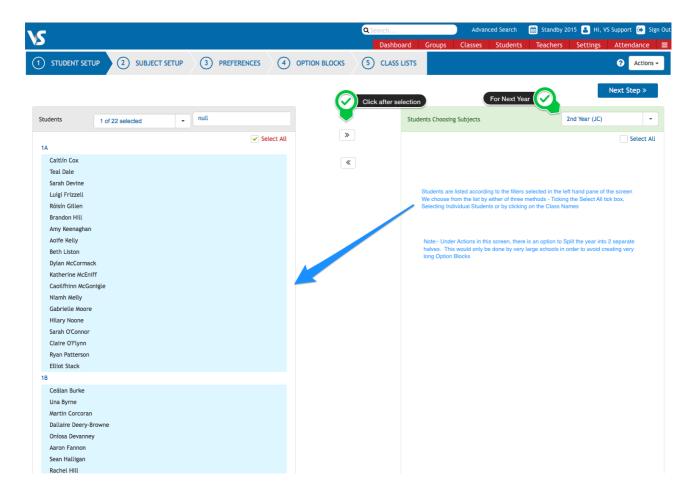
# **Generating Option Blocks using VS**

An updated Option Block generator is now available in VSware MIS. In developing the original feature in 2015, we tried to simplify this important process by reducing it to four simple screens. Even though we have now added a fifth screen (a Class List Manager) in this updated version, we have not over-complicated the software.

We have tried to reduce the amount of input required to generate the blocks. This feature will be available to any user logged-on in the Role of Principal. However, if can also be made available to any user by going to their profile and under "Account", tick the box "Enable Access to Options".

## 1. Student Setup

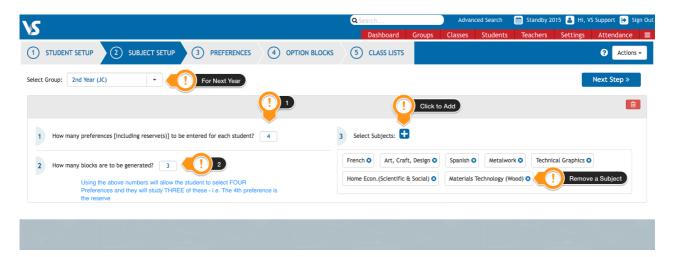
In this screen, you select the students that are to be allowed provide preferences for subjects. When you have selected the students to be involved in the process, you click on the '≫' symbol and this will move the selected students to the RHS of the screen. It is very important that the drop down list for the 'Students Choosing Subjects' is used to select the year that these students will be selecting preferences for in Next Year's timetable. When this entire option block process is complete, the newly created option blocks will be imported into VSware's Timetable Construction feature.



### 2. Subject Setup

This screen allows you to set the number of preferences that you are going to accept from each student. You then set the number of Option Blocks that you wish to generate and it is this number of subjects that the student will study.

The subjects that you wish to be included as preferences are also added on this screen. Subjects can easily be added or removed as necessary. If a subject is subsequently removed after it has been selected by a student, a blank space will appear in the preferences of those students and they can then select another subject instead.



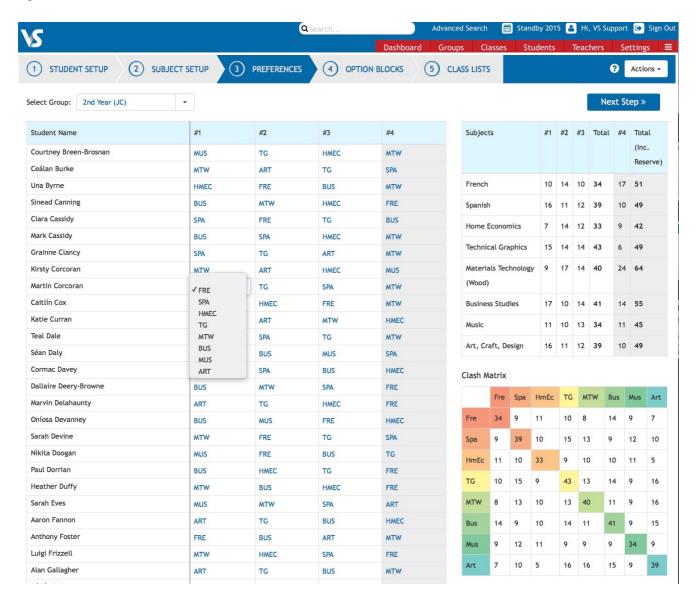
In the screenshot above, the students are being asked to select 4 preferences and they will study 3 of these subjects. All of the subjects are in one pool (or set) of subjects and this subject setup usually produces a high student satisfaction rate. Before generating option blocks using this method, it is important that students are well advised in their subject selection or some students could study an unbalanced curriculum.

If required, you can create an additional set of subjects by clicking on the Actions button and then clicking on 'Create New Subject Set'. This can be used to create a language line or perhaps a set of Science subjects to ensure that each student will study a science subject and a language. Some schools do this to ensure that their student will have a balance curriculum. The disadvantage of this method is that you are most likely to have a lower student satisfaction and in some cases, the shortage of specialised rooms could become an issue as similar subject are on at the same time. This will be discussed in more detail at the end of this guide

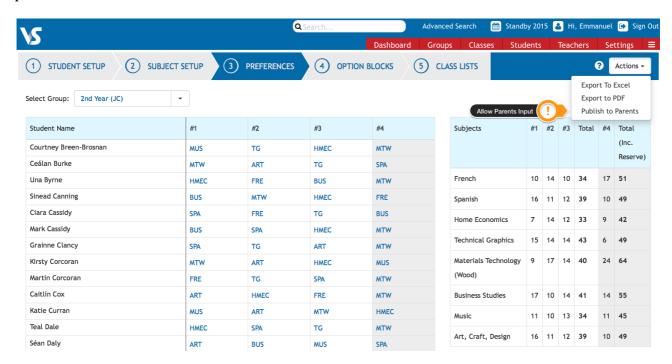
Clicking on 'Next Step' will move you on to the Preferences Screen.

#### 3. Preferences Screen

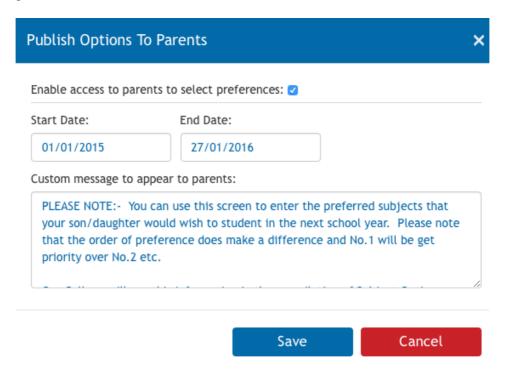
In this screen, we enter the students' preferences. This has been made very simple as the students are already entered in the table and the subjects permitted are built into the dropdown list when you click on any of the preferences columns in the table. On the right hand side of this page you will see a statistical table that will automatically update as the preferences are added or modified.



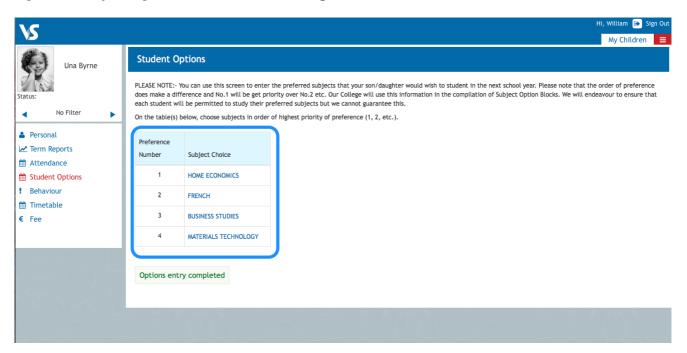
We have now added a feature which will allow parents to enter subject preferences for their children. This is managed by the school. Under Actions, you will see 'Publish to Parents'. This will then show a popup screen which will allow you to create a timeframe for parents to enter preferences.



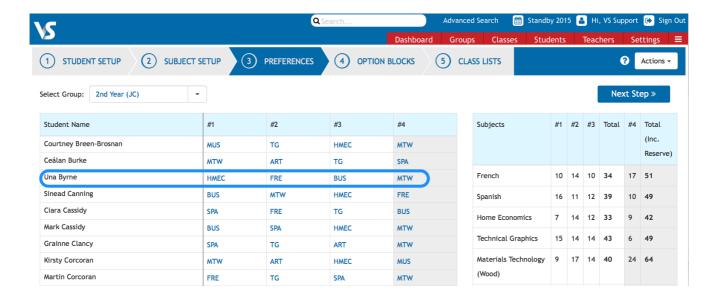
On this popup below, you can also write an explanatory message for parents to explain the preferences procedure.



In the screen grab below, we see that the parent of Una Byrne as logged in and as entered 4 subject preferences for his daughter. The parent will see a customised message of instruction from the school. When the parent completes the preferences entry, they will receive an 'Options entry complete' confirmation message.



The preferences entered by the parent will then automatically display in the preferences table on the preferences screen.



The totals for the number of main preferences (and preferences including reserves) are computed allowing you to make an informed decision on the number of classes you need to provide.

Subjects	#1	#2	#3	Total	#4	Total (Inc. Reserve)
French	10	14	10	34	17	51
Spanish	16	11	12	39	10	49
Home Economics	7	14	12	33	9	42
Technical Graphics	15	14	14	43	6	49
Materials Technology (Wood)	9	17	14	40	24	64
Business Studies	17	10	14	41	14	55
Music	11	10	13	34	11	45
Art, Craft, Design	16	11	12	39	10	49

#### **The Clash Matrix**

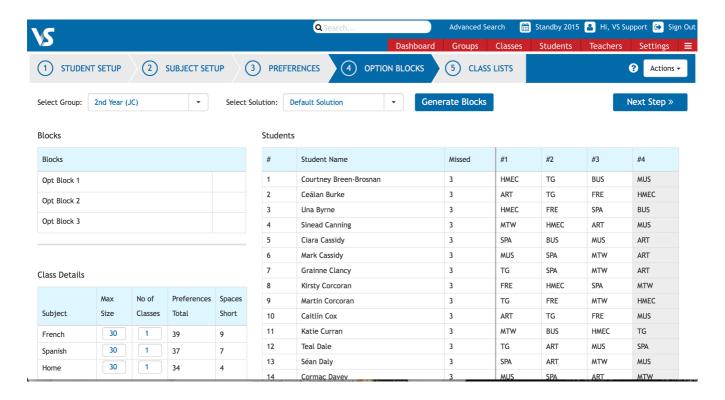
This matrix will provide some interesting statistics in relation to the expression of interest in individual subjects or in studying combinations of subjects. In the sample matrix shown below, we see for example that 9 students have indicated a preference for both French and Spanish. Business and Music are listed amongst the preferences of 9 different students.

#### Clash Matrix Fre Spa HmEc TG MTW Bus Mus Art Fre 5 Students have Spa selected HmEc & Art HmEc as preferences TG M\_W Bus Mus Art

The coloured cells which appear down the diagonal of the matrix show the total number of student indicating that subject in their preferences (not including reserve preference).

## 4. Option Blocks

The Option Block screen captures the information entered in the first three screens. When you first view this screen (before pressing Generate Blocks) it will display very little colour. This will change when the block generation is in progress. No blocks will be present but you will see the blank table showing Opt Block 1,2,3 etc.



When you are satisfied that you have the correct numbers of classes and that the maximum class sizes are correct, click on the "Generate Blocks" button. In the table below, we have asked the software to create 16 Classes.

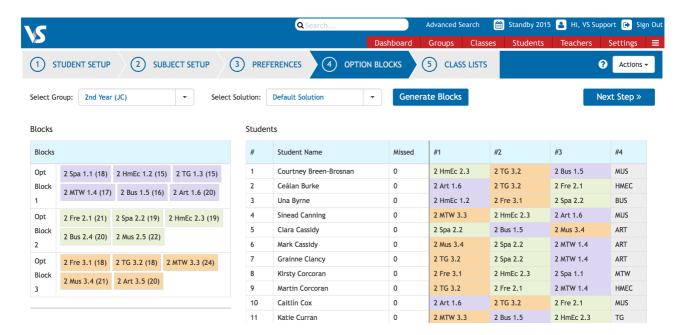
#### Class Details

Subject	Max Size	No of Classes	Preferences Total	Spaces Short
French	30	2	39	0
Spanish	30	2	37	0
Home Economics	20	2	34	0
Technical Graphics	24	2	33	0
Materials Technology (Wood)	24	2	41	0
Business Studies	30	2	36	0
Music	24	2	43	0
Art, Craft, Design	24	2	40	0

A dialogue box will appear to show you that the blocks are being generated and you can stop this at any time by clicking on the button 'Get Best Now'.



Some solutions will be found very quickly. As the software generates, it will try to improve your solution by satisfying a higher number of students' preferences and also trying to balance the classes if there is more than one class in any subject.



The Option Blocks will appear and are colour-coded to match the colours on the spreadsheet - styled table. The teaching group codes will be given automatically and this will show the exact block and position of the class in the block.

If you examine the colours in the above screenshot, you will see that student number 3 in the table, Una Byrne will be studying Home Economics in Opt Block 1(2 HmEc 1.2); French in Opt Block 3 (2 Fre 3.1) and Spanish in Opt Block 2 (2Spa 2.2). You will also notice that 16 classes have been created in the blocks.

In the table below we show the class sizes for each subject in the blocks and it will also report how many students have missed a subject (if this has occurred)

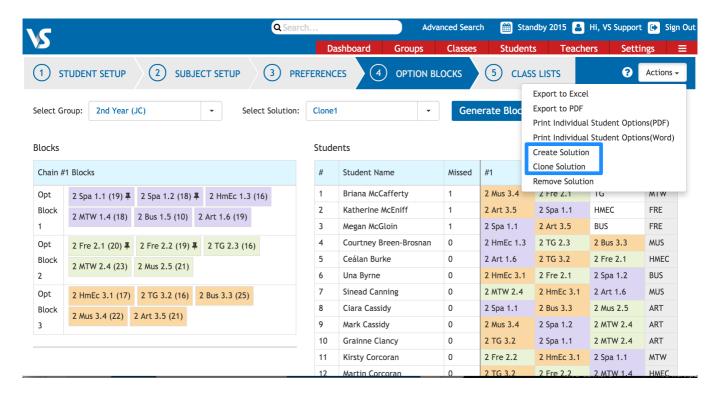
# **Stats**

Subjects	Missed	Class Sizes
French	0	18 21
Spanish	0	19 18
Home Economics	0	19 15
Technical Graphics	0	15 18
Materials Technology (Wood)	0	24 17
Business Studies	0	20 16
Music	0	22 21
Art, Craft, Design	0	20 20

A new feature of the software now allows you to Create Solutions/Clone Solutions while keeping previous solutions. To create a Solution or Clone, use the Actions button while viewing screen 4 (Option Blocks). When you create or clone a solution, you will then view the newly created screen. It is possible to switch between solutions using the 'Select Solution' dropdown list box. Solutions can also be removed (deleted) using the actions button. You will receive a warning if you 'Remove Solution' as this is irreversible. Note:

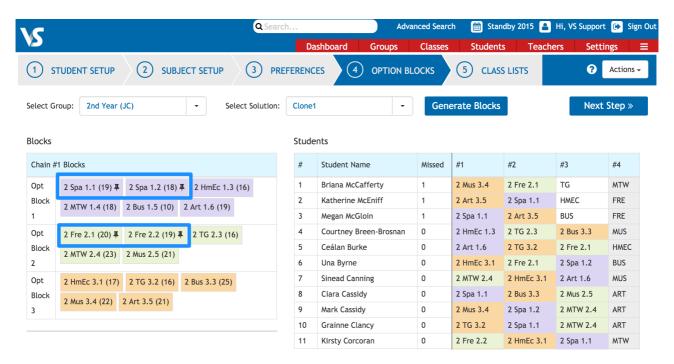
Create Solution will reset the number of classes and their sizes if they have already been set.

Clone Solution will make an identical copy of the existing solution



Some schools like to experiment with solutions and to view the consequences of making changes in the following areas:

- a) changing the number of classes to be created in a subject
- b) ensuring that certain classes run in the same block to allow streaming
- c) to ensure that some classes don't run in the same block as the two subjects involved may have only one qualified teacher.

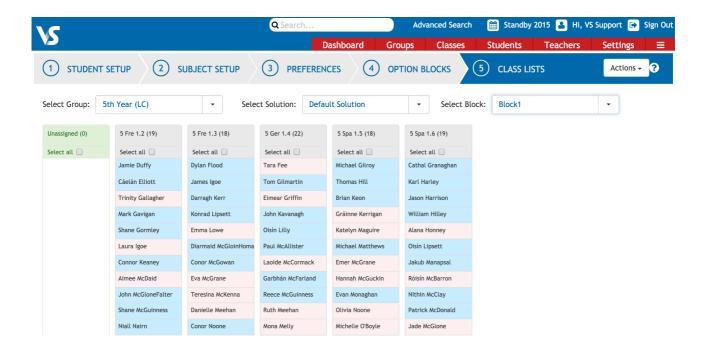


In the screenshot above, we have created a New Clone called 'Clone1' and manually dragged the Spanish and French classes so that each language will be in the same block. Some schools do this to allow students move between higher and ordinary classes.

When you move any of the created classes to a different block, a pin will appear. If you click on any class, the pin will also appear. This will fix these classes to this block and when you then click 'Generate Blocks' the unpinned classes are free to move wherever they wish. As you can see from the results, the solution given failed to satisfy all of the students on this occasion. 3 students missed their 3rd preference and will be granted their 4th preference instead.

#### **5 Class Lists**

In this updated version of our Subject Options Generator, we have added a Class List Manager and this works in exactly the same way as the regular Class List Manager under the 'Timetable' Tab in VSware.

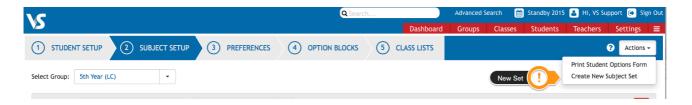


This will put you in full control over the population of the classes created by the Option Block Generator. The Class List Manager will allow you to filter to all of the blocks created.

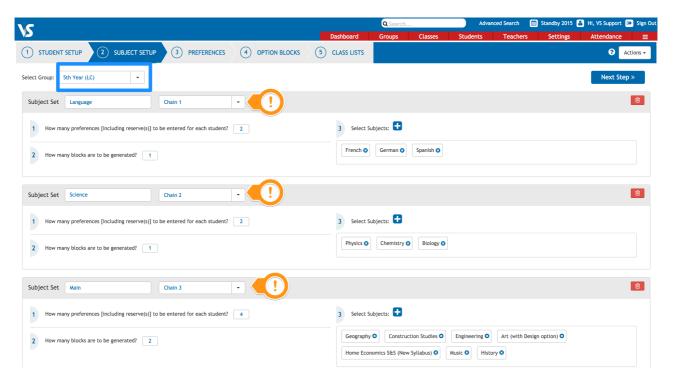
### A More Complex Subject Setup

In an earlier section we describe how some schools ask their students to select subjects from pools of similar subjects. This is to ensure a balanced curriculum for each student. In the screenshot below, there is a language pool, a science pool and then the remainder of subjects in a main pool. Please note that this more complex setup can be restrictive and will normally result in lower student satisfaction.

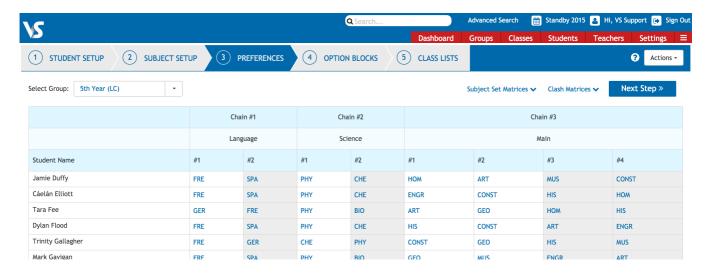
To begin this more complex setup, you create the new subject sets using the Actions button as in the screenshot below.



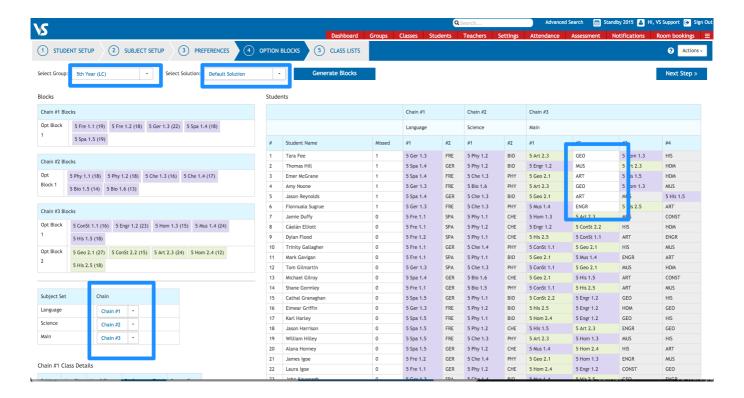
If you examine the numbers entered in the screenshot below you will notice that students have been asked to select <u>preferences</u> for 2 languages and 2 Science subjects (Pool 1 & Pool 2) and they will <u>study</u> 1 language and 1 science subject. They have also been asked to select 4 preferences for the remainder of the subjects and they will study 2 of these (Pool 3). That is a total of 4 subjects.



When the subjects have been set up as in the screenshot above, the preferences screen will look similar to the that of the screenshot below.



The Options Screen for this more complex subject setup looks like the screenshot below when the 'Generate Blocks' button was pressed. You can see that the creation of the language block, a science block and a main block resulted in 6 students not being allowed to study their top preferences. However, please note that the software did satisfy all of the students for the language block and the science block and those students who missed their preferences are missing their final preference in each case. Most of the students who missed their last preference did mange to get their next preference.



The screenshot below shows another variation on the same subject setup. In this case please note that we have allowed the main pool of subjects to combine with the science pool by changing the main pool to Pool 2. Doing this produced the same number of blocks but in this case the language block has remained but the other three blocks are a mixture of subjects from the science and main pools of subjects.

In making this change, note that the student satisfaction is better with only 4 student now miss one of their preferences.

