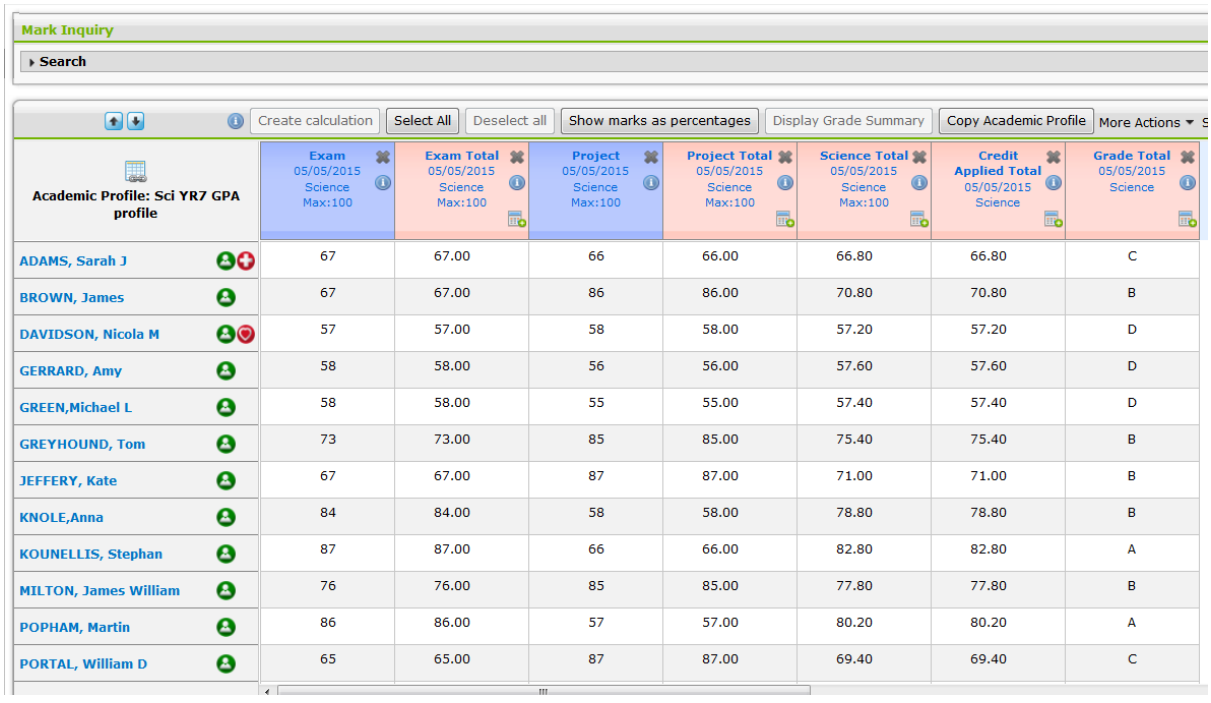
Step 3 – Group Calculation wizard – Science Group Calculation for Scenario Three:



Step 4 – Group Calculation wizard – Science Group Calculation for Scenario Three:



Mark Inquiry - resultant linked Group Calculation Academic Profile – Science Group Calculation for Scenario Three:



Academic Profile: Sci YR7 GPA profile	Exam 05/05/2015 Science Max:100	Exam Total 05/05/2015 Science Max:100	Project 05/05/2015 Science Max:100	Project Total 05/05/2015 Science Max:100	Science Total 05/05/2015 Science Max:100	Credit Applied Total 05/05/2015 Science	Grade Total 05/05/2015 Science
ADAMS, Sarah J	67	67.00	66	66.00	66.80	66.80	C
BROWN, James	67	67.00	86	86.00	70.80	70.80	B
DAVIDSON, Nicola M	57	57.00	58	58.00	57.20	57.20	D
GERRARD, Amy	58	58.00	56	56.00	57.60	57.60	D
GREEN,Michael L	58	58.00	55	55.00	57.40	57.40	D
GREYHOUND, Tom	73	73.00	85	85.00	75.40	75.40	B
JEFFERY, Kate	67	67.00	87	87.00	71.00	71.00	B
KNOLE,Anna	84	84.00	58	58.00	78.80	78.80	B
KOUNELLIS, Stephan	87	87.00	66	66.00	82.80	82.80	A
MILTON, James William	76	76.00	85	85.00	77.80	77.80	B
POPHAM, Martin	86	86.00	57	57.00	80.20	80.20	A
PORTAL, William D	65	65.00	87	87.00	69.40	69.40	C

About Creating Group Calculations

You can access and create Group Calculations from within these four areas of **3Sys**:

- **All Functions** tab
- **Markbook Task** module
- **Subject Set** module
- **Markbook Management** menu within **Setup**

Each of these four options enable you to display the **Group Calculation Task Search** screen, from which you can open the **Add Group Calculation Task** wizard (referred to as the **Group Calculation** wizard). The former enables you to search for existing Group Calculations, and the latter enables you to add new Group Calculations for specific Subjects and Subject Sets. For details, see:

- *About the Group Calculation Task Search screen on p.52*.
- *About the Add Group Calculation Task wizard on p.54*.

NOTE: The resultant Group Calculation Academic Profile data is available for viewing and manipulation using ODBC and Report Builder, as well as using the **Mark Inquiry** module. For details, see *Analysing Group Calculation Data on p.8*.

About the Group Calculation Task Search screen

The **Group Calculation Task Search** screen enables you to:

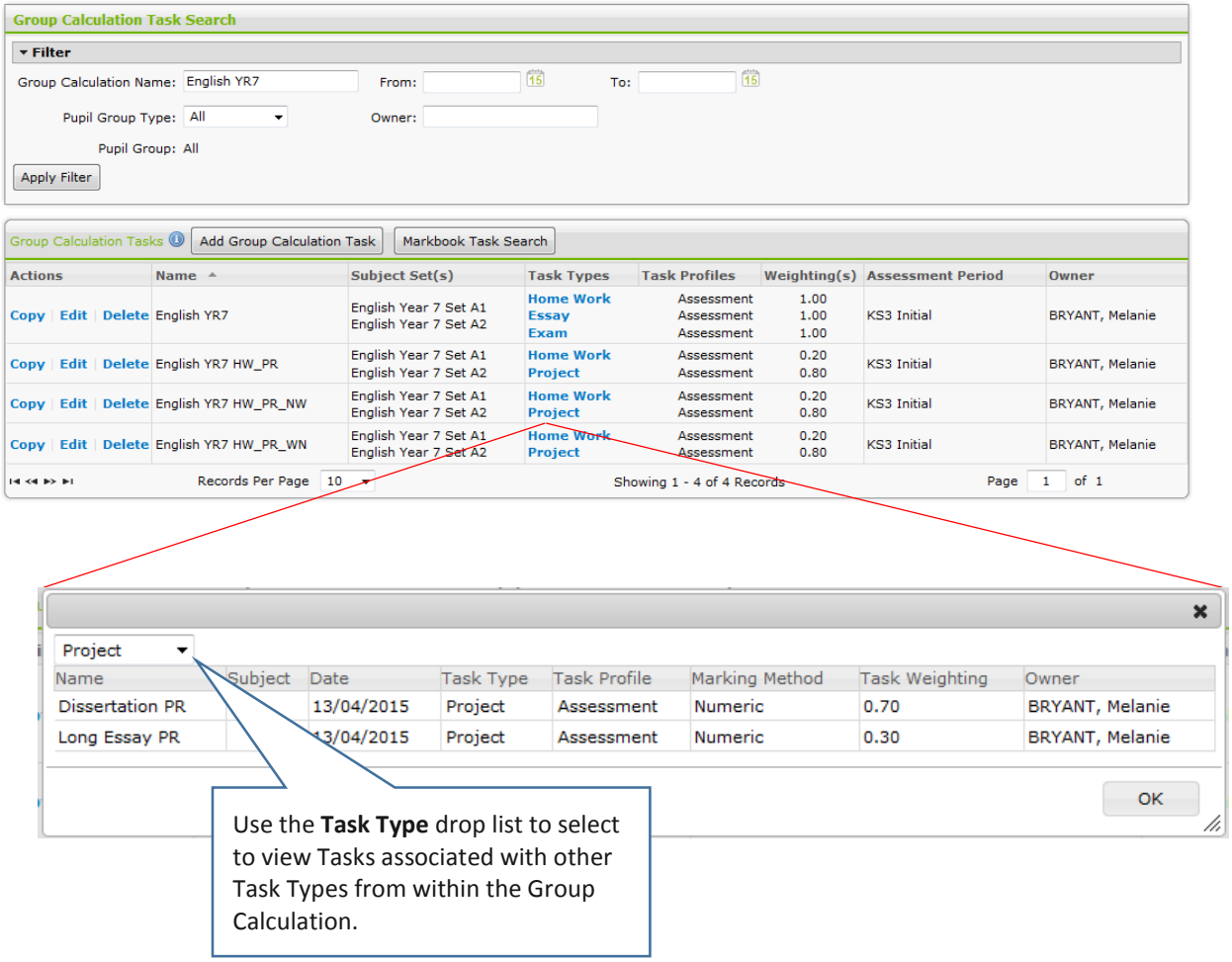
- Search for existing Group Calculations, enabling you to edit, copy and delete existing Group Calculations.
- Open the **Group Calculation** wizard - enabling you to create new Group Calculations.
- Open the **Markbook Task Search** screen - enabling you to search for existing Tasks and to add new Tasks.
- Open the **Task Type Summary** screen - enabling you to view of summary of the Tasks, for the selected Task Type, which are included within that Group Calculation (or will be included if the Batch Run has yet to run).

The **Filter** panel at the top of the screen enables you to search for the required Group Calculation that you wish to edit, copy or delete using various search criteria. The **Group Calculation Tasks** panel, at the bottom of the screen, lists those Group Calculations that match the search criteria entered in the **Filter** panel. You can filter using the following fields:

Field Name	Field Description
Group Calculation Name	Enter the name or partial name of the Group Calculation you wish to edit, copy or delete.
From and **To** calendars	Use the **From** and **To** calendars to enter a date range between which the Group Calculation was created.
Pupil Group Type	From the **Pupil Group Type** drop list, select 'All', 'Subject' or 'Subject Set'. The search will contain only those Group Calculations for the pupil groups chosen.
Owner	Enter the name or partial name of the Owner of the Group Calculation you wish to edit, copy or delete.
Apply Filter button	Click to apply the filters specified. The results of your search are displayed in the **Group Calculation Tasks** panel at the bottom of the screen.

Once you have filtered for the appropriate Group Calculations and your results are displayed in the **Group Calculation Tasks** panel, you can use the links in the **Actions** column to edit, copy and delete an existing Group Calculation. You can also click on the Task Type links in the **Task Types** column to

display a popup view of the individual Tasks and their weightings within the selected Task Type (an example of which is shown below).



NOTE: If within the **Subject Set** or the **Task Types** column, three dots appear ... at the bottom of a cell, it means that the Group Calculation contains numerous Subject Sets or Task Types; hover over the three dots to display a popup listing the rest of the Subject Sets or Task Types within that Group Calculation.

For procedural information, see *Creating Group Calculations on p.61*.

About the Add Group Calculation Task wizard

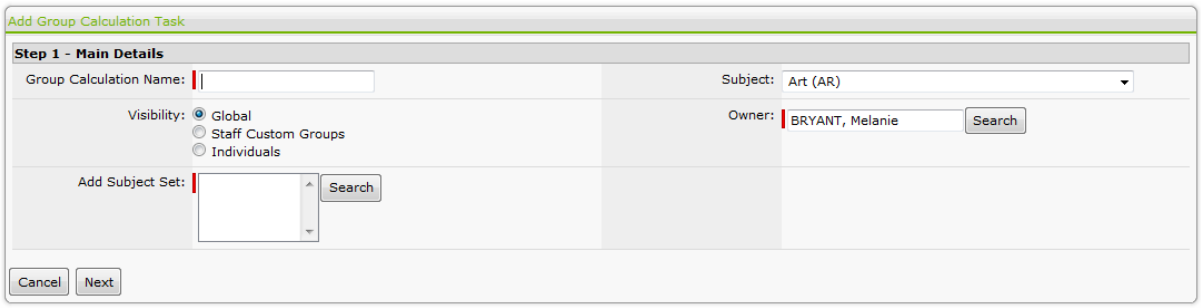
You use the **Add Group Calculation Task** wizard to create Group Calculations for specific Subject Sets. This wizard has four steps, the last of which is optional depending on whether you wish to manually add Tasks to be included within the Group Calculation. The **Add Group Calculation Task** wizard is referred to as **Group Calculation** wizard. A description of each of the four steps is given below:

- *About Step 1 – Group Calculation wizard on p.54*.
- *About Step 2 – Group Calculation wizard on p.55*.
- *About Step 3 – Group Calculation wizard on p.55*.
- *About Step 4 – Group Calculation wizard on p.59*.

About Step 1 – Group Calculation wizard

Step 1 of the **Group Calculation** wizard enables you to specify the:

- Name of the Group Calculation, and the Owner to whom the Group Calculation belongs.
- Visibility of this Group Calculation.
  You can restrict who can view and use the resultant Group Calculation Academic Profile, using Staff Custom Groups or individual members of staff. By default, the visibility of new Group Calculations is set to global; all users with permission to view Academic Profiles are able to view the resultant linked Group Calculation Academic Profiles. If you restrict the visibility of the resultant Group Calculation Academic Profiles with Staff Custom Groups, then the end user will need to have permission to view Academic Profiles and belong to the relevant Staff Custom Group. (The visibility functionality works in the same way as in Academic Profiles.)
- The Subject and Subject Sets to be included within this Group Calculation.



NOTE: The Subject specified in the **Subject** drop list determines the Subject Sets available in the **Add Subject Set** field and associated **Search** screen. You can choose multiple Subject Sets to include within the Group Calculation.

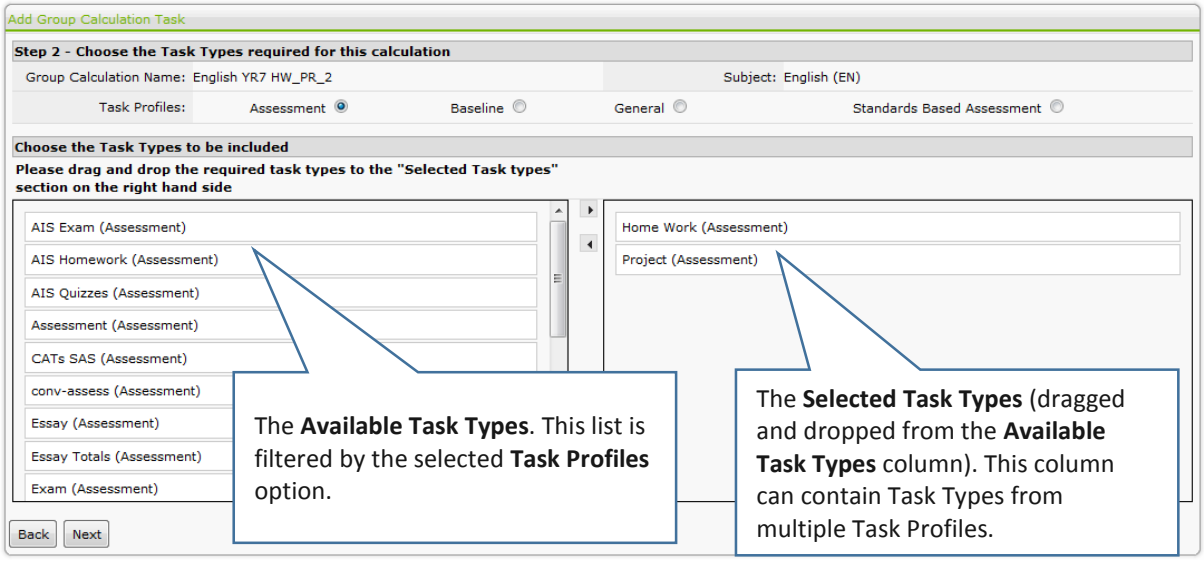
NOTE: **3Sys** automatically stores the creation date of the Group Calculation and the creator name (Owner) of the Group Calculation.

About Step 2 – Group Calculation wizard

Step 2 of the **Group Calculation** wizard enables you to specify the types of Tasks you wish to include within the Group Calculation. For example for the specified Subject and Subject Sets, you may wish to include those Tasks that have a Task Type of 'Homework' or 'Project'.

You can use the **Task Profiles** options to filter the list of Task Types displayed in the left column. By default the 'Assessment' Task Profile is chosen, so the **Available Task Types** (left-hand column) displays a list of 'Assessment' Task Types. You can choose the required Task Types from the list, by moving them into the **Selected Task Types** column (right-hand column). Subsequently, you can alter the **Task Profiles** option to refresh the **Available Task Types** list, and then move other Task Types from the **Available Task Types** column to the **Selected Task Types** column. Any Tasks already moved to the **Selected Task Types** column (on the right of the screen) are retained.

NOTE: The **Selected Task Types** column displays ALL the Task Types you have selected, irrespective of the Task Profile. Consequently, if you remove a Task Type from the **Selected Task Types** column that doesn't belong to the currently selected **Task Profile**, it looks like that removed Task Type has disappeared; it hasn't, it appears within the relevant Task Profile list.

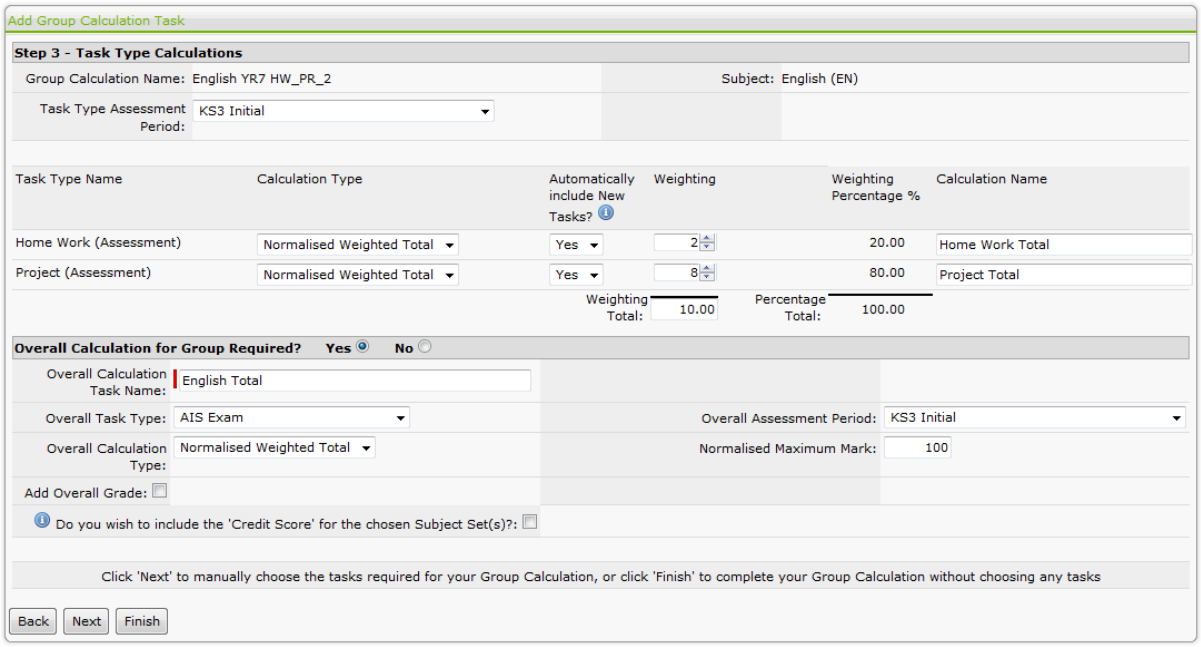


About Step 3 – Group Calculation wizard

Step 3 of the **Group Calculation** wizard allows you to set up sophisticated options, enabling you to tailor each Group Calculation to your exact requirements. The options include the ability to:

- Specify the type of calculation to use for Tier One calculations.
- Select to automatically include relevant newly added Tasks. (Only those Tasks added after the creation of the Group Calculation will be automatically included.)
- Specify the weighting to be applied to each Task Type Total within the Overall calculation (Tier Two weightings).
- Specify the type of calculation to use for Tier Two calculations.

The screenshot below provides an example of **Step 3** of the **Group Calculations** wizard:



The following two sections detail each option within the top and bottom half of the screen:

- *About Step 3 – Group Calculation wizard: Task Type Calculations panel on p.56*.
- *About Step 3 – Group Calculation wizard: Overall Calculation for Group required panel? On p.58*.

About Step 3 – Group Calculation wizard: Task Type Calculations panel

The **Task Type Calculations** panel at the top of **Step 3** of the **Group Calculations** wizard contains the following fields:

Field Heading	Field Description
Group Calculation Name	Displays the name of the Group Calculation, as given in **Step 1** of the **Group Calculation** wizard.
Subject	Displays the Subject specified in **Step 1** of the **Group Calculation** wizard.
Task Type Assessment Period	Select the relevant Task Type Assessment Period from the **Task Type Assessment Period** drop list. The Task Type Assessment Period you specify here has three functions: 1. To set the Assessment Period against the resultant Task Type Total column. You can then subsequently filter for calculated columns with a specified Assessment Period. You can view the Assessment Period associated with each calculated column within **Mark Inquiry** by hovering over the **Information** icon (**i**). 2. If you use the auto include function, i.e. the **Automatically include New Tasks?** drop list is set to 'Yes', then only those new Tasks with the relevant Assessment Period, as specified in this field, will be included in the Group Calculation. 3. If you choose to manually add Tasks to a Group Calculation, when you go to **Step 4** of the **Group Calculation** wizard, the Tasks are filtered to include only those Tasks with the Assessment Period you specify in this field.
Task Type Name	Displays the chosen Task Types, in the order specified in **Step 2** of the **Group Calculation** wizard.

Calculation Type		From the **Calculation Type** drop list, select one the following types of calculation to be used for the Tier One calculations: • Normalised Weighted Total. This option is chosen by default. • Mean • Normalised Total • Total • Weighted Total A calculated column for each Task Type within the Group Calculation subsequently appears in the linked Group Calculation Academic Profile. For more information about each calculation type, see: • *About the Calculation Type for Tier One Calculations on p.30*. • *About Weightings and Group Calculations on p.26*. • *About Normalisation and Group Calculations on p.29*.
Automatically include New Tasks?		By default, the **Automatically include New Tasks** drop list is set to 'Yes'. This means that any new Tasks added to **3Sys Markbooks**, which fulfil the Group Calculation filtering criteria are automatically included within the appropriate Group Calculation. If you choose 'No', then any new Tasks are not automatically added to the Group Calculation. You will need to add them manually, using **Step 4** of the **Group Calculation** wizard. You can alter this setting when creating a new Group Calculation or editing an existing one. If you change this setting at any time, the change only applies from that day forward (it does not apply to new Tasks added prior to that day). If you need to make any further alterations to the required Tasks, you can do so manually using **Step 4** of the **Group Calculation** wizard. For more information, see *About Automatically Including New Tasks on p.34*.
Weighting		Enter the weighting you wish to apply to each Task Type. The **Group Calculation** wizard automatically calculates the weighting total and percentages for you. For more information about weightings, see *About Weightings and Group Calculations on p.26*.
Weighting Total		Automatically displays the weighting total for all Task Type Totals included in the Group Calculation. The weighting for all Task Type Totals does NOT need to add up to 1.00.
Weighting Percentage %		Automatically calculates and displays the weighting for each Task Type Total as a percentage.
Calculation Name		By default, this field is populated with the name of the Task Type with the suffix of 'Total', i.e. '<Task Type Name> Total'. You can alter this, if required.

About Step 3 – Group Calculation wizard: Overall Calculation for Group required panel?

The **Overall Calculation for Group Required?** panel at the bottom of **Step 3** of the **Group Calculations** wizard contains the following fields:

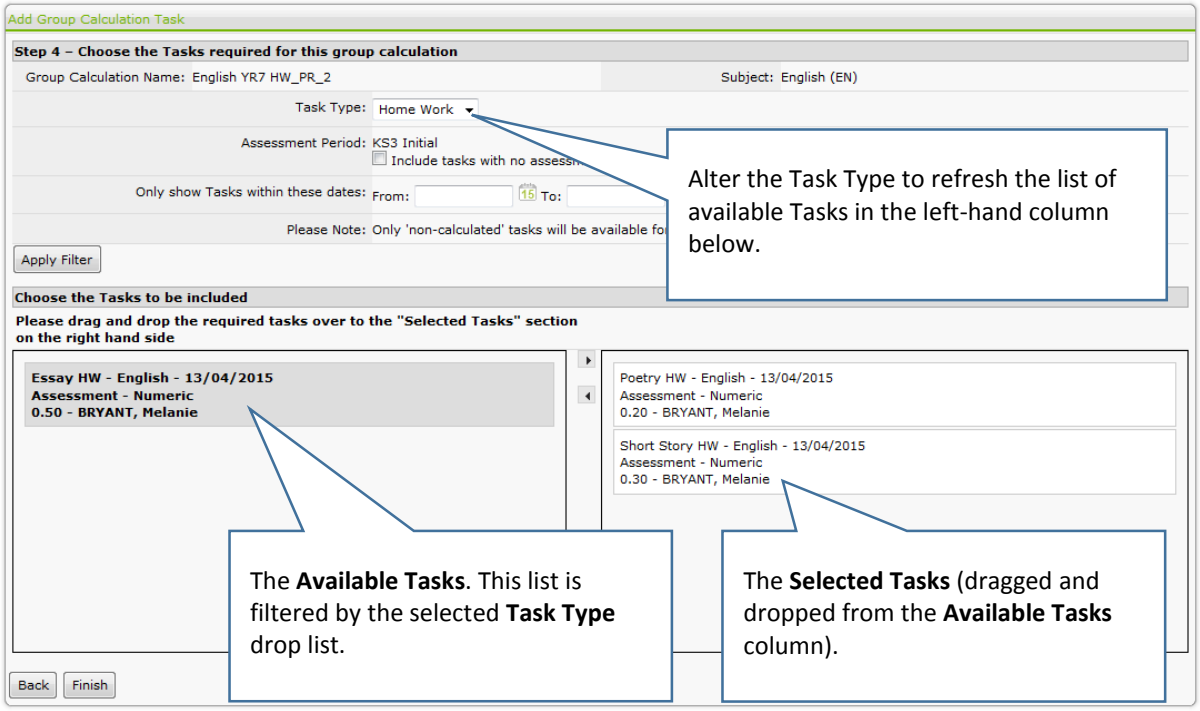
Field Heading	Field Description
Overall Calculation Task Name	By default, this field is populated with the name of the Subject with the suffix of 'Total'. You can alter this if required. This is the name given to the overall calculated column which subsequently appears in the linked Group Calculation Academic Profile, i.e. '<Subject> Total'.
Overall Task Type	From the **Overall Task Type** drop list, select the required Task Type to be assigned to the Overall calculation. You can view the Task Type associated with each calculated column within **Mark Inquiry** by hovering over the **Information** icon (**i**).
Overall Assessment Period	From the **Overall Task Type** drop list, select the required Assessment Period to be assigned to the Overall calculation. You can view the Assessment Period associated with each calculated column within **Mark Inquiry** by hovering over the **Information** icon (**i**).
Overall Calculation Type	From the **Overall Calculation Type** drop list, select one the following types of calculation to be used for the Tier Two calculations: • Normalised Weighted Total. This option is chosen by default. • Mean • Normalised Total • Total • Weighted Total A calculated column for the Overall Calculation subsequently appears in the linked Group Calculation Academic Profile, with the name specified in the **Overall Calculation Task Name** field, typically '<Subject> Total' column. For more information about each Overall calculation type, see: • *About the Overall Calculation Type for Tier Two Calculations on p.31*. • *About Weightings and Group Calculations on p.26*. • *About Normalisation and Group Calculations on p.29*.
Normalised Maximum Mark	The **Normalised Maximum Mark** field appears if you select a normalised calculation from the **Overall Calculation Type** drop list. By default, normalisation is set as a percentage, i.e. out of 100. You can change this value, if you want to specify a normalisation total value other than '100' for Tier Two and Tier One calculations. For further details, see *About Normalisation and Group Calculations on p.29*.
Add Overall Grade	Tick this check box if you wish an additional 'Grade Total' column to appear in the resultant linked Group Calculation Academic Profile. For details, see *About Grade Tables and Group Calculations on p.40*.
Grade Table	The **Grade Table** drop list appears if you tick the **Add Overall Grade** check box. From the **Grade Table** drop list, select the relevant Grade Table to be used for this Overall Calculation. For details, see *About Grade Tables and Group Calculations on p.40*.
Do you wish to include the 'Credit Score' for the chosen Subject Set(s)?	Tick this check box if you wish the Credit Score held against the Subject Set to be applied against each pupil as part of the Group Calculation. If you tick this check box, a calculated column for the Credit Score subsequently appears in the linked Group Calculation Academic Profile, called 'Credit Applied Total'. For details, see *About Credit Scores and Group Calculations on p.37*.

About Step 4 – Group Calculation wizard

Step 4 of the **Group Calculation** wizard enables you to manually add EXISTING Tasks to a Group Calculation. This is particularly important if you are creating Group Calculations once a term has started, and Tasks have already been created.

NOTE: If the auto include option has been set to 'Yes', the Group Calculation Batch Run can only automatically include those newly added Tasks which have been created AFTER the Group Calculation has been set up.

You can add Tasks from multiple Task Types, if these Task Types have been included in the Group Calculation already. By default the first Task Type from **Step 3** is displayed in the **Task Type** drop list, and the relevant Tasks for this Task Type are shown in the **Available Tasks** column (the left-hand column) in the **Choose the Tasks to be included** panel. You can choose the required Tasks from the list, by moving them into the **Selected Tasks** column (the right-hand column). Subsequently, you can alter the **Task Type** drop list to refresh the Tasks list, and then move other Tasks from the **Available Tasks** column to the **Selected Tasks** column. Any Tasks already moved to the **Selected Task Types** column (on the right of the screen) are retained.



See the next page for field information.

Step 4 of the **Group Calculations** wizard contains the following fields:

Field Heading	Field Description
Group Calculation Name	Displays the name of the Group Calculation, as given in **Step 1** of the **Group Calculation** wizard.
Subject	Displays the **Subject** specified in **Step 1** of the **Group Calculation** wizard.
Task Type	By default the first **Task Type** from **Step 3** is displayed in the **Task Type** drop list, and the relevant Tasks for this Task Type are shown in the **Available Tasks** column (the left-hand column) in the **Choose the Tasks to be included** panel. Once you have moved the required Tasks from the **Available Tasks** column to the **Selected Tasks** column for the displayed Task Type, you can select a different Task Type from the **Task Type** drop list to refresh the list of available Tasks. You can then move the relevant Tasks for that Task Type into the **Selected Tasks** column.
Assessment Period	Displays the Assessment Period as specified in **Step 3** of the **Group Calculation** wizard, in the **Task Type Assessment Period** field.
Include tasks with no assessment period	Tick this check box if you wish to include those Tasks with no assigned Assessment Period in the **Available Tasks** column.
Only show Tasks within these dates From To	Filter the list of Tasks in the **Available Tasks** column, by specifying the date range between which the Tasks were created.
Choose the Tasks to be included	Tasks which have the Task Type specified in the **Task Type** drop list appear in the **Available Tasks** column (the left-hand column). Drag and drop the Tasks you wish to include in the Group Calculation to the **Selected Tasks** column (the right-hand column). If necessary, change the Task Type in the **Task Type** drop list to update the Tasks in the **Available Tasks** column, and move the required Tasks to the **Selected Tasks** column. **NOTE**: The **Available Tasks** column includes all Tasks of the specified Task Type, including incomplete Tasks.

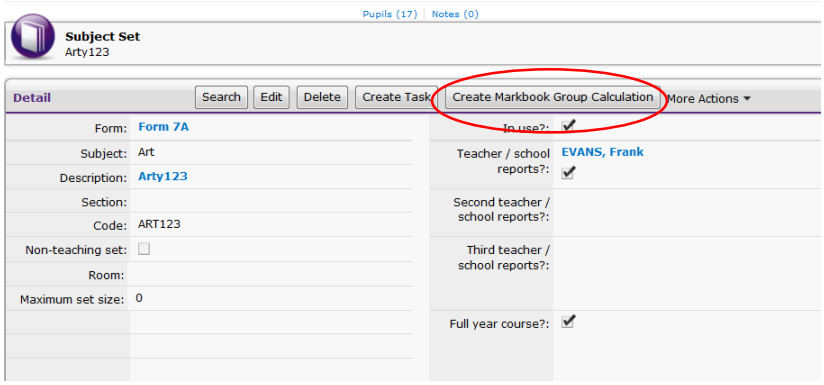
Creating Group Calculations

For conceptual descriptions about the process and structure of Group Calculations, see *Setting Up Group Calculations on p.19*, and for an overview of the screens used to create Group Calculations, see *About Creating Group Calculations on p.52*.

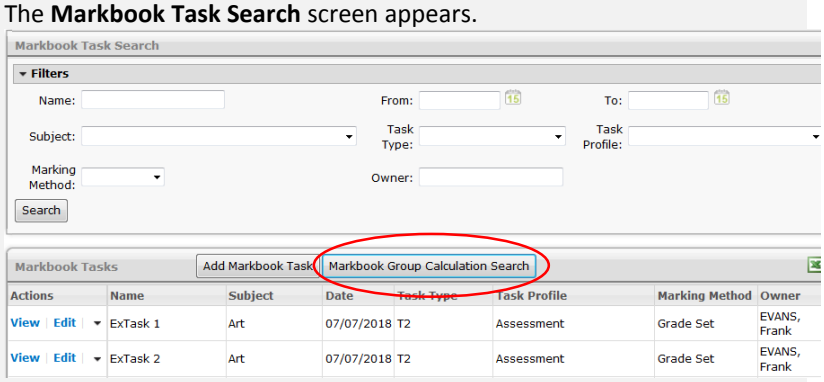
To create a Group Calculation:

1. Display the **Group Calculation Task Search** screen, by undertaking one of the following four options:

- **All Functions** tab
  - On the **All Functions** tab, click the **Markbook Group Calculations** icon.
- **Subject Set** module
  1. On the **All Functions** tab, click the **Subject Sets** icon.
     The **Subject Set Search** screen appears.
  2. In the **Actions** column, click the relevant **View** link to display the **Subject Set** screen for the Subject Set you wish to perform a Group Calculation against.

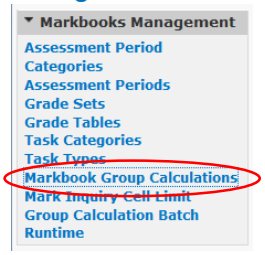


  3. Click the **Create Markbook Group Calculation** button or from the **More Actions** menu, click the **Create Markbook Group Calculation** option.
- **Markbook Tasks** module
  1. On the **All Functions** tab, click the **Markbook Tasks** icon.
     The **Markbook Task Search** screen appears.

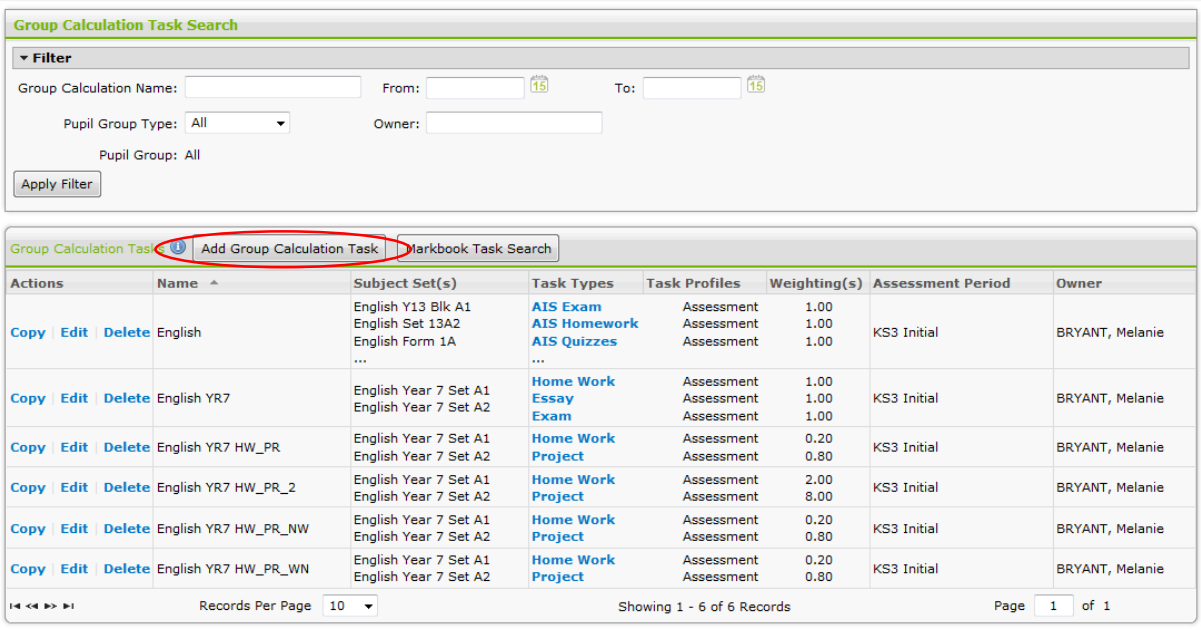


  2. Click the **Markbook Group Calculation Search** button.
- **Markbook Management** menu
  1. At the top of the **3Sys** screen, click the **Setup** link. The **My Account** Setup screen appears.

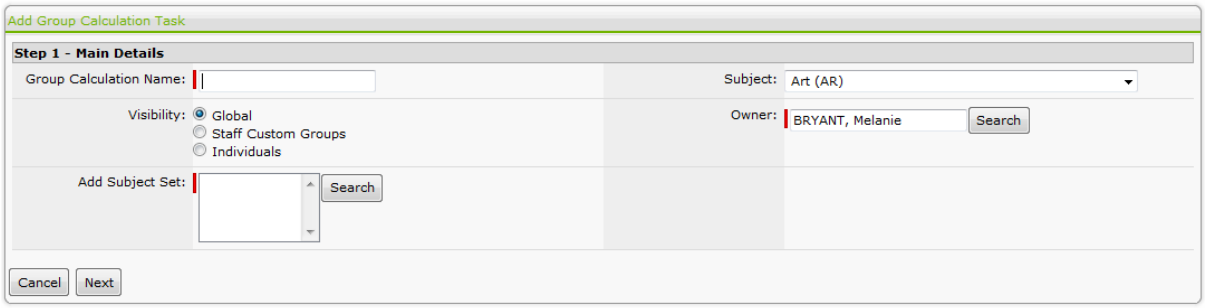
2. From the **Setup** menu on the left of the screen, select **Markbooks Management > Markbook Group Calculations**.



Whichever option you chose, the **Group Calculation Task Search** screen appears.

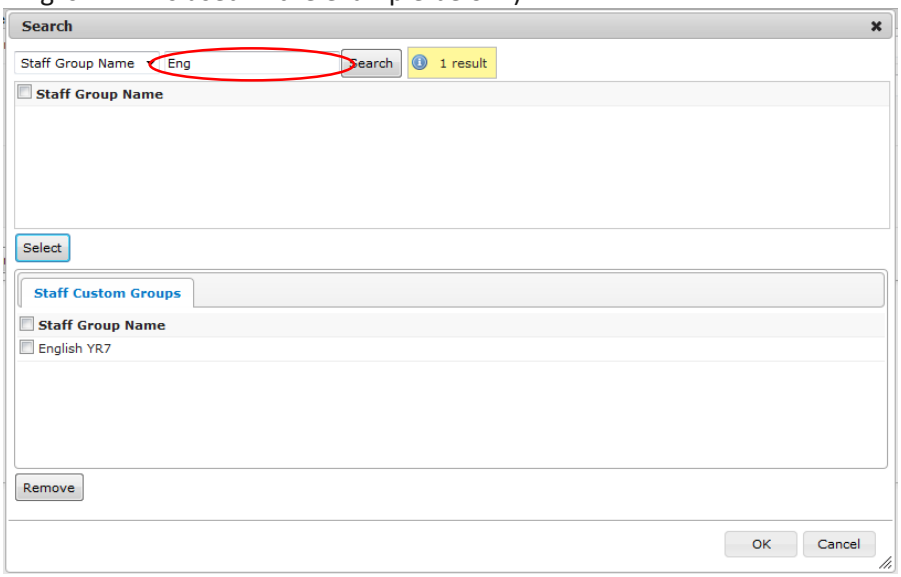


2. Click the **Add Group Calculation Task** button.
The first step of the **Add Group Calculation Task** wizard appears. (This is referred to as the **Group Calculation** wizard.)



3. For **Step 1** of the **Group Calculation** wizard, complete these fields:
   a. In the **Group Calculation Name** field, enter the name for the Group Calculation.
   NOTE: In order to distinguish between normal Academic Profiles and Group Calculation Academic Profiles, it is suggested that you prefix the name of your Group Calculations with 'GC_'. (If you give your Group Calculation a long name, the name of the resultant linked Group Calculation Academic Profile might be truncated.)
   b. From the **Subject** drop list, select the relevant Subject.
   (This automatically filters the available Subject Sets in the **Add Subject Set** field.)
   c. (Optional) Alter the **Visibility** for the Group Calculation:

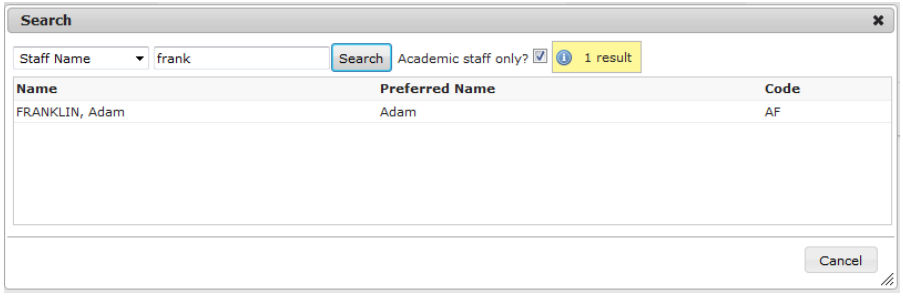
- **Global** - By default, the visibility of new Group Calculation Academic Profiles is set to global; all users with access to the resultant Group Calculation Academic Profiles are able to view and use these Group Calculation Academic Profiles (i.e. all users who have the **Academic Profile View** ticked in permissions, for more details, see *About Configuring Permissions for Group Calculations on p.83*).
- **Staff Custom Groups** - Click this option to specify the Staff Custom Group or groups that you wish to be able to view and use the resultant Group Calculation Academic Profile - a **Search** button appears. Click on it to display the **Search** screen with the 'Staff Group Name' selected for you in the **Search** drop list. Enter search criteria in the **Search** field (highlighted below) and click the **Search** button. Select the appropriate Staff Custom Group(s) and click the **Select** button, then click the **OK** button. (The Staff Group Name of 'English YR7' is used in the example below.)



You are returned to **Step 1** of the **Group Calculation** wizard, with the appropriate data displayed. **NOTE**: For information about the **Staff Custom Group** module, please refer to the *3Sys Academic Release Notes Version 4.3.0.0*. This document is available from our Customer Centre, see *Contacting Us on p.91*.

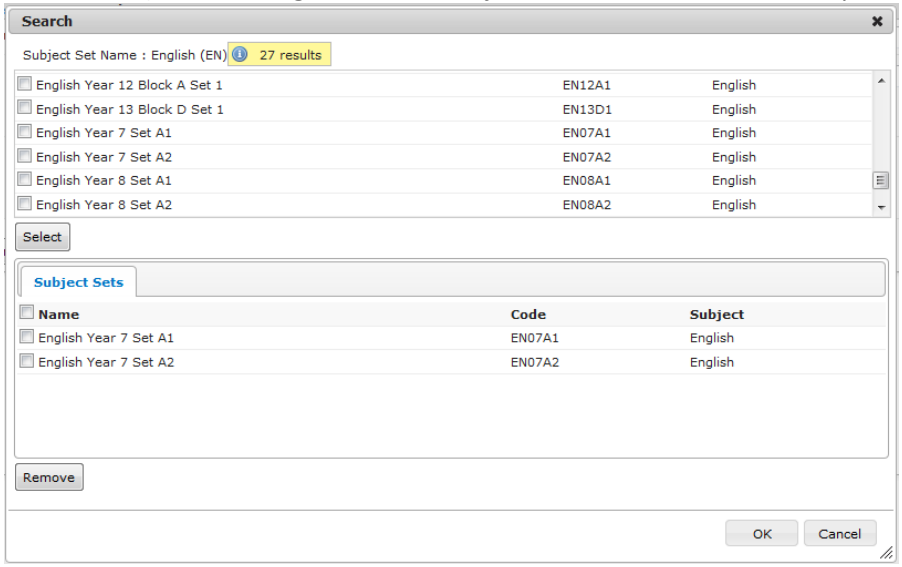
d. (Optional) Use the Owner **Search** button to alter the **Owner** of the Group Calculation, if applicable:

- Click the Owner **Search** button to display the **Search** screen with the 'Staff Name' selected for you in the **Search** drop list. Enter search criteria in the **Search** field (highlighted below) and click the **Search** button. Select the appropriate member of staff. You are returned to **Step 1** of the **Group Calculation** wizard, with the selected staff member displayed in the **Owner** field. (The staff member of 'Franklin, Adam' is used in the example below.)

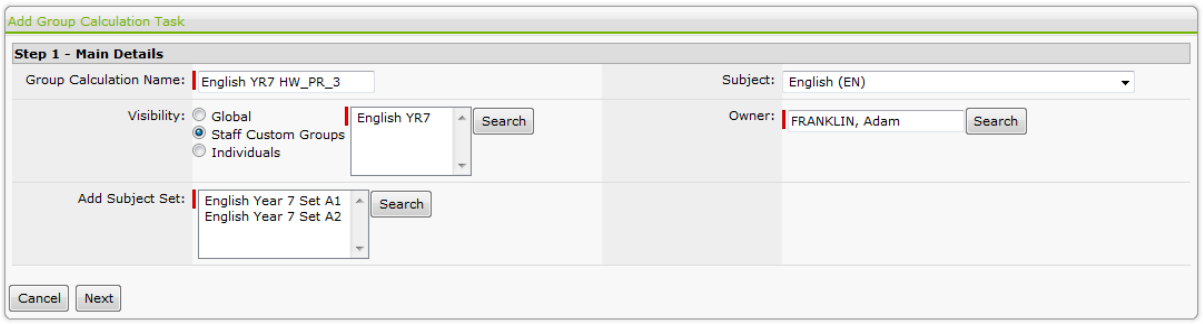


e. Click the Add Subject Set **Search** button to display the **Search** screen:

- Select the required Subject Sets from the top list, click the **Select** button, and click the **OK** button. (The two 'English Year 7' Subject Sets are used in the example below.)

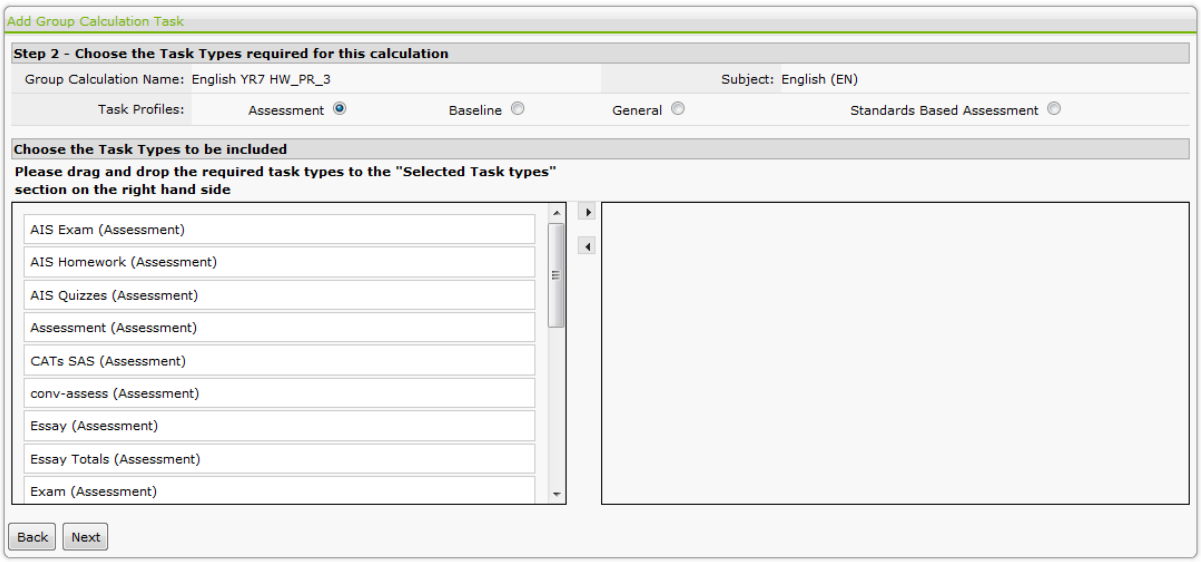


You are returned to **Step 1** of the **Group Calculation** wizard, with the specified Subject Sets displayed in the **Add Subject Set** field.



4. Click the **Next** button.

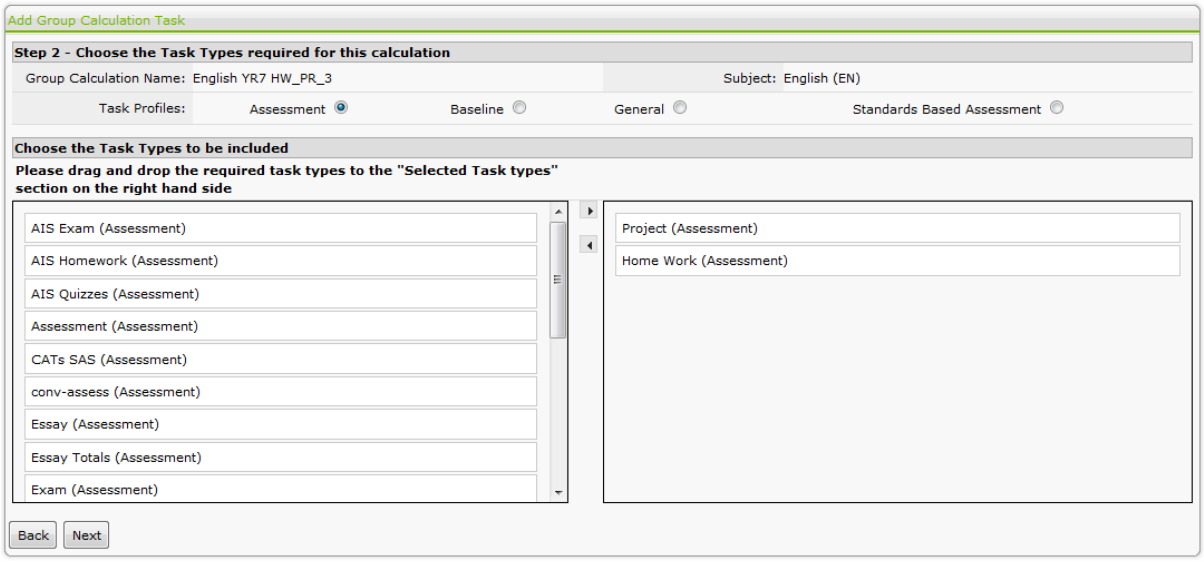
Step 2 of the **Group Calculation** wizard appears, automatically displaying a list of 'Assessment' Task Types.



5. For **Step 2** of the **Group Calculation** wizard, select the types of Tasks you wish to include within this Group Calculation:
   a. By default the 'Assessment' Task Profile is selected in the **Task Profiles** options, and the available 'Assessment' Task Types are displayed in the **Available Task Types** column (the left-hand column).
   b. Drag and drop the required 'Assessment' Task Types from the **Available Task Types** column to the **Selected Task Types** column (the right-hand column). Alternatively, you can select a Task Type and use the Arrow buttons to move the items across.
   c. (Optional) Select a different **Task Profiles** option, and from the updated Task Types in the **Available Task Types** column drag and drop the relevant items into the **Selected Task Types** column.

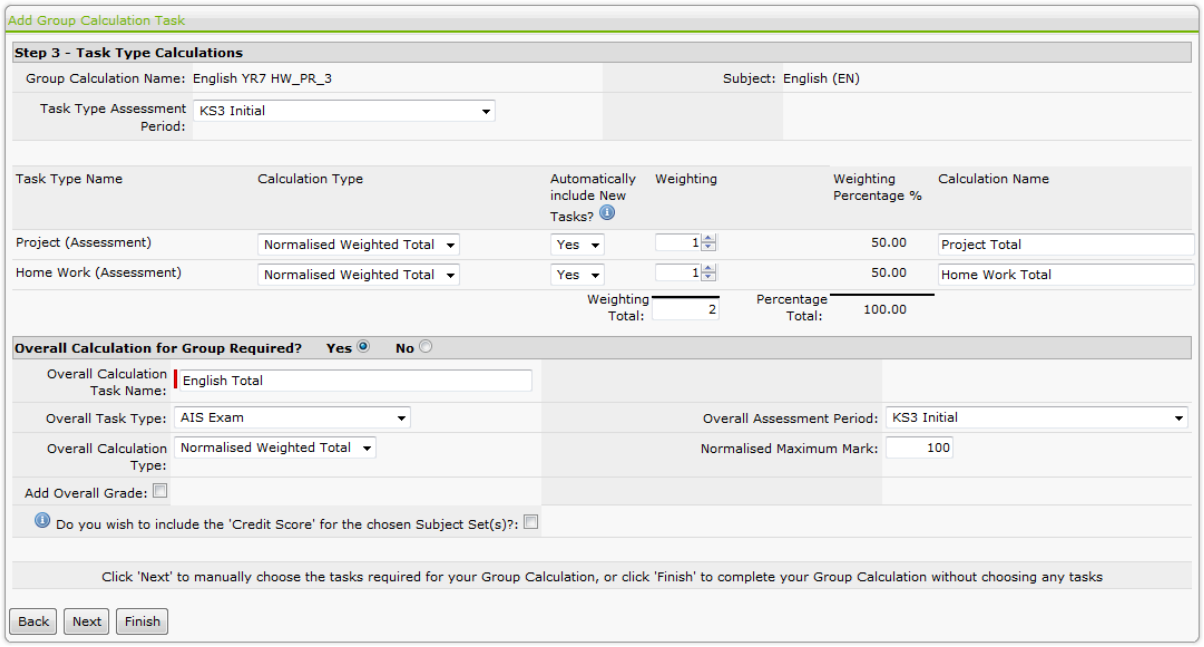
      NOTE: The **Selected Task Types** column displays ALL the Task Types you have selected, irrespective of the Task Type. Consequently, if you remove a Task Type from the **Selected Task Types** column that doesn't belong to the currently selected **Task Profile**, it looks like that removed Task Type has disappeared; it hasn't, it appears within the relevant Task Profile list.

   NOTE: The order of the Task Types items in the **Selected Task Types** column has no bearing on the order of the columns in the resultant Group Calculation Academic Profile. This order is determined by the Task Type Order as specified in the **Task Type Number Order** field (available from **Setup > Markbooks Management > Task Types**).



6. Click the **Next** button.

   Step 3 of the **Group Calculation** wizard appears.



7. For **Step 3** of the **Group Calculation** wizard, complete these fields in the **Task Type Calculation** panel:

Field Heading	Field Description
Group Calculation Name	Displays the name of the Group Calculation, as given in **Step 1** of the **Group Calculation** wizard.
Subject	Displays the Subject specified in **Step 1** of the **Group Calculation** wizard.
Task Type Assessment Period	Select the relevant Task Type Assessment Period from the **Task Type Assessment Period** drop list. The Task Type Assessment Period you specify here has three functions: 1. To set the Assessment Period against the resultant Task Type Total column. You can then subsequently filter for calculated columns with a specified Assessment Period. You can view the Assessment Period associated with each calculated column within **Mark Inquiry** by hovering over the **Information** icon (**i**). 2. If you use the auto include function, i.e. the **Automatically include New Tasks?** drop list is set to 'Yes', then only those new Tasks with the relevant Assessment Period, as specified in this field, will be included in the Group Calculation. 3. If you choose to manually add Tasks to a Group Calculation, when you go to **Step 4** of the **Group Calculation** wizard, the Tasks are filtered to include only those Tasks with the Assessment Period you specify in this field.
Task Type Name	Displays the chosen Task Types, in the order specified in **Step 2** of the **Group Calculation** wizard.
Calculation Type	From the **Calculation Type** drop list, select one the following types of calculation to be used for the Tier One calculations: • Normalised Weighted Total. This option is chosen by default. • Mean • Normalised Total • Total • Weighted Total

	A calculated column for each Task Type within the Group Calculation subsequently appears in the linked Group Calculation Academic Profile. For more information about each calculation type, see: • *About the Calculation Type for Tier One Calculations on p.30*. • *About Weightings and Group Calculations on p.26*. • *About Normalisation and Group Calculations on p.29*.
Automatically include New Tasks?	By default, the **Automatically include New Tasks** drop list is set to 'Yes'. This means that any new Tasks added to **3Sys Markbooks**, which fulfil the Group Calculation filtering criteria are automatically included within the appropriate Group Calculation. If you choose 'No', then any new Tasks are not automatically added to the Group Calculation. You will need to add them manually, using **Step 4** of the **Group Calculation** wizard. You can alter this setting when creating a new Group Calculation or editing an existing one. If you change this setting at any time, the change only applies from that day forward (it does not apply to new Tasks added prior to that day). If you need to make any further alterations to the required Tasks, you can do so manually using **Step 4** of the **Group Calculation** wizard. For more information, see *About Automatically Including New Tasks on p.34*.
Weighting	Enter the weighting you wish to apply to each Task Type. The **Group Calculation** wizard automatically calculates the weighting total and percentages for you. For more information about weightings, see *About Weightings and Group Calculations on p.26*.
Weighting Total	Automatically displays the weighting total for all Task Type Totals included in the Group Calculation. The weighting for all Task Type Totals does NOT need to add up to 1.00.
Weighting Percentage %	Automatically calculates and displays the weighting for each Task Type Total as a percentage.
Calculation Name	By default, this field is populated with the name of the Task Type with the suffix of 'Total', i.e. '<Task Type Name> Total'. You can alter this, if required.

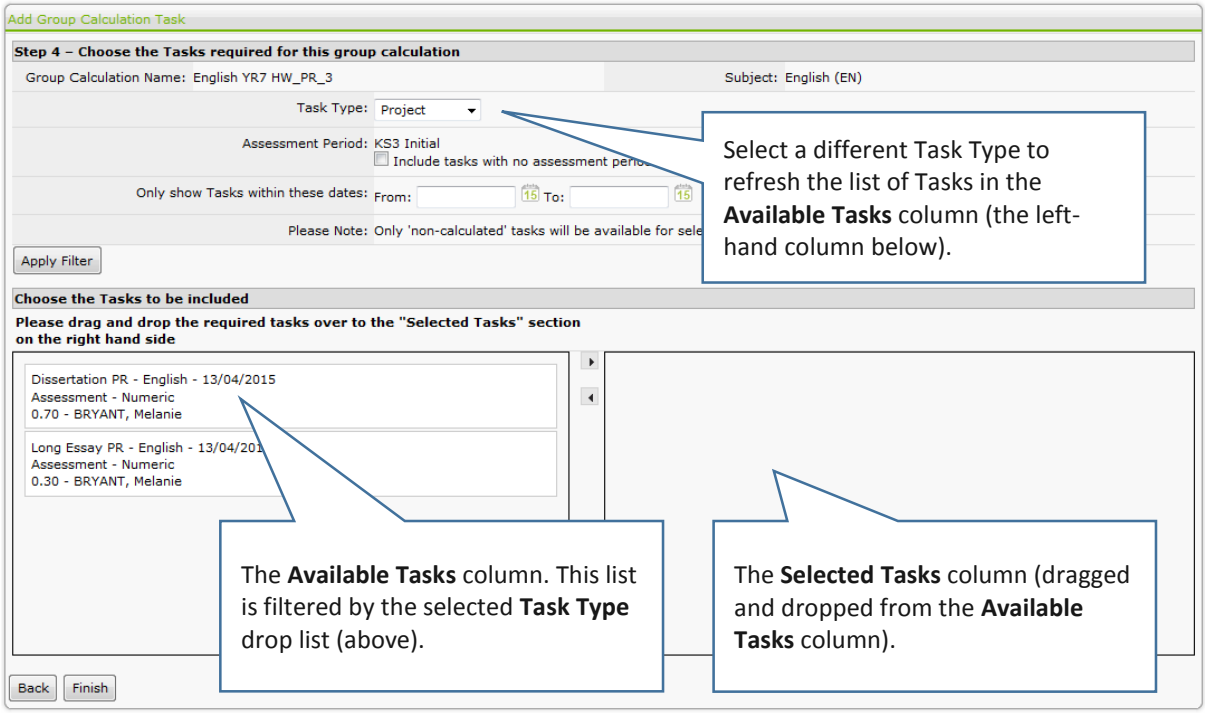
8. For **Step 3** of the **Group Calculation** wizard, complete these fields in the **Overall Calculation for Group Required?** panel:

Field Heading	Field Description
Overall Calculation Task Name	By default, this field is populated with the name of the Subject with the suffix of 'Total'. You can alter this if required. This is the name given to the overall calculated column which subsequently appears in the linked Group Calculation Academic Profile, i.e. '<Subject> Total'.
Overall Task Type	From the **Overall Task Type** drop list, select the required Task Type to be assigned to the Overall calculation. You can view the Task Type associated with each calculated column within **Mark Inquiry** by hovering over the **Information** icon (**i**).
Overall Assessment Period	From the **Overall Task Type** drop list, select the required Assessment Period to be assigned to the Overall calculation. You can view the Assessment Period associated with each calculated column within **Mark Inquiry** by hovering over the **Information** icon (**i**).
Overall Calculation Type	From the **Overall Calculation Type** drop list, select one the following types of calculation to be used for the Tier Two calculations: • Normalised Weighted Total. This option is chosen by default.

		• Mean • Normalised Total • Total • Weighted Total A calculated column for the Overall Calculation subsequently appears in the linked Group Calculation Academic Profile, with the name specified in the **Overall Calculation Task Name** field, typically '<Subject> Total' column. For more information about each Overall calculation type, see: • *About the Overall Calculation Type for Tier Two Calculations on p.31*. • *About Weightings and Group Calculations on p.26*. • *About Normalisation and Group Calculations on p.29*.
Normalised Maximum Mark		The **Normalised Maximum Mark** field appears if you select a normalised calculation from the **Overall Calculation Type** drop list. By default, normalisation is set as a percentage, i.e. out of 100. You can change this value, if you want to specify a normalisation total value other than '100' for Tier Two and Tier One calculations. For further details, see *About Normalisation and Group Calculations on p.29*.
Add Overall Grade		Tick this check box if you wish an additional 'Grade Total' column to appear in the resultant linked Group Calculation Academic Profile. For details, see *About Grade Tables and Group Calculations on p.40*.
Grade Table		The **Grade Table** drop list appears if you tick the **Add Overall Grade** check box. From the **Grade Table** drop list, select the relevant Grade Table to be used for this Overall Calculation. For details, see *About Grade Tables and Group Calculations on p.40*.
Do you wish to include the 'Credit Score' for the chosen Subject Set(s)?		Tick this check box if you wish the Credit Score held against the Subject Set to be applied against each pupil as part of the Group Calculation. If you tick this check box, a calculated column for the Credit Score subsequently appears in the linked Group Calculation Academic Profile, called 'Credit Applied Total'. For details, see *About Credit Scores and Group Calculations on p.37*.

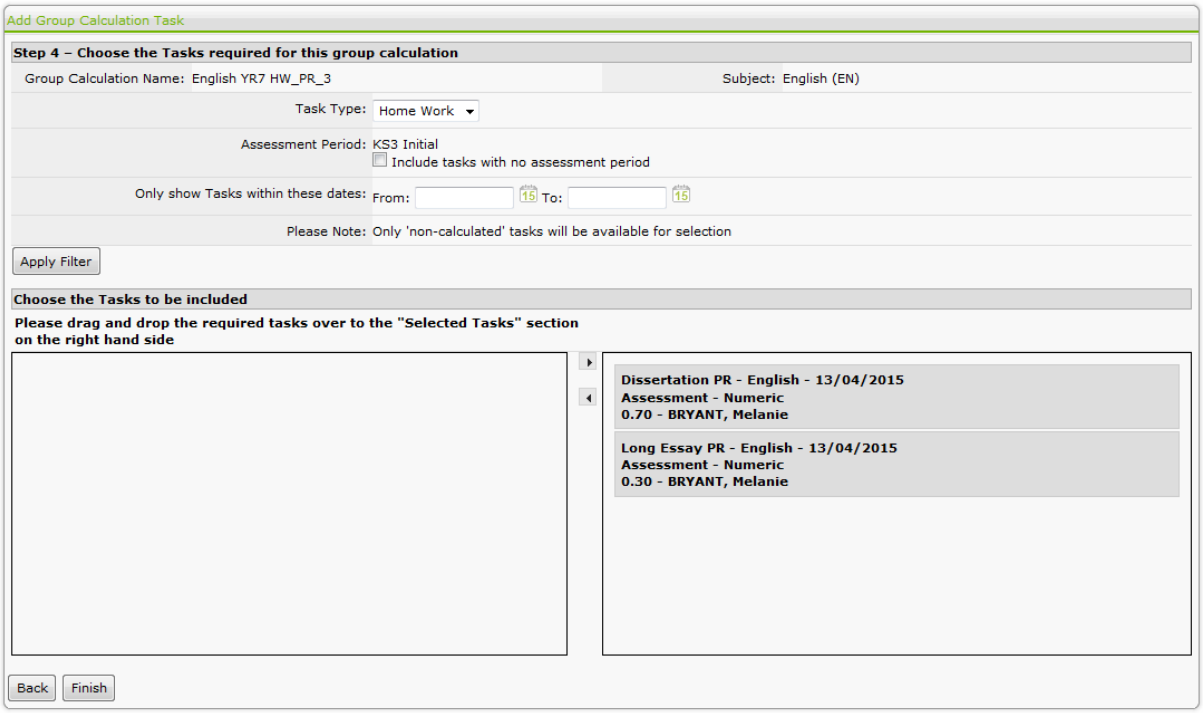
9. (Optional) If you wish to manually include Tasks within this Group Calculation, click the **Next** button. For example, you may wish to do this if you need to include historical Tasks that will not be picked up by the option to automatically include new Tasks. Alternatively, if you do not wish to manually include Tasks within this Group Calculation, skip this step and go to step 11 of this procedure.

Step 4 of the **Group Calculation** wizard appears.

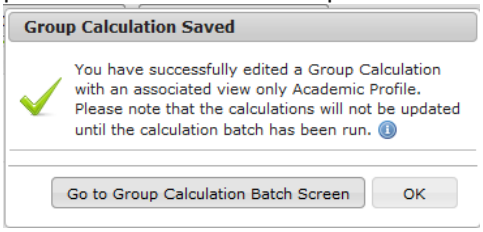


10. (Optional) For **Step 4** of the **Group Calculation** wizard, select the types of Tasks you wish to manually include within this Group Calculation:
    a. By default the first Task Type shown in **Step 3** of the wizard is selected in the **Task Type** drop list, and the available Tasks for that Task Type are displayed in the **Available Tasks** column (the left-hand column). For example, in the screenshot above the 'Project' Task Type is selected, and the 'Project' related Tasks are displayed in the left-hand column.
    b. Drag and drop the required 'Project' Tasks from the **Available Tasks** column to the **Selected Tasks** column (the right-hand column). Alternatively, you can select a Task and use the **Arrow** buttons to move the items across.
    c. (Optional) Select a different Task Type from the **Task Type** drop list, and from the updated Tasks in the **Available Tasks** column drag and drop the relevant items into the **Selected Tasks** column.
    d. (Optional) Re-order the Task items in the **Selected Tasks** column by clicking and dragging the items. The order in which the Tasks appear in the **Selected Tasks** column determines the order in which the resultant Group Calculation Academic Profile displays the Task columns.

    For example, in the screenshot below two 'Project' Tasks have been manually included within this Group Calculation.



11. Click the **Finish** button.
    The Group Calculation is saved and the **Group Calculation Saved** message appears, if you have permission to run the Group Calculation Batch Run.



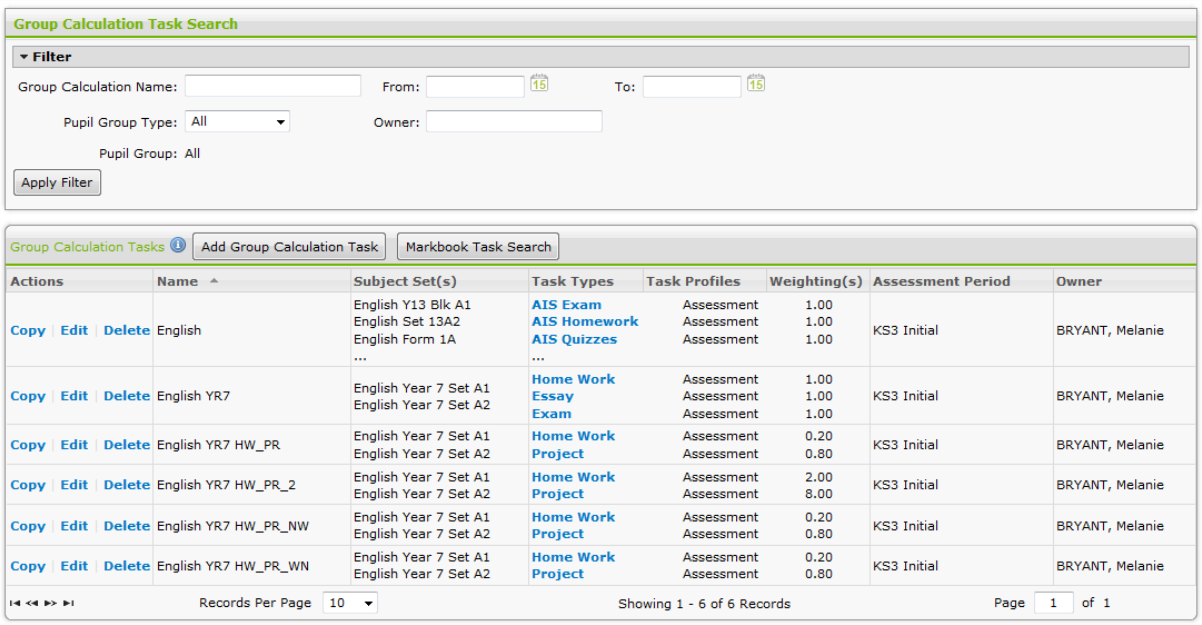
12. Do one of the following:
    - If you wish to initiate an ad hoc batch run, click the **Go to Group Calculation Batch** screen button. The **Markbook Group Calculation Batch Run** screen appears. For more details, see *About the Markbook Group Calculation Batch Run screen on p.73*.
    - If you wish to continue to add Group Calculations, click the **OK** button. You are returned to the **Group Calculation Task Search** screen, ready to configure another Group Calculation.

Maintaining Group Calculations

For conceptual descriptions about the process and structure of Group Calculations, see *Setting Up Group Calculations on p.19*, and for an overview of the screens used to create Group Calculations, see *About Creating Group Calculations on p.52*.

To edit, copy or delete a Group Calculation:

1. Display the **Group Calculation Task Search** screen using one of the four options described in the first step of the procedure *Creating Group Calculations on p.61.*



2. Use the **Filter** panel to filter the list of existing Group Calculations:
   a. Enter search criteria, such as the name of the Group Calculation or the date range in which the Group Calculation was created.
   b. Click the **Apply Filter** button. The list of Group Calculations that match your search criteria appear in a list in the **Group Calculation Tasks** panel.
3. Maintain the appropriate Group Calculation:
   - To edit, see Step 4.
   - To copy, see Step 5.
   - To delete, see Step 6.

   NOTE: For each Step below ensure that you click on the **Copy**, **Edit** or **Delete** link within the appropriate row of the table.
4. To edit a Group Calculation:
   a. In the **Actions** column, click on the **Edit** link. You are taken to **Step 1** of the **Group Calculation** wizard.
   b. Make any necessary changes to the Group Calculation using the **Group Calculation** wizard, see Step 3 onwards of *Creating Group Calculations on p.61*.
   NOTE: If you edit a Group Calculation, you are automatically made the Owner of that Group Calculation.
5. To copy a Group Calculation (NOT a resultant linked Group Calculation Academic Profile):
   a. In the **Actions** column, click on the **Copy** link. You are taken to **Step 1** of the **Group Calculation** wizard. The content of the selected Group Calculation is copied.

b. In the **Group Calculation Name** field, enter a new name for the copied Group Calculation.

c. Make any necessary changes to the Group Calculation using the **Group Calculation** wizard, see Step 3 onwards of *Creating Group Calculations on p.61*.

NOTE: You can also copy Group Calculation Academic Profiles from within the **Mark Inquiry** module. For details, see Step 6 of *Analysing Group Calculation Data using Mark Inquiry on p.14*.

6. To delete a Group Calculation:

a. In the **Actions** column, click on the **Delete** link. The **Confirm Delete** message appears requesting confirmation.

b. Click the **Yes** button to delete the Group Calculation (click the **No** button if you do not wish to delete it).

Configuring the Group Calculation Batch Run

This section details the following:

- *About Configuring the Group Calculation Batch Run on p.73*.
- *Configuring the Group Calculation Batch Run on p.75*.

About Configuring the Group Calculation Batch Run

The Batch Run process creates Academic Profiles for any new Group Calculations, and updates the data set for existing linked Group Calculation Academic Profiles. For example, if teachers have added marks and grades for any Tasks already included in existing Group Calculations, then this updated markbook data is displayed in the associated linked Group Calculation Academic Profiles. In addition, if configured, any relevant new Tasks added are automatically included within the appropriate Group Calculation Academic Profiles, once the Batch Run has been run.

You need to set when you want the Group Calculation Batch Run process to run.

NOTE: We recommend that this time is set OUTSIDE working hours, as while the batch process is taking place, users are able to view but not edit or update the following areas of **3Sys**:

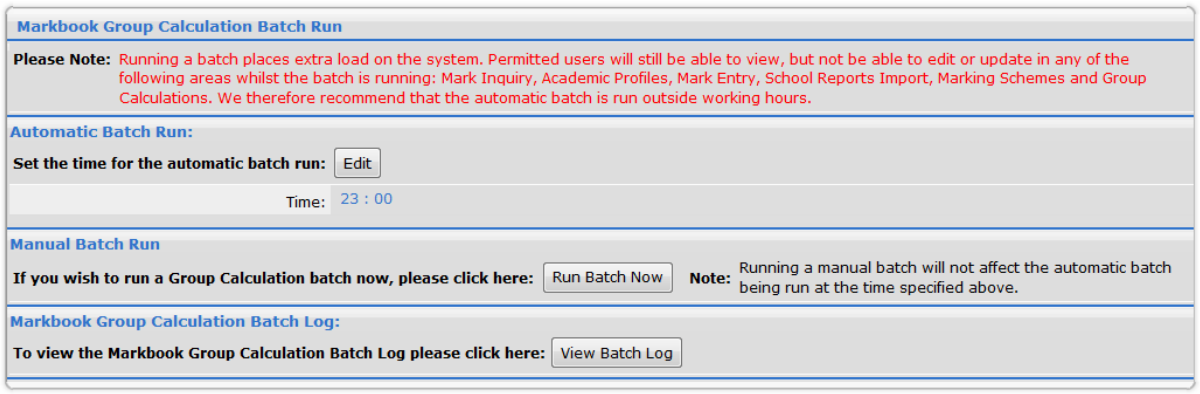
- Mark Inquiry
- Academic Profiles
- Mark Entry
- School Reports Import
- Marking Schemes
- Markbook Group Calculations

To configure the batch process, you use these two screens:

- **Markbook Group Calculation Batch Run** screen – see *About the Markbook Group Calculation Batch Run screen on p.73*.
- **Markbook Group Calculation Batch Log** screen – see *About the Markbook Group Calculation Batch Log on p.74*.

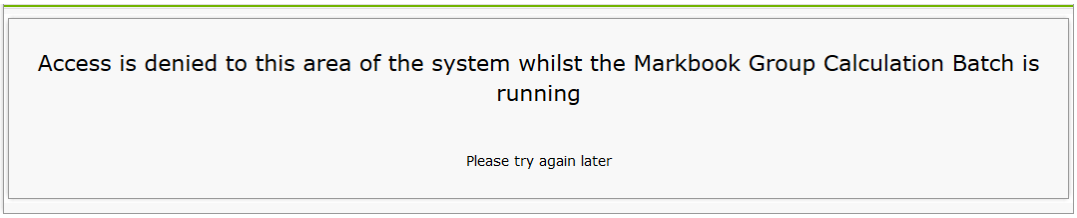
About the Markbook Group Calculation Batch Run screen

You use the **Markbook Group Calculation Batch Run** screen to set the time at which Batch Runs are initiated, and the **Markbook Group Calculation Batch Log** screen to view the recent history of Batch Runs undertaken.



NOTE: We recommend that this time is set OUTSIDE working hours, as while the batch process is taking place, users are not able to use certain areas of **3Sys Markbooks**.

If users attempt to access these areas of **3Sys Markbooks**, then a message appears informing the user that 'Access is denied to this area of the system whilst the Markbook Group Calculation Batch is running. Please try again later.' See the example screenshot below:



About the Markbook Group Calculation Batch Log

The **Markbook Group Calculation Batch Log** screen enables you to view a list of Batch Runs which have been recently undertaken. For example:

This screen also indicates if a manual batch run has been requested and if it is completed yet. The example screenshot below shows a manual batch run with a status of 'Waiting'.

NOTE: If you want to see the current status, you need to press F5 to refresh the screen.

NOTE: Once you have created Group Calculations and run the Group Calculation Batch Run, you need to confirm that the resultant Group Calculation Academic Profiles contain the Tasks and data you and your teachers require. For details, see *Analysing Group Calculation Data on p.8*.

Configuring the Group Calculation Batch Run

For an overview, see *About Configuring the Group Calculation Batch Run on p.73*.

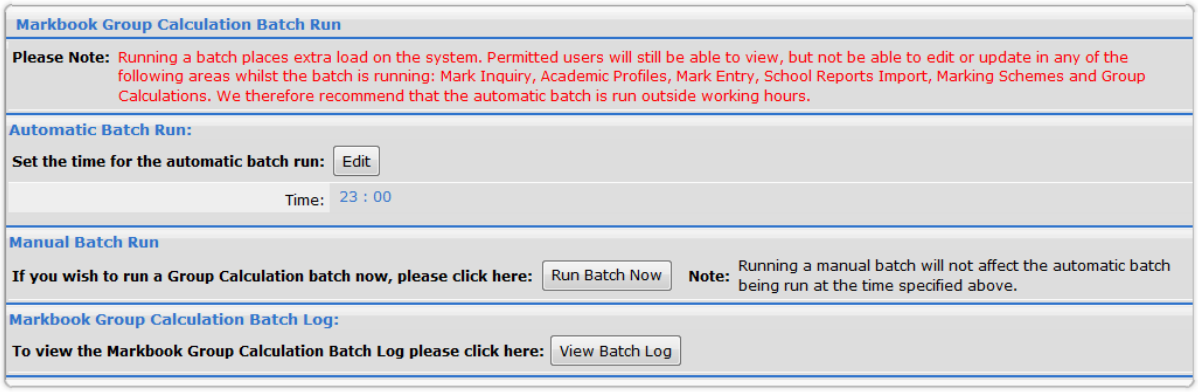
To configure the Group Calculation Batch Run:

1. In **3Sys** choose **Setup** from the menu at the top of your screen.

   The **Setup** options appear in the **3Sys** side panel.

   NOTE: If the side panel is not currently displayed, click the right-facing arrow button on the left of your screen, near the top.

2. In the **Markbooks Management** menu, click **Group Calculation Batch Runtime**.
   The **Markbook Group Calculation Batch Run** screen appears.

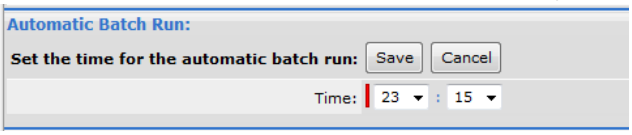


3. (Optional) Alter the time at which the Group Calculation Batch Run is set to be processed.

   By default, the Group Calculation Batch Run is set to run at 23:00 each night.

   NOTE: We recommend that this time is set OUTSIDE working hours, as while the batch process is taking place, users are not able to use many areas of **3Sys Markbooks**.

   a. Click the **Edit** button. The **Time** field is enabled, and the **Save** and **Cancel** buttons appear.



   b. Use the **Time** drop lists to alter the time, and click the **Save** button. The **Markbook Group Calculation Batch Run** screen is updated to reflect the changed time.

4. (Optional) View a history of the recent Batch Runs, by clicking on the **View Batch Log** button.

   The **Markbook Group Calculation Batch Log** screen appears.

5. Click the **Back** button to return to the **Markbook Group Calculation Batch Run** screen, or if you have finished with the Batch Run screens, click on one of the tabs such as the **All Functions** tab, to continue with other tasks.

Manually Running the Group Calculation Batch Run

For an overview, see *About Configuring the Group Calculation Batch Run on p.73*.

To manually run the Group Calculation Batch Run:

1. Follow steps 1-2 of *Configuring the Group Calculation Batch Run on p.75*, to display the **Markbook Group Calculation Batch Run** screen.
2. Click the **Run Batch Now** button.

   NOTE: We recommend that you only run the batch manually OUTSIDE working hours, as while the batch process is taking place, users are not able to use many areas of **3Sys Markbooks**.

   The **Markbook Group Calculation Batch Log** screen appears, displaying the latest Batch Run with the Status of 'Waiting'.

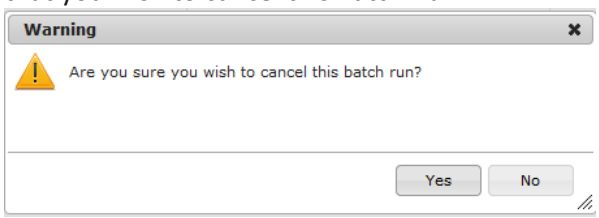
   While you are waiting for the manual batch run to take place, you can use other areas of **3Sys** functionality – areas other than Markbook functionality. Once the manual Batch Run is completed, the value in the **Status** column is refreshed from 'Waiting' to 'Successful'.

   If you clicked the **Run Batch Now** button in error, go to step 3 to cancel the Batch Run.

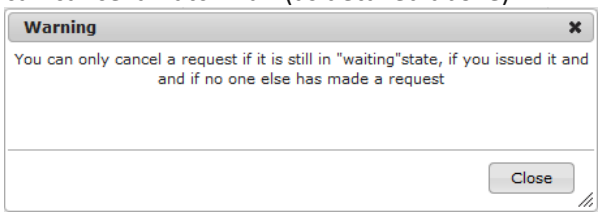
3. (Optional) Cancel the manual Group Calculation Batch Run:

   NOTE: You can only cancel a manual Batch Run if you initiated that Batch Run, if the status is still set to 'Waiting' (as displayed in the **Status** column on the far right of the **Group Calculation Batches** table), and if nobody else has made a Batch Run request.

   a. In the **Actions** column, click the **Cancel** button. A warning appears asking for confirmation that you wish to cancel this Batch Run.



b. Click the **Yes** button. Another warning appears, confirming the circumstances in which you can cancel a Batch Run (as detailed above).



c. Click the **Close** button. You are returned to the **Markbook Group Calculation Batch Log** screen.

4. You can click on one of the tabs, such as the **All Functions** tab, to continue with other tasks.

Configuring Setup Settings for Group Calculations

This section details the following:

- *About Configuring the 'Subject Set' Page Layout and Field Access for Group Calculations on p.78*.
- *Configuring the 'Subject Set' Page Layout and Field Access for Group Calculations on p.79*.
- *About Configuring Permissions for Group Calculations on p.83*.
- *Editing Profiles on p.84*.

About Configuring the 'Subject Set' Page Layout and Field Access for Group Calculations

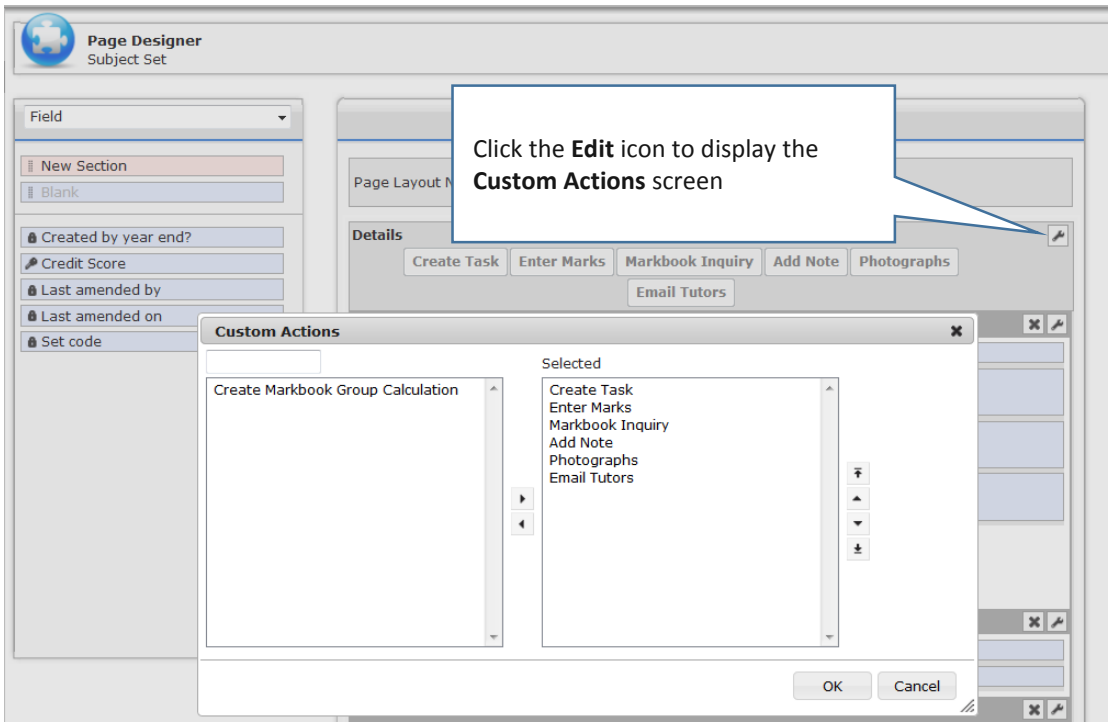
For the procedure, see *Configuring the 'Subject Set' Page Layout and Field Access for Group Calculations on p.79*.

You need to set up the 'Subject Set' Page Layout and Field Access so that the:

- **Create Markbook Group Calculation** button or option on the **More Actions** menu appears, when viewing an existing Subject Set within the **Subject Set** module. For details, see *About Configuring 'Subject Set' Page Designer for Group Calculations on p.78*.
- **Credit Score** field appears in the **Subject Set** screen when editing or creating a new Subject Set. For details, see *About Configuring 'Subject Set' Field Access for Group Calculations on p.79*.

About Configuring 'Subject Set' Page Designer for Group Calculations

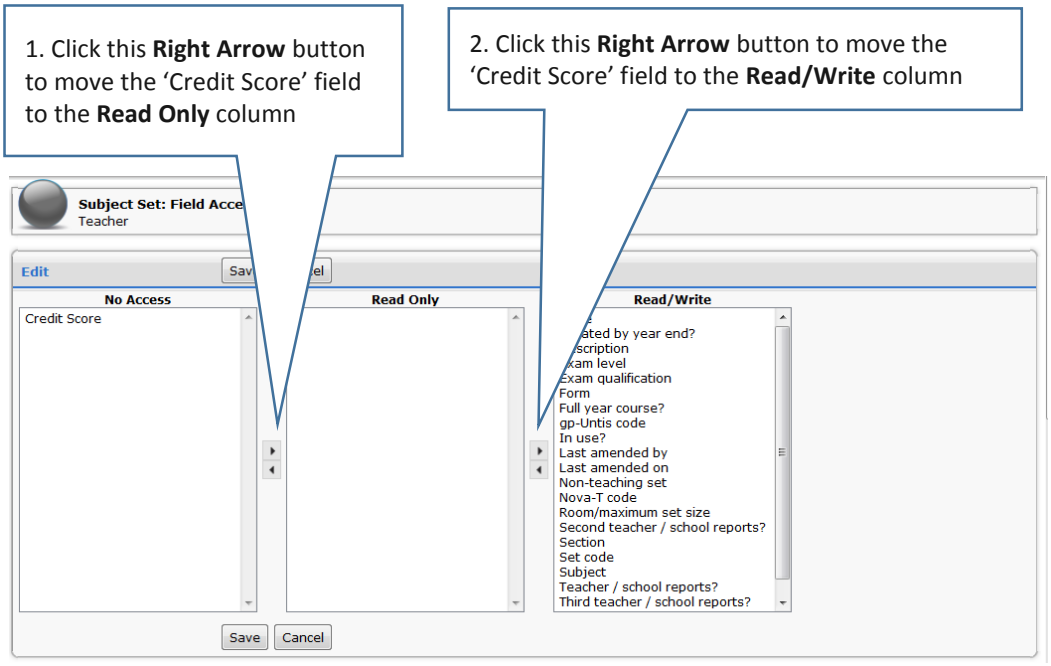
To enable users to create Group Calculations when viewing an existing Subject Set, you use the **Page Designer Subject Set** screen and the **Custom Actions** screen. For example:



NOTE: This adds the **Create Markbook Group Calculation** button or menu option to the **Subject Set** screen, if the user's profile permission allow them to access this. You need to set up the relevant profile permission, see *About Configuring Subject Set Permissions on p.84*.

About Configuring 'Subject Set' Field Access for Group Calculations

To include the **Credit Score** field in the **Subject Set** screen when editing or creating a new Subject Set, you use the **Subject Set: Field Access** screen. For example:



Configuring the 'Subject Set' Page Layout and Field Access for Group Calculations

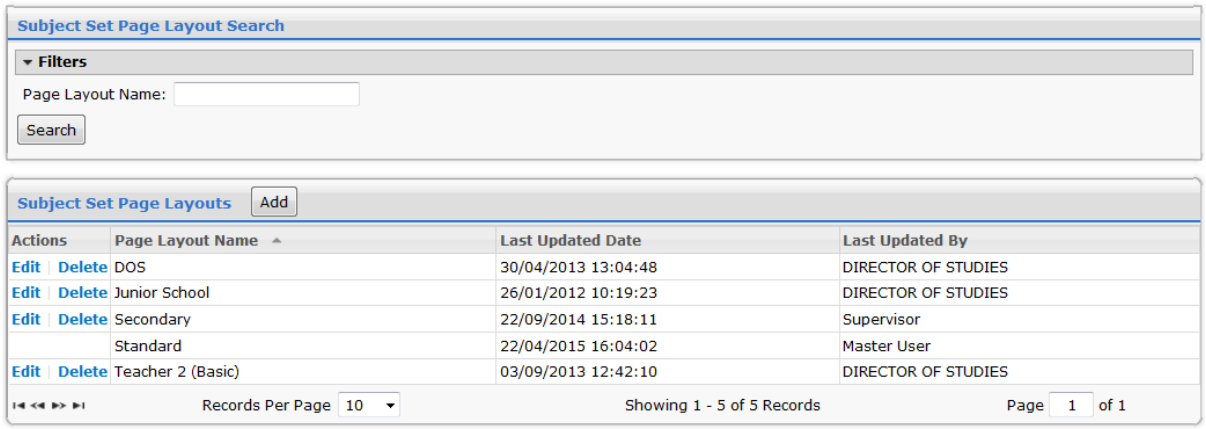
To configure the 'Subject Set' Page Designer for Group Calculations:

1. Choose **Setup** from the menu at the top of your screen.

   The **Setup** options appear in the **3Sys** side panel.

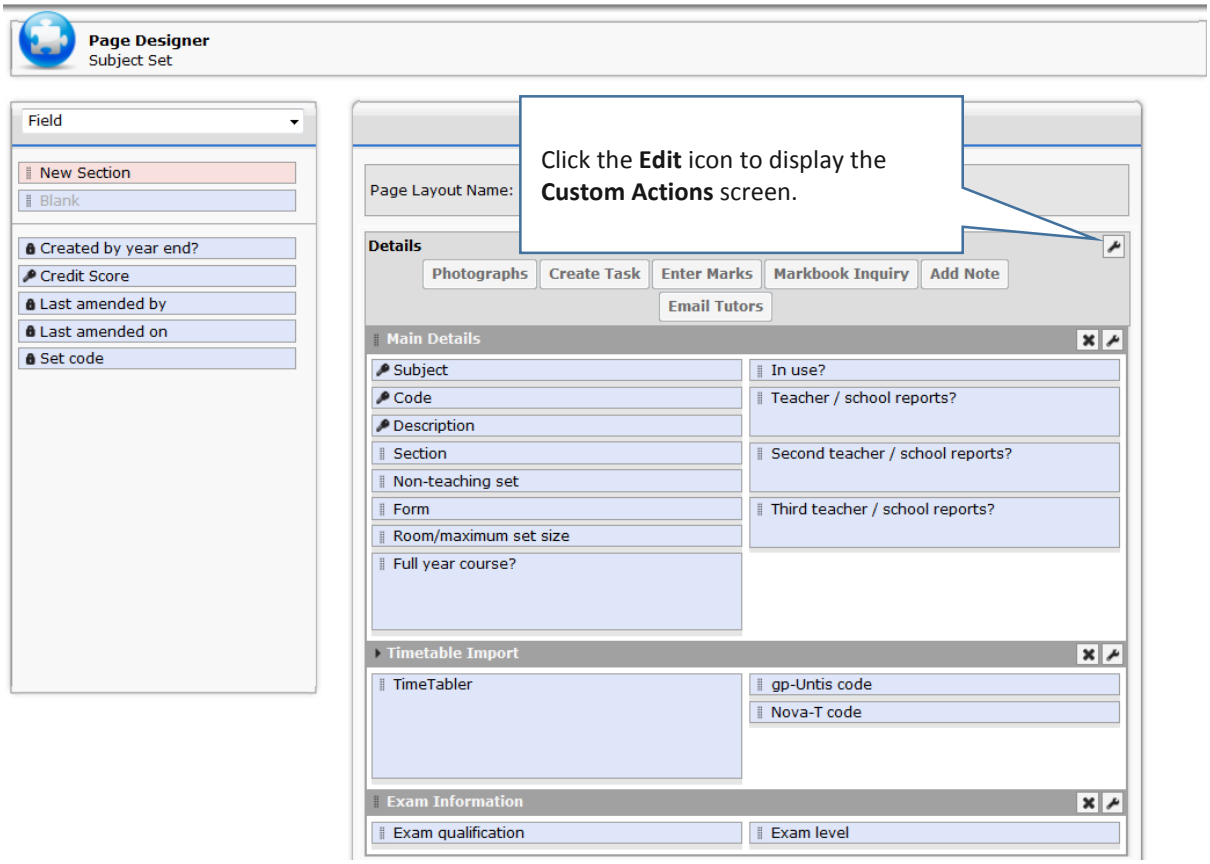
   NOTE: If the side panel is not currently displayed, click the right-facing arrow button on the left of your screen, near the top.
2. Scroll down the page, and click **Application Setup > Subject Sets > Page Layouts**.

The **Subject Set Page Layout Search** screen appears.



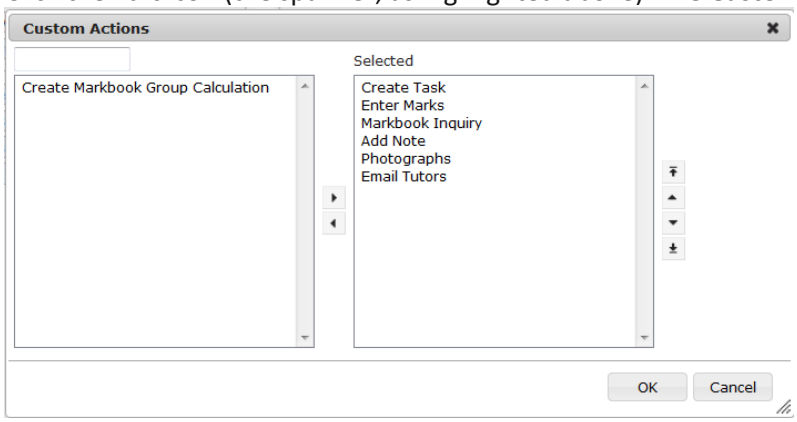
3. Click the relevant **Edit** link.

   The **Page Designer – Subject Set** screen appears.



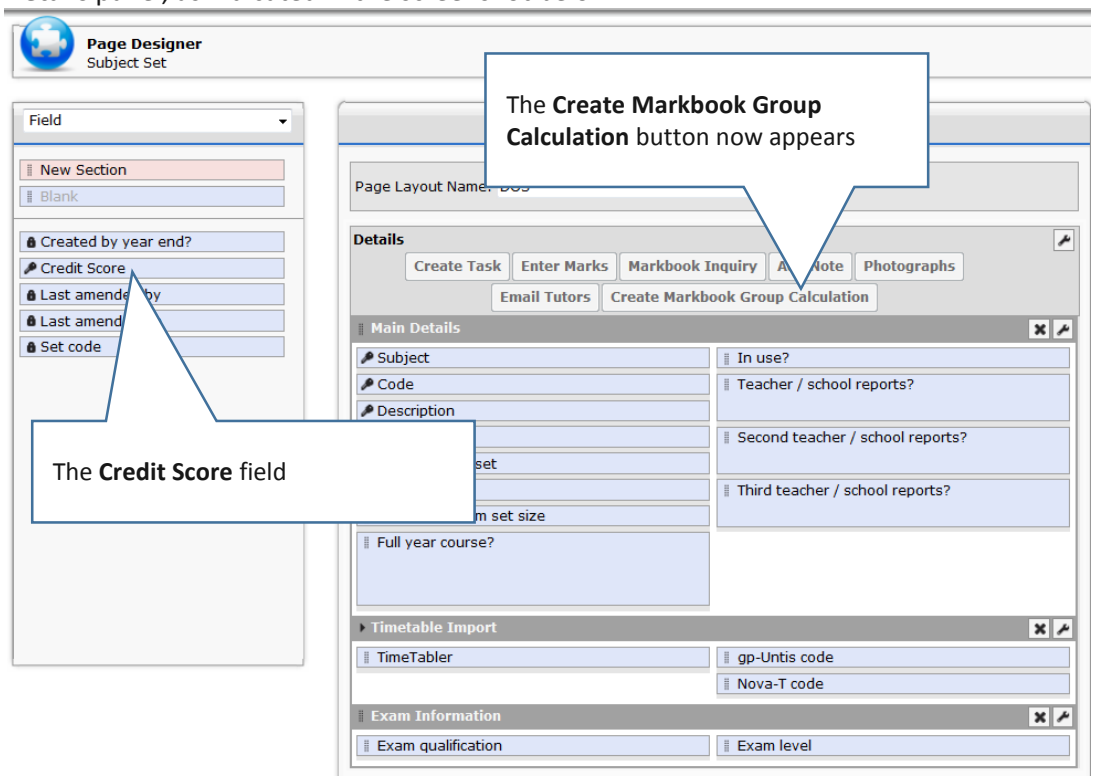
4. Configure the Page so that the **Create Markbook Group Calculations** button appears when a user views an existing Subject Set within the **Subject Set** module:

a. Click the **Edit** icon (the spanner, as highlighted above). The **Custom Actions** screen appears.



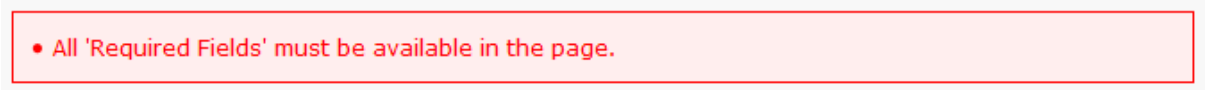
b. Double-click on the 'Create Markbook Group Calculation' item to move it from the **Available** column (left-hand column) to the **Selected** column (right-hand column). Alternatively, you can select it and use the **Arrow** buttons.

c. Click the **OK** button. The **Create Markbook Group Calculation** button appears in the **Details** panel, as indicated in the screenshot below.



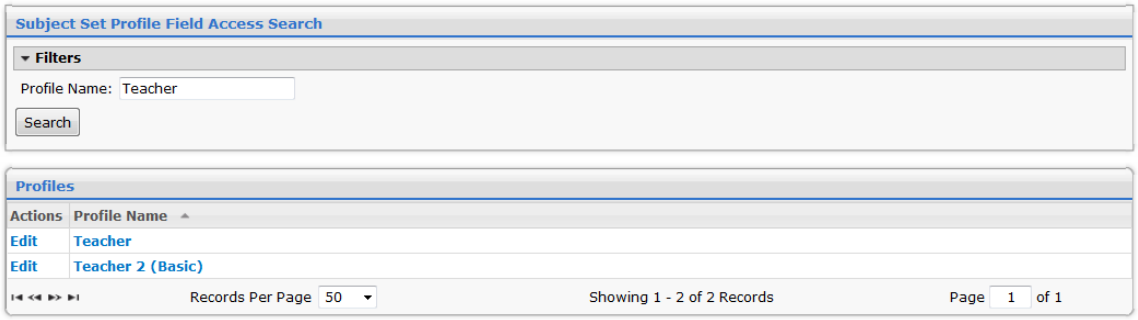
5. Configure the Page to include the 'Credit Score' field, by dragging and dropping the 'Credit Score' item from the **Field** list on the left to the **Main Details** panel on the right.

   NOTE: This field is required, so if you try and save this Page without moving the 'Credit Score' field from the **Field** list on the left to the Page Layout on the right, then this error message appears at the top of the screen:

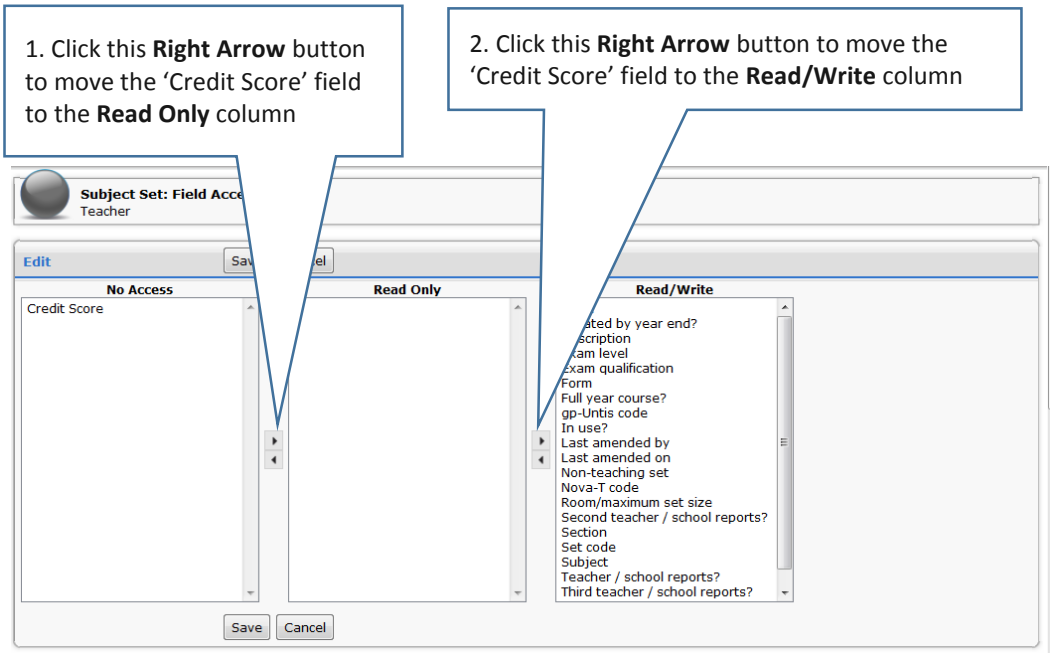
   

6. Click the **Save** button. You are returned to **Subject Set Page Layout Search** screen.
7. Set the Field Access for the **Credit Score** field:

a. Scroll down the page and click **Subject Sets > Field Access**. The **Subject Set Profile Field Access Search** screen appears. For example:



b. Click on the relevant **Edit** link for the Profile you wish to edit. The **Subject Set: Field Access** screen appears.



c. Move the 'Credit Score' from the **No Access** column to the **Read Only** column, and then to the **Read/Write** column, by selecting it and clicking on the **Right Arrow** buttons, as indicated above.

d. Click the **Save** button. You are returned to the **Subject Set Profile Field Access Search** screen.

8. Tick the **Create Markbook Group Calculation** check box in the **Subject Set** permissions, to give the relevant users access to creating Group Calculations from the **Subject Set** module. For details, see *About Configuring Subject Set Permissions on p.84*.
9. Check that your users can access the:
   - **Create Markbook Group Calculation** button or option on the **More Actions** menu, when viewing an existing Subject Set.
   - **Credit Score** field when editing or creating a new Subject Set. For details, see *About Setting the Credit Score using 3Sys Academic on p.39*.

About Configuring Permissions for Group Calculations

You must ensure that you have configured the following Profile **Setup** settings appropriately:

- *About Configuring Markbooks Administration Permissions on p.83*.
- *About Configuring Subject Set Permissions on p.84*.

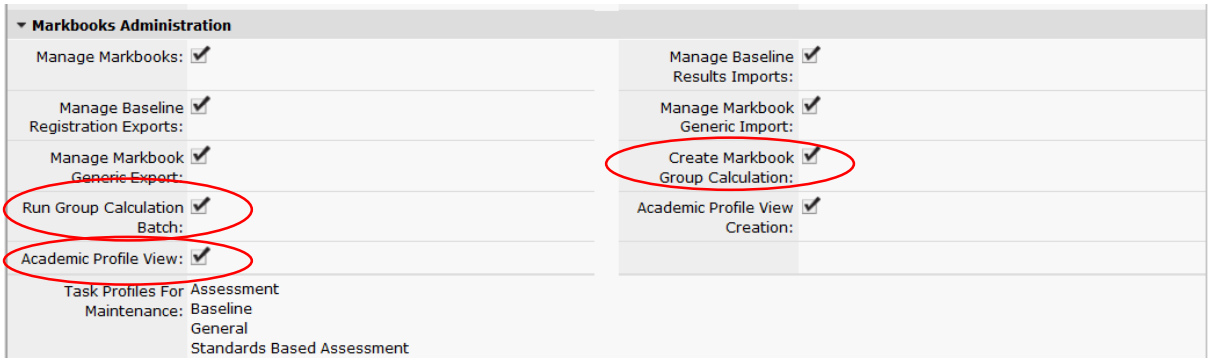
If you are unsure how to configure the permissions, see *Editing Profiles on p.84*.

About Configuring Markbooks Administration Permissions

You must ensure that you have configured the following Profile **Setup** settings appropriately, for all the relevant users within your school to have access to and be able to undertake the following:

- Create Group Calculations using the **Markbook Group Calculations** module.
- Run the Group Calculation Batch Run.
- View the resultant linked Group Calculation Academic Profiles.

Field Name	Field Description
Create Markbook Group Calculation	Tick to allow the selected user or profile to have access to and be able to create Group Calculations from the following locations: • **All Functions** tab • **Markbook Tasks** module • **Markbook Management** menu (within **Setup**)
Run Group Calculation Batch	Tick to allow the selected user or profile to have access to and be able to: • Configure the time at which the daily automatic Group Calculation Batch Run takes place. • Initiate a manual Batch Run. • View the Batch Run log file, which details recent Batch Runs.
Academic Profile View	Tick to allow the selected user or profile to have access to and be able to view the resultant linked Group Calculation Academic Profiles. Only those users or profiles with permission to view these Group Calculation Academic Profiles will be able to copy them in order to perform and save additional calculations. **NOTE**: This setting enables users to view other Academic Profiles too, unless those Academic Profiles are set to have restricted visibility.

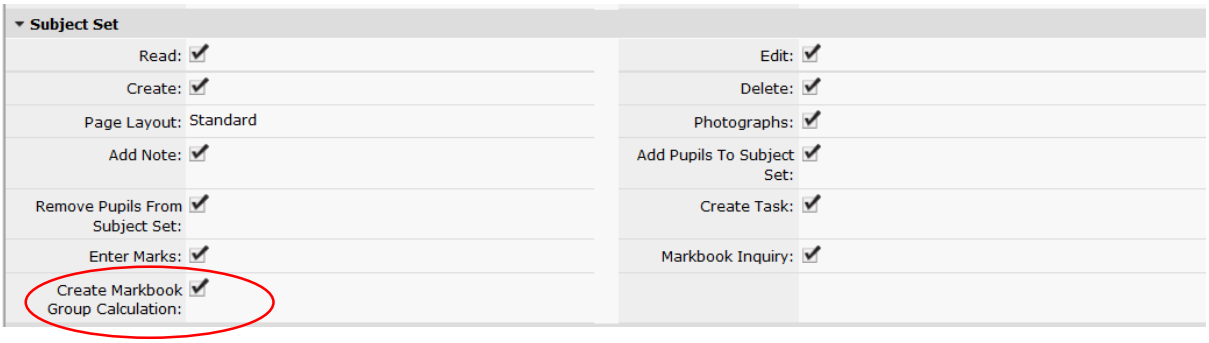


About Configuring Subject Set Permissions

You must ensure that you have configured the following Profile **Setup** settings appropriately, for all the relevant users within your school to have access to and be able to undertake the following:

- Create Group Calculations using the **Markbook Group Calculations** module, from within the **Subject Sets** module.

Field Name	Field Description
Create Markbook Group Calculation	Tick to allow the selected user or profile to have access to and be able to create Group Calculations from the following location when viewing a Subject Set: • **Subject Sets** screen within the **Subject Sets** module (in view mode). The **Create Group Calculation** button appears on the **Subject Set** screen or is available from the **More Actions** menu. **NOTE**: In order for users to access **Markbook Group Calculations** from the **Subject Set** module, you also need to the Subject Set Page Layout settings (and Field Access). For details, see *Configuring Setup Settings for Group Calculations on p.78*

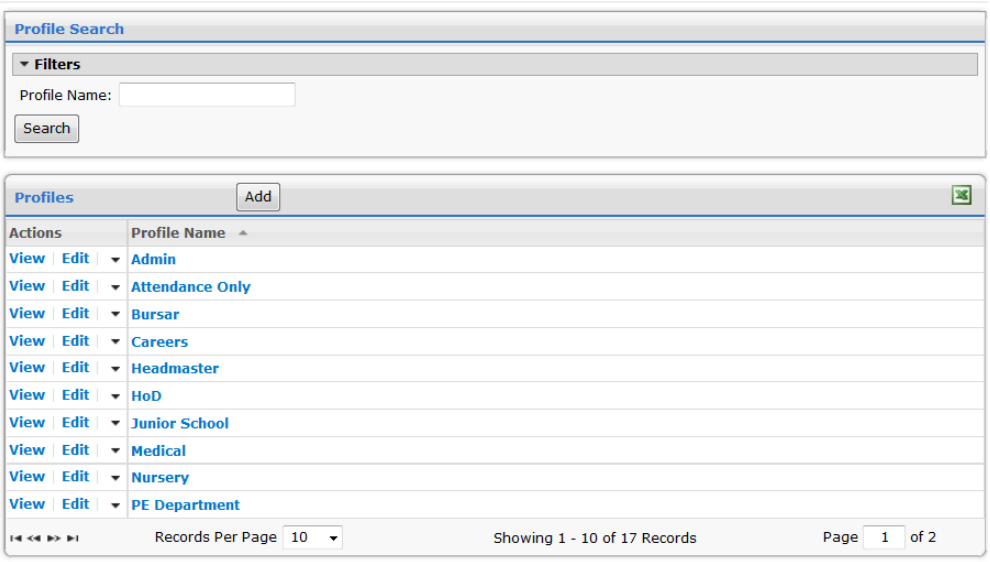


Editing Profiles

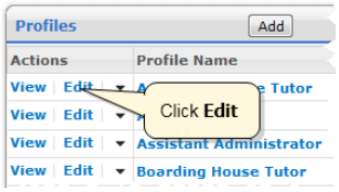
For further information about editing profiles, please refer to the **3Sys** online help.

To edit the details of an existing profile

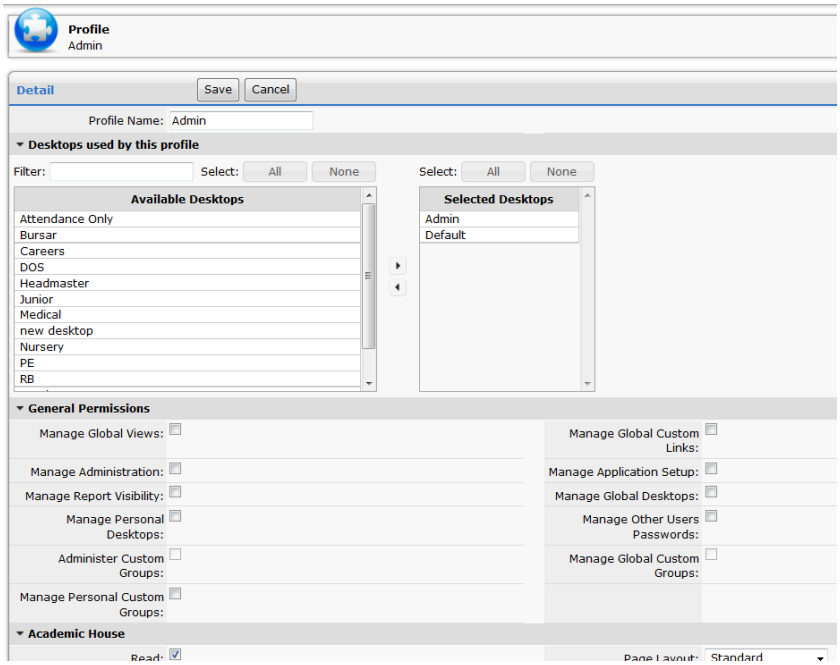
1. In **3Sys** choose **Setup** from the menu at the top of your screen.
   The **Setup** options appear in the **3Sys** side panel.
   NOTE: If the side panel is not currently displayed, click the right-facing arrow button on the left of your screen, near the top.
2. In the **Users and Profiles** menu, click **Profiles**.
   The **Profile Search** screen appears displaying a list of profiles.



3. Find the profile you want to edit.
   If you cannot find the required profile in the list, do one of the following:
   - Enter the name of the profile (or part of the name) in the **Profile Name** field and click **Search**.
   - Use the **Page Scroll** arrows at the bottom of the screen to view the profile records a page at a time.
4. In the **Actions** column, click **Edit** to the left of the name of the profile you want to edit.



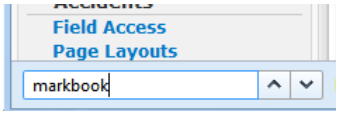
The **Profile** screen appears.



NOTE: You can edit the following profile details:

- Profile permissions (both general and for specific areas of the system).
- Profile Name.
- Desktops assigned to the profile.
- Page layouts assigned to the profile.

5. Find the relevant profile permission you require:
   a. Check the name of the profile permission you need to change – see *About Configuring Permissions for Group Calculations on p.83.*
   b. Do one of the following:
      - Press CTRL+F to display the **Find** field, enter the name of the permission and press RETURN.



        The first match on the page is highlighted. Use the arrows to move down or up the page to find the required item.
      - Scroll up or down the page to find the required item.
6. Set or disable the individual permission. Tick the box to grant the profile access to this permission, untick the box to disable that permission for this profile.
7. Scroll to the top or the bottom of the page and click the **Save** button.

Frequently Asked Questions

Q1. Why is the linked Group Calculation Academic Profile not appearing?

A1. There are several reasons why the Group Calculation Academic Profile might seem to be 'hiding'. Check the following:

- In **Mark Inquiry** on the **Academic Profiles** tab, select the **All Profiles** option to display all the Academic Profiles which you have permission to view. Click the **Academic Profile Name** drop list to view the updated list. If you still do not see the expected Group Calculation Academic Profile, check with your Director of Studies as you may not have the permissions to view certain Academic Profiles.
- The Group Calculation Batch Run process may not have taken place since the Group Calculation was created. This Batch Run normally occurs in the evening out of office hours. Please check with your Director of Studies to confirm the timing of the Batch Run. If necessary the Batch Run can be initiated manually at any time.
- You don't have permission to view the resultant linked Group Calculation Academic Profiles. You need to have permission to view Academic Profiles, and the resultant Group Calculation Academic Profiles can be further restricted via visibility settings within the **Group Calculation** wizard. In the first instance, please consult your Director of Studies or System Administrator.

Q2. Why are the expected Tasks not appearing in my Group Calculation?

A2. The expected Tasks may not appear in the Group Calculation if you have:

- NOT yet run the Group Calculation Batch Run.
- Missed a step in the set up process. If you have set the Group Calculation to Automatically Include Tasks, the Group Calculation can only automatically include Tasks that have yet to be set up. For any Tasks which already exist that you wish to include within a Group Calculation, you must use Step 4 of the wizard to manually include the relevant existing Tasks.

Q3. Does the Import Subject Set Lists template include the Credit Score field?

Yes it does. The 'Import Subject Set Lists template' has been amended to include the Credit Score field. The screenshot below shows the Credit Score column in the 'Import Subject Set Lists template'.

Q	R	S
TimeTabler Set	**gpUntis Code**	**Credit Score**

(In **PASS**, the 'Import Subject Set Lists template' is available from the **Import Subject Set Lists** screen, which you open by clicking **Academic > Subject Sets > Import Subject Set Lists**.)

Appendix A – Markbook Algorithms

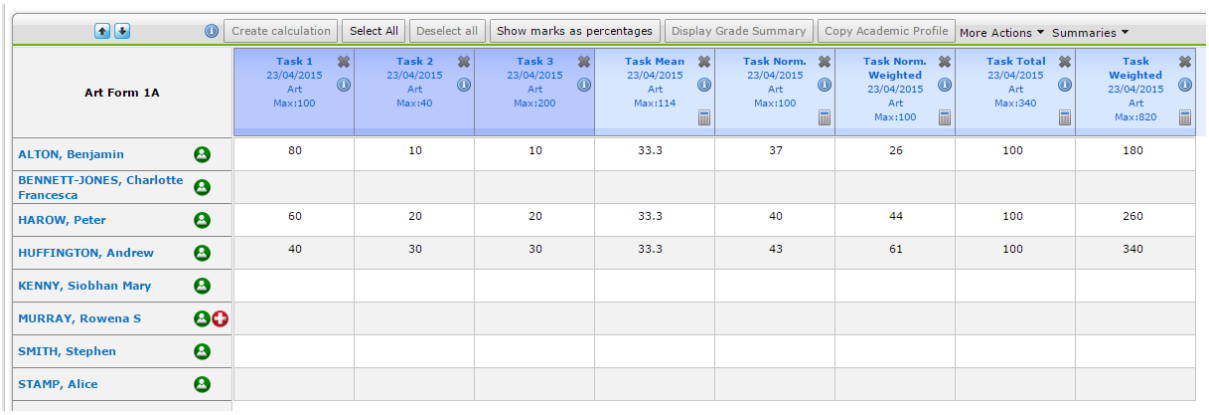
This Appendix details the algorithms used for the following Tier One and Tier Two calculations:

- Total
- Weighted Total
- Mean Total
- Normalised Total
- Normalised Weighted

The following worked example is used to illustrate the algorithms. The following three Tasks have been set for Art Form 1A:

- Task 1 – Maximum = 100 Weighting = 1
- Task 2 – Maximum = 40 Weighting = 8
- Task 3 – Maximum = 200 Weighting = 2

Each of the five types of calculations have been performed against this set of data, the results of which are displayed below:



Art Form 1A	Task 1 23/04/2015 Art Max:100	Task 2 23/04/2015 Art Max:40	Task 3 23/04/2015 Art Max:200	Task Mean 23/04/2015 Art Max:114	Task Norm. 23/04/2015 Art Max:100	Task Norm. Weighted 23/04/2015 Art Max:100	Task Total 23/04/2015 Art Max:340	Task Weighted 23/04/2015 Art Max:820
ALTON, Benjamin	80	10	10	33.3	37	26	100	180
BENNETT-JONES, Charlotte Francesca								
HAROW, Peter	60	20	20	33.3	40	44	100	260
HUFFINGTON, Andrew	40	30	30	33.3	43	61	100	340
KENNY, Siobhan Mary								
MURRAY, Rowena S								
SMITH, Stephen								
STAMP, Alice								

About the 'Total' Algorithm

The 'Total' algorithm:

$$Mark = Mark1 + Mark2 + Mark3 = 80 + 10 + 10 = 100$$
$$Max = Max1 + Max2 + Max3 = 100 + 40 + 200 = 340$$

NOTE: In the example screenshot above, the results of this algorithm are shown in the 'Task Total' column.

About the 'Weighted Total' Algorithm

The 'Weighted Total' algorithm:

$$Mark = (Mark1\ x\ Weighting1) + (Mark2\ x\ Weighting2) + (Mark3\ x\ Weighting3) = (80x1) + (10x8) + (10x2) = 180$$

$$Max = (Max1\ x\ Weighting1) + (Max2\ x\ Weighting2) + (Max3\ x\ Weighting3) = (100x1) + (40x8) + (200x2) = 820$$

NOTE: In the example screenshot above, the results of this algorithm are shown in the 'Task Weighted' column.

About the 'Mean Total' Algorithm

The 'Mean Total' algorithm:

$$Mark = \frac{(Mark1 + Mark2 + Mark3)}{Number\ of\ Marks} = \frac{(80 + 10 + 10)}{3} = 33.3$$

$$Max = \frac{(Max1 + Max2 + Max3)}{Number\ of\ Marks} = \frac{(100 + 40 + 200)}{3} = 113.3\ (recurring)$$

NOTE: In the example screenshot above, the results of this algorithm are shown in the 'Task Mean' column.

About the 'Normalised Total' Algorithm

The 'Normalised Total' algorithm (assuming that the normalisation level = 100):

$$Mark1 = \frac{80}{100} * 100 = 80$$
$$Mark2 = \frac{10}{40} * 100 = 25$$
$$Mark3 = \frac{10}{200} * 100 = 5$$

$$Mark = \frac{Mark1 + Mark2 + Mark3}{NumberOfMarks} = \frac{80 + 25 + 5}{3} = 36.6\ (recurring)$$

$$Max = Normalisation\ Level = 100$$

NOTE: In the example screenshot above, the results of this algorithm are shown in the 'Task Norm' column.

About the 'Normalised Weighted' Algorithm

The 'Normalised Weighted Total' algorithm (assuming that the normalisation level = 100):

$$Mark1 = \left(\left(\frac{mark}{max}\right) x\ normalisation\ level\right) x\ Weighting1 = \left(\frac{80}{100} * 100\right) x\ 1 = 80$$

$$Mark2 = \left(\left(\frac{mark}{max}\right) x\ normalisation\ level\right) x\ Weighting2 = \left(\frac{10}{40} * 100\right) x\ 8 = 200$$

$$Mark3 = \left(\left(\frac{mark}{max}\right) x\ normalisation\ level\right) x\ Weighting3 = \left(\frac{10}{200} * 100\right) x\ 2 = 10$$

$$Mark = \frac{Mark1 + Mark2 + Mark3}{SumOfWeightings} = \frac{80 + 200 + 10}{1 + 8 + 2} = 26.36$$

$$Max = Normalisation\ Level = 100$$

NOTE: In the example screenshot above, the results of this algorithm are shown in the 'Task Norm. Weighted' column.

Contacting Us

For further information on known issues and fixes, please visit our website and click the **Sign in** button to access our Customer Centre: www.wcbs.co.uk

Helpline	+ 44 (0)1458 833055
Telephone	+ 44 (0)1458 833344
Fax	+ 44 (0)1458 835297
Email	support@wcbs.co.uk
Website	www.wcbs.co.uk

WCBS
Somerset House
Magdalene Street
Glastonbury
Somerset
BA6 9EJ
UK