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Final Project

## Reteach and Enrich System for Midway Elementary School

### Executive Summary

#### **Business Description**

This is how the current reteach and enrich system works:

1. Students are tested in the following categories: Vocabulary, Pronunciation, Fluency, and Grammar
2. Scores are generated from DIBLES software (where they take the tests) and teachers manually input students names and their test results into an Excel spreadsheet.
3. Each tab in the Excel document is for a specific range of overall scores (i.e. levels 1-4 is the first tab, levels 5-8 are the second tab, etc.). Students who score in that range are listed in each tab (Teachers manually check to see what tab a student should go in).
4. Scores are analyzed and students are moved into different groups, depending on their improvement. Teachers manually go over each line of data and if scores are high enough, students are manually moved to different tabs based on a specified score criteria (i.e. to move from group 2 to group 3 you need an overall score of 74). This score criteria changes over time and will need to be dynamic (the teachers decide each cycle which scores will be the entrance and exit criteria for each group (tab)).
5. Teachers spend lots of time looking over scores to recognize the needs of their class and to see improvements of their students.

#### **System Overview**

My project automates steps 2, 3, 4, and 5 mentioned above, saving teachers hours and hours of time. More specifically my VBA program does the following:

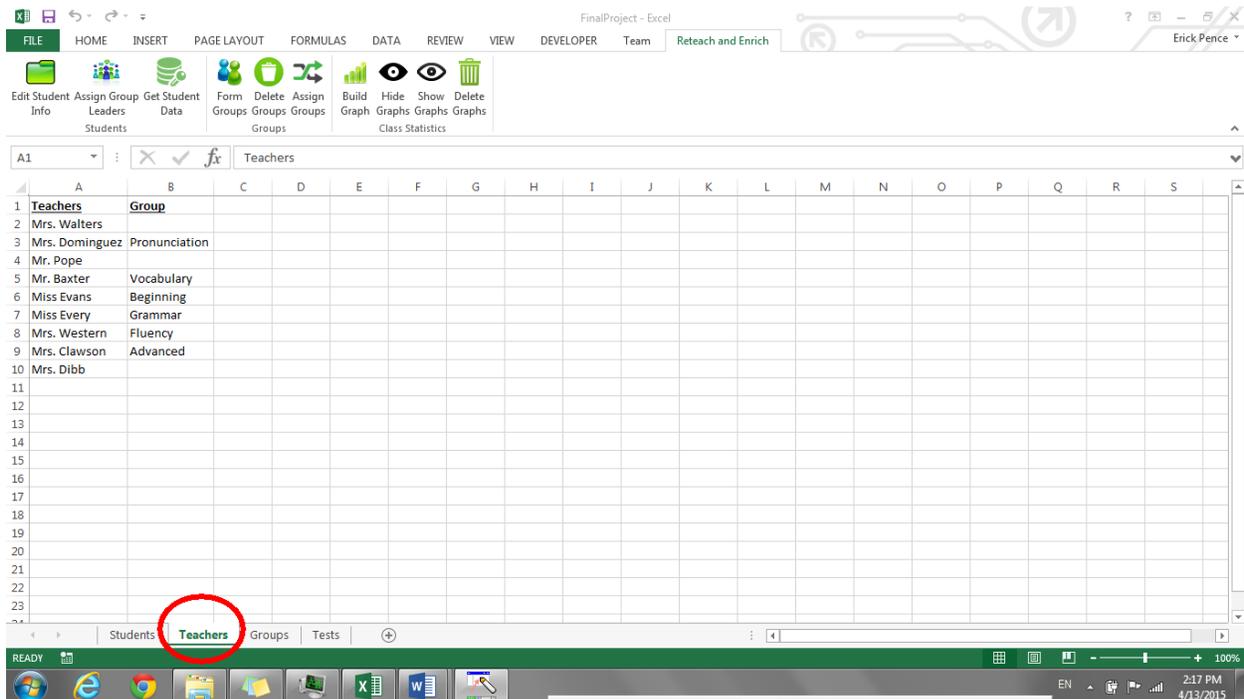
1. My VBA project imports scores directly from mclasshome.com (DIBLES software) to the excel document. To protect the privacy of students' data, I've created some dummy data to demonstrate how my project works.

2. My project formats the data and allows for addition or removal of students, teachers, groups, and tests taken. A userform allows you to edit any student's information.
3. Groups and group leaders (teachers) are assigned for each student based on their categorical scores (Fluency, Pronunciation, Grammar, Vocabulary) and their overall score. It allows teachers to specify scoring criteria for groups and checks for students that meet that criteria. Students are sorted into their lowest scoring category by default. A student's group and group leader can also be edited if a student has specific needs.
4. New worksheets are created for each group and transfers all student data for that group to the respective tab. Groups can also be deleted and these worksheets will disappear.
5. Teachers can also view class statistics by creating a graph that shows each of their student's categorical scores.

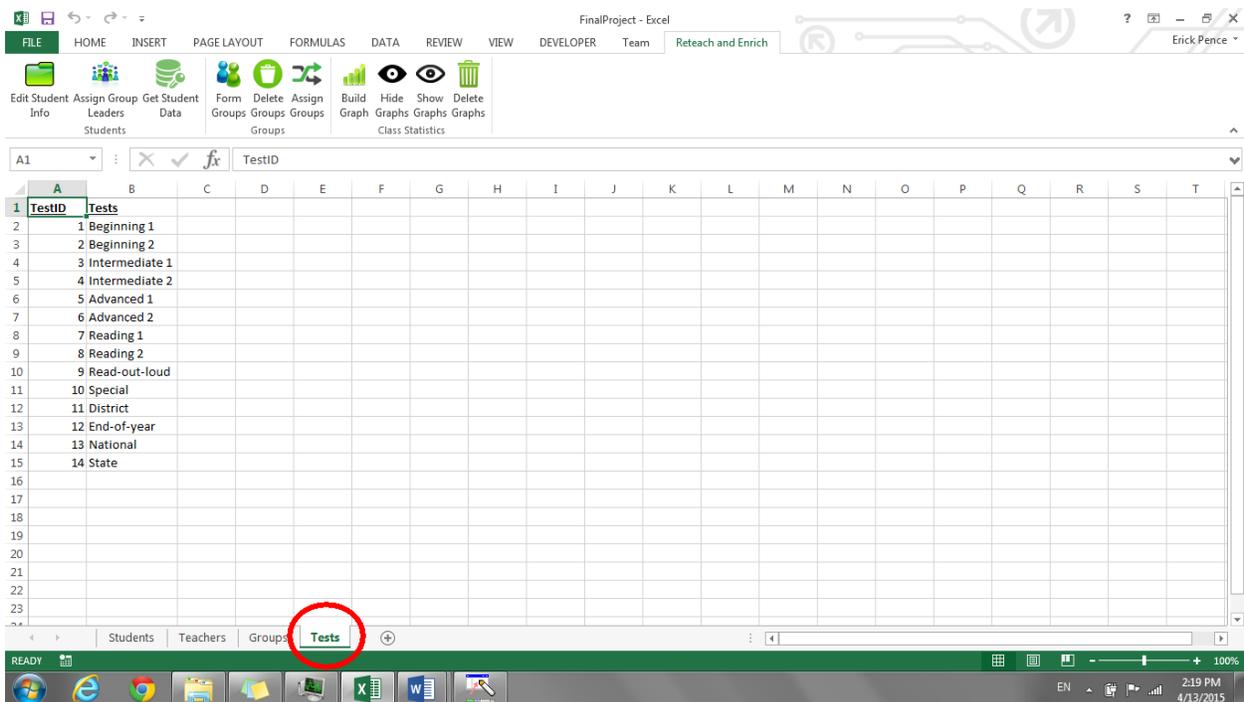
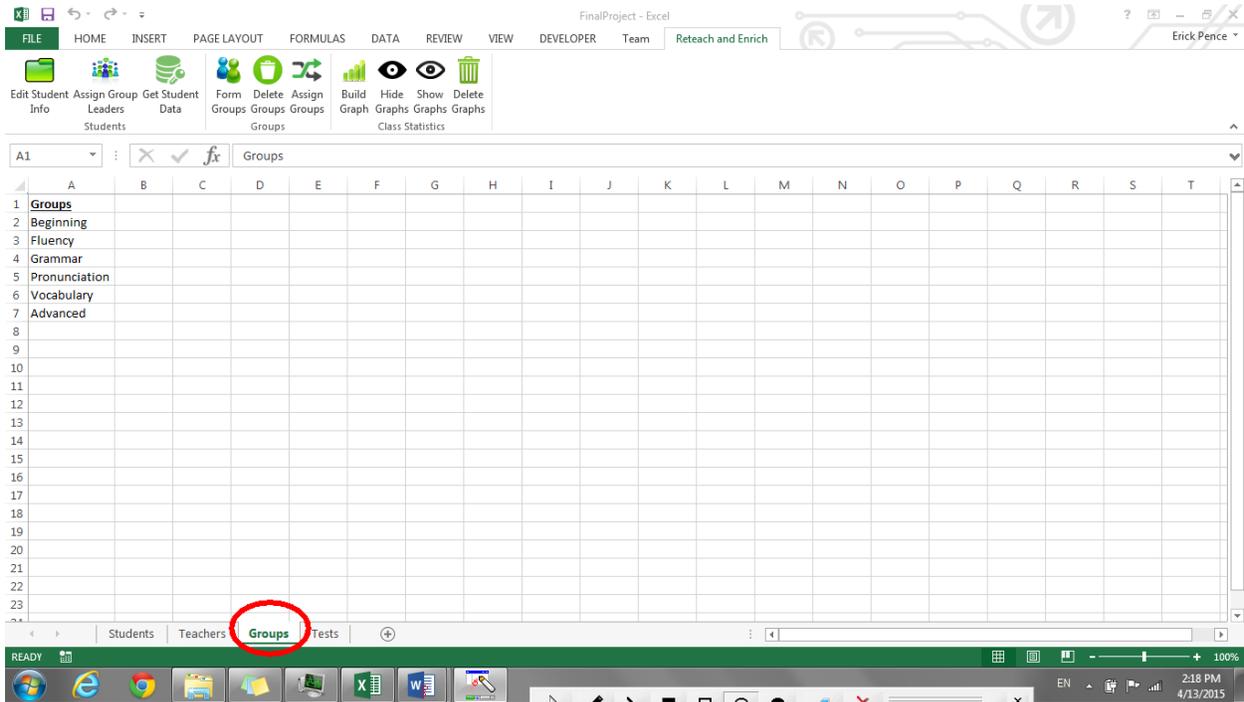
## Implementation Documentation

### Introduction

As you open the excel file you will see several worksheets including a tab for teachers, groups, and tests. The "Teachers" worksheet is a simple list of all the teachers teaching a specific grade, and the group each teacher is a leader over.



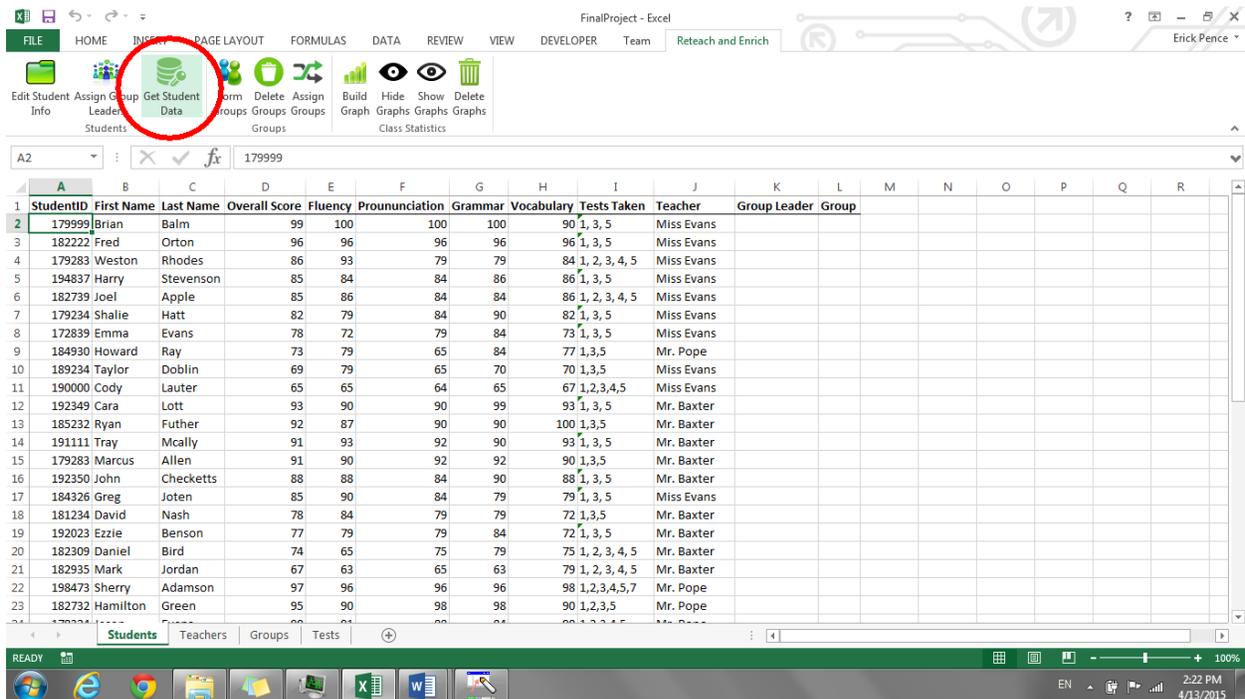
The other tabs show all of the groups you want for your reteach and enrich system and all of the tests administered to the students.



There is also a blank worksheet titled “Students”.

## Import Data

The first task for my program is to gather the data from the DIBELS software. In order to protect the privacy of students I was not granted permission to access an account or create an account to actually import real data. Perhaps after presenting my solution to the school board they would allow me access. For the purpose of this project I used Professor Allen's agent so that when they press "Get Data", it automatically takes them to the DIBELS homepage where they can login. After they login it would ideally get the data, but in this case I created dummy data that looks similar to the data that would come from DIBELS. I also automatically format the data so that each column is the right width.



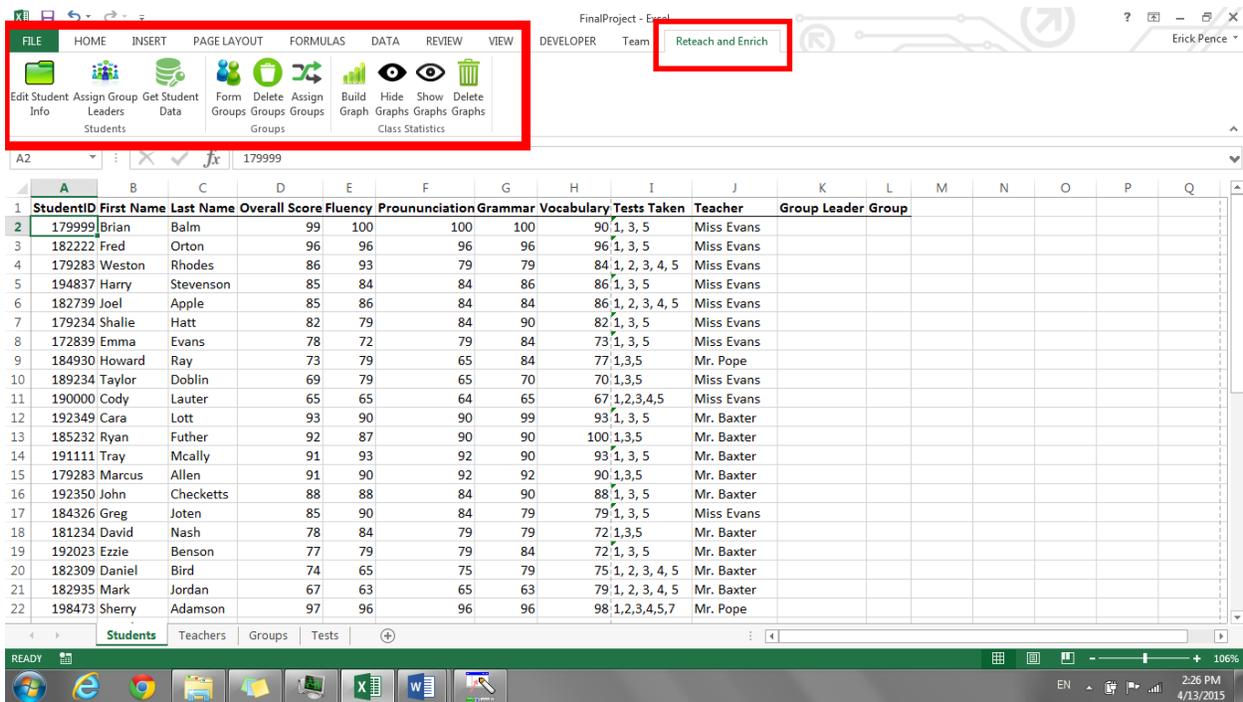
The screenshot shows the Microsoft Excel interface with the 'Reteach and Enrich' ribbon selected. The 'Get Student Data' button is highlighted with a red circle. The spreadsheet displays the following data:

StudentID	First Name	Last Name	Overall Score	Fluency	Pronunciation	Grammar	Vocabulary	Tests Taken	Teacher	Group Leader	Group
179999	Brian	Balm	99	100	100	100	90	1, 3, 5	Miss Evans		
182222	Fred	Orton	96	96	96	96	96	1, 3, 5	Miss Evans		
179283	Weston	Rhodes	86	93	79	79	84	1, 2, 3, 4, 5	Miss Evans		
194837	Harry	Stevenson	85	84	84	86	86	1, 3, 5	Miss Evans		
182739	Joel	Apple	85	86	84	84	86	1, 2, 3, 4, 5	Miss Evans		
179234	Shalie	Hatt	82	79	84	90	82	1, 3, 5	Miss Evans		
172839	Emma	Evans	78	72	79	84	73	1, 3, 5	Miss Evans		
184930	Howard	Ray	73	79	65	84	77	1,3,5	Mr. Pope		
189234	Taylor	Doblin	69	79	65	70	70	1,3,5	Miss Evans		
190000	Cody	Lauter	65	65	64	65	67	1,2,3,4,5	Miss Evans		
192349	Cara	Lott	93	90	90	99	93	1, 3, 5	Mr. Baxter		
185232	Ryan	Futher	92	87	90	90	100	1,3,5	Mr. Baxter		
191111	Tray	Mally	91	93	92	90	93	1, 3, 5	Mr. Baxter		
179283	Marcus	Allen	91	90	92	92	90	1,3,5	Mr. Baxter		
192350	John	Checketts	88	88	84	90	88	1, 3, 5	Mr. Baxter		
184326	Greg	Joten	85	90	84	79	79	1, 3, 5	Miss Evans		
181234	David	Nash	78	84	79	79	72	1,3,5	Mr. Baxter		
192023	Ezzie	Benson	77	79	79	84	72	1, 3, 5	Mr. Baxter		
182309	Daniel	Bird	74	65	75	79	75	1, 2, 3, 4, 5	Mr. Baxter		
182935	Mark	Jordan	67	63	65	63	79	1, 2, 3, 4, 5	Mr. Baxter		
198473	Sherry	Adamson	97	96	96	96	98	1,2,3,4,5,7	Mr. Pope		
182732	Hamilton	Green	95	90	98	98	90	1,2,3,5	Mr. Pope		

\*Notice that the group leader and group columns are empty. This data does not come from DIBELS.

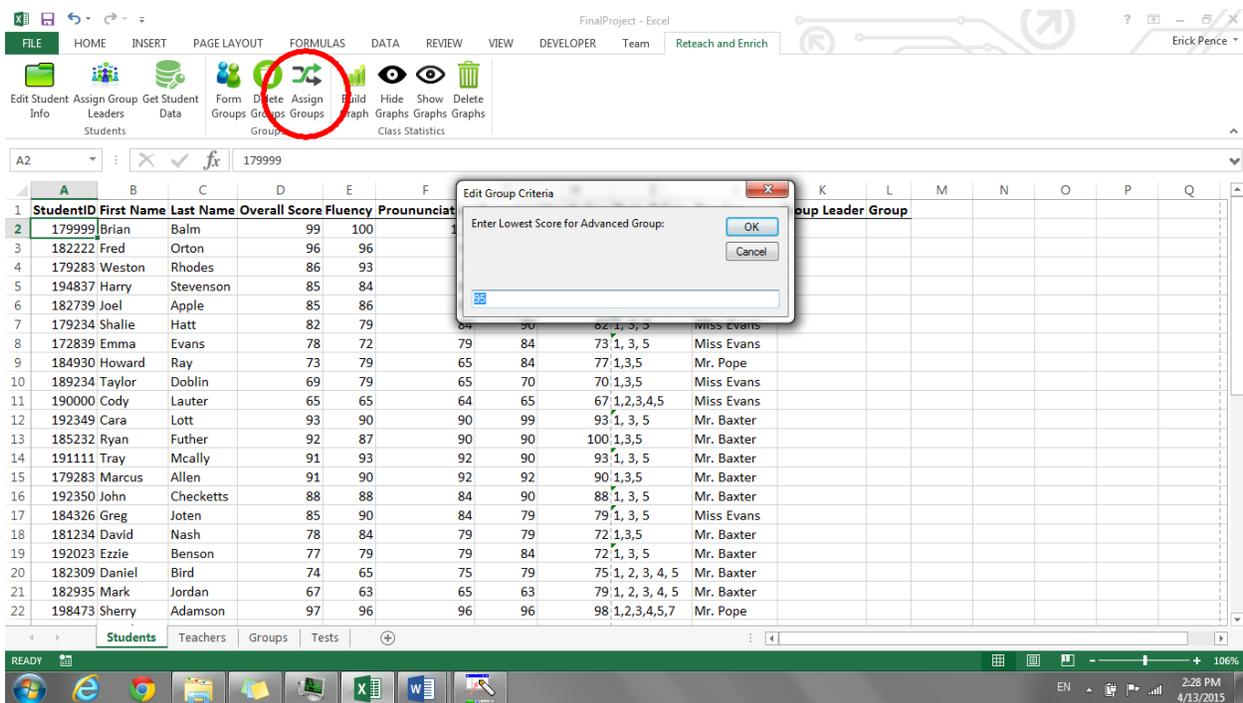
## Ribbon

Using the Custom UI Editor I created a ribbon using XML. The "Reteach and Enrich" tab takes them to three sections, "Students", "Groups", and "Class Statistics". Within each of these sections there are intuitive buttons to run different parts of the program. I found icons that represented each method accurately and used a black, blue, and green theme that looked professional.



## Assign Groups, Group Leaders

When the data is imported there are no groups or group leaders assigned. This is an important aspect to the Reteach and Enrich system at Midway Elementary. The “Assign Groups” button will display a prompt for the teacher to specify the scoring criteria for the Advanced and Beginning groups.



Students not falling into those criteria are automatically sorted into the four categorical groups based on their lowest score. This fills the furthest right column with the assigned group for each student.

FinalProject - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DEVELOPER Team Reteach and Enrich Erick Pence

179999

StudentID	First Name	Last Name	Overall Score	Fluency	Pronunciation	Grammar	Vocabulary	Tests Taken	Teacher	Group Leader	Group
179999	Brian	Balm	99	100	100	100	90	1, 3, 5	Miss Evans		Advanced
182222	Fred	Orton	96	96	96	96	96	1, 3, 5	Miss Evans		Advanced
179283	Weston	Rhodes	86	93	79	79	84	1, 2, 3, 4, 5	Miss Evans		Pronunciation
194837	Harry	Stevenson	85	84	84	86	86	1, 3, 5	Miss Evans		Fluency
182739	Joel	Apple	85	86	84	84	86	1, 2, 3, 4, 5	Miss Evans		Pronunciation
179234	Shalie	Hatt	82	79	84	90	82	1, 3, 5	Miss Evans		Fluency
172839	Emma	Evans	78	72	79	84	73	1, 3, 5	Miss Evans		Fluency
184930	Howard	Ray	73	79	65	84	77	1,3,5	Mr. Pope		Pronunciation
189234	Taylor	Doblin	69	79	65	70	70	1,3,5	Miss Evans		Pronunciation
190000	Cody	Lauter	65	65	64	65	67	1,2,3,4,5	Miss Evans		Beginning
192349	Cara	Lott	93	90	90	99	93	1, 3, 5	Mr. Baxter		Fluency
185232	Ryan	Futher	92	87	90	90	100	1,3,5	Mr. Baxter		Fluency
191111	Tray	Mcally	91	93	92	90	93	1, 3, 5	Mr. Baxter		Grammar
179283	Marcus	Allen	91	90	92	92	90	1,3,5	Mr. Baxter		Fluency
192350	John	Checketts	88	88	84	90	88	1, 3, 5	Mr. Baxter		Pronunciation
184326	Greg	Joten	85	90	84	79	79	1, 3, 5	Miss Evans		Grammar
181234	David	Nash	78	84	79	79	72	1,3,5	Mr. Baxter		Vocabulary
192023	Ezzie	Benson	77	79	79	84	72	1, 3, 5	Mr. Baxter		Vocabulary
182309	Daniel	Bird	74	65	75	79	75	1, 2, 3, 4, 5	Mr. Baxter		Fluency
182935	Mark	Jordan	67	63	65	63	79	1, 2, 3, 4, 5	Mr. Baxter		Fluency
198473	Sherry	Adamson	97	96	96	96	98	1,2,3,4,5,7	Mr. Pope		Advanced

Students Teachers Groups Tests

From the “Teachers” tab, specific teachers can be assigned as a group leader for each group. When you press the “Assign Group Leaders” button it fills the Group Leader column with each student’s group leader based on what group they were assigned to. Groups and group leaders can also be edited for specific students with the “Edit Student Info” button.

FinalProject - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DEVELOPER Team Reteach and Enrich Erick Pence

179999

StudentID	First Name	Last Name	Overall Score	Fluency	Pronunciation	Grammar	Vocabulary	Tests Taken	Teacher	Group Leader	Group
179999	Brian	Balm	99	100	100	100	90	1, 3, 5	Miss Evans	Mr. Clawson	Advanced
182222	Fred	Orton	96	96	96	96	96	1, 3, 5	Miss Evans	Mrs. Clawson	Advanced
179283	Weston	Rhodes	86	93	79	79	84	1, 2, 3, 4, 5	Miss Evans	Mrs. Dominguez	Pronunciation
194837	Harry	Stevenson	85	84	84	86	86	1, 3, 5	Miss Evans	Mrs. Western	Fluency
182739	Joel	Apple	85	86	84	84	86	1, 2, 3, 4, 5	Miss Evans	Mrs. Dominguez	Pronunciation
179234	Shalie	Hatt	82	79	84	90	82	1, 3, 5	Miss Evans	Mrs. Western	Fluency
172839	Emma	Evans	78	72	79	84	73	1, 3, 5	Miss Evans	Mrs. Western	Fluency
184930	Howard	Ray	73	79	65	84	77	1,3,5	Mr. Pope	Mrs. Dominguez	Pronunciation
189234	Taylor	Doblin	69	79	65	70	70	1,3,5	Miss Evans	Mrs. Dominguez	Pronunciation
190000	Cody	Lauter	65	65	64	65	67	1,2,3,4,5	Miss Evans	Miss Evans	Beginning
192349	Cara	Lott	93	90	90	99	93	1, 3, 5	Mr. Baxter	Mrs. Western	Fluency
185232	Ryan	Futher	92	87	90	90	100	1,3,5	Mr. Baxter	Mrs. Western	Fluency
191111	Tray	Mcally	91	93	92	90	93	1, 3, 5	Mr. Baxter	Miss Every	Grammar
179283	Marcus	Allen	91	90	92	92	90	1,3,5	Mr. Baxter	Mrs. Western	Fluency
192350	John	Checketts	88	88	84	90	88	1, 3, 5	Mr. Baxter	Mrs. Dominguez	Pronunciation
184326	Greg	Joten	85	90	84	79	79	1, 3, 5	Miss Evans	Miss Every	Grammar
181234	David	Nash	78	84	79	79	72	1,3,5	Mr. Baxter	Mr. Baxter	Vocabulary
192023	Ezzie	Benson	77	79	79	84	72	1, 3, 5	Mr. Baxter	Mr. Baxter	Vocabulary
182309	Daniel	Bird	74	65	75	79	75	1, 2, 3, 4, 5	Mr. Baxter	Mrs. Western	Fluency
182935	Mark	Jordan	67	63	65	63	79	1, 2, 3, 4, 5	Mr. Baxter	Mrs. Western	Fluency
198473	Sherry	Adamson	97	96	96	96	98	1,2,3,4,5,7	Mr. Pope	Mrs. Clawson	Advanced

Students Teachers Groups Tests

## Edit Student Information

The “Edit Student Info” button displays a substantial userform for the student that is selected. The userform gathers data from the “Students”, “Teachers”, “Tests”, and “Groups” tabs and displays it organized with combo boxes and a list box. The Edit Student userform allows you to edit any of this information, and can be especially helpful when a teacher wants to put a specific student into a specific group.

The screenshot shows the 'Edit Student Information' dialog box in an Excel spreadsheet. The dialog box is open over a spreadsheet showing student data. The dialog box contains fields for Student ID, First Name, Last Name, Overall Score, Fluency, Pronunciation, Grammar, and Vocabulary. It also has dropdown menus for 2nd Grade Teacher, R&E Group Teacher, and Group. A list box for 'Tests Taken' is open, showing options like 'Beginning 1', 'Beginning 2', 'Intermediate 1', 'Intermediate 2', and 'Advanced 1'. The 'OK' button is highlighted.

StudentID	First Name	Last Name	Overall Score	Fluency	Pronunciation	Grammar	Vocabulary	Group			
179999	Brian	Balm	99	100	100	100	90	Advanced			
182222	Fred	Orton	96	9				Advanced			
179283	Weston	Rhodes	86	9				Pronunciation			
194837	Harry	Stevenson	85	8				Fluency			
182739	Joel	Apple	85	8				Pronunciation			
179234	Shalie	Hatt	82	7				Fluency			
172839	Emma	Evans	78	7				Fluency			
184930	Howard	Ray	73	7				Pronunciation			
189234	Taylor	Doblin	69	7				Pronunciation			
190000	Cody	Lauter	65	6				Beginning			
192349	Cara	Lott	93	9				Fluency			
185232	Ryan	Futher	92	8				Fluency			
191111	Tray	Mcally	91	9				Grammar			
179283	Marcus	Allen	91	9				Fluency			
192350	John	Checketts	88	8				Pronunciation			
184326	Greg	Joten	85	90	84	79	79	1, 3, 5	Miss Evans	Miss Every	Grammar
181234	David	Nash	78	84	79	79	72	1,3,5	Mr. Baxter	Mr. Baxter	Vocabulary
192023	Ezzie	Benson	77	79	79	84	72	1, 3, 5	Mr. Baxter	Mr. Baxter	Vocabulary
182309	Daniel	Bird	74	65	75	79	75	1, 2, 3, 4, 5	Mr. Baxter	Mrs. Western	Fluency
182935	Mark	Jordan	67	63	65	63	79	1, 2, 3, 4, 5	Mr. Baxter	Mrs. Western	Fluency
198473	Sherry	Adamson	97	96	96	96	98	1,2,3,4,5,7	Mr. Pope	Mrs. Clawson	Advanced

It also requires a first and last name before any data is saved.

The screenshot shows the 'Edit Student Information' dialog box in an Excel spreadsheet. The dialog box is open over a spreadsheet showing student data. The dialog box contains fields for Student ID, First Name, Last Name, Overall Score, Fluency, Pronunciation, Grammar, and Vocabulary. It also has dropdown menus for 2nd Grade Teacher, R&E Group Teacher, and Group. A list box for 'Tests Taken' is open, showing options like 'Beginning 1', 'Beginning 2', 'Intermediate 1', 'Intermediate 2', and 'Advanced 1'. A small error dialog box is open over the 'First Name' field, displaying the message 'Please enter a valid first name.' The 'OK' button is highlighted.

StudentID	First Name	Last Name	Overall Score	Fluency	Pronunciation	Grammar	Vocabulary	Group			
179999	Brian	Balm	99	100	100	100	90	Advanced			
182222	Fred	Orton	96	9				Advanced			
179283	Weston	Rhodes	86	9				Pronunciation			
194837	Harry	Stevenson	85	8				Fluency			
182739	Joel	Apple	85	8				Pronunciation			
179234	Shalie	Hatt	82	7				Fluency			
172839	Emma	Evans	78	7				Fluency			
184930	Howard	Ray	73	7				Pronunciation			
189234	Taylor	Doblin	69	7				Pronunciation			
190000	Cody	Lauter	65	6				Beginning			
192349	Cara	Lott	93	9				Fluency			
185232	Ryan	Futher	92	8				Fluency			
191111	Tray	Mcally	91	9				Grammar			
179283	Marcus	Allen	91	9				Fluency			
192350	John	Checketts	88	8				Pronunciation			
184326	Greg	Joten	85	90	84	79	79	1, 3, 5	Miss Evans	Miss Every	Grammar
181234	David	Nash	78	84	79	79	72	1,3,5	Mr. Baxter	Mr. Baxter	Vocabulary
192023	Ezzie	Benson	77	79	79	84	72	1, 3, 5	Mr. Baxter	Mr. Baxter	Vocabulary
182309	Daniel	Bird	74	65	75	79	75	1, 2, 3, 4, 5	Mr. Baxter	Mrs. Western	Fluency
182935	Mark	Jordan	67	63	65	63	79	1, 2, 3, 4, 5	Mr. Baxter	Mrs. Western	Fluency
198473	Sherry	Adamson	97	96	96	96	98	1,2,3,4,5,7	Mr. Pope	Mrs. Clawson	Advanced

## Create/Delete Groups

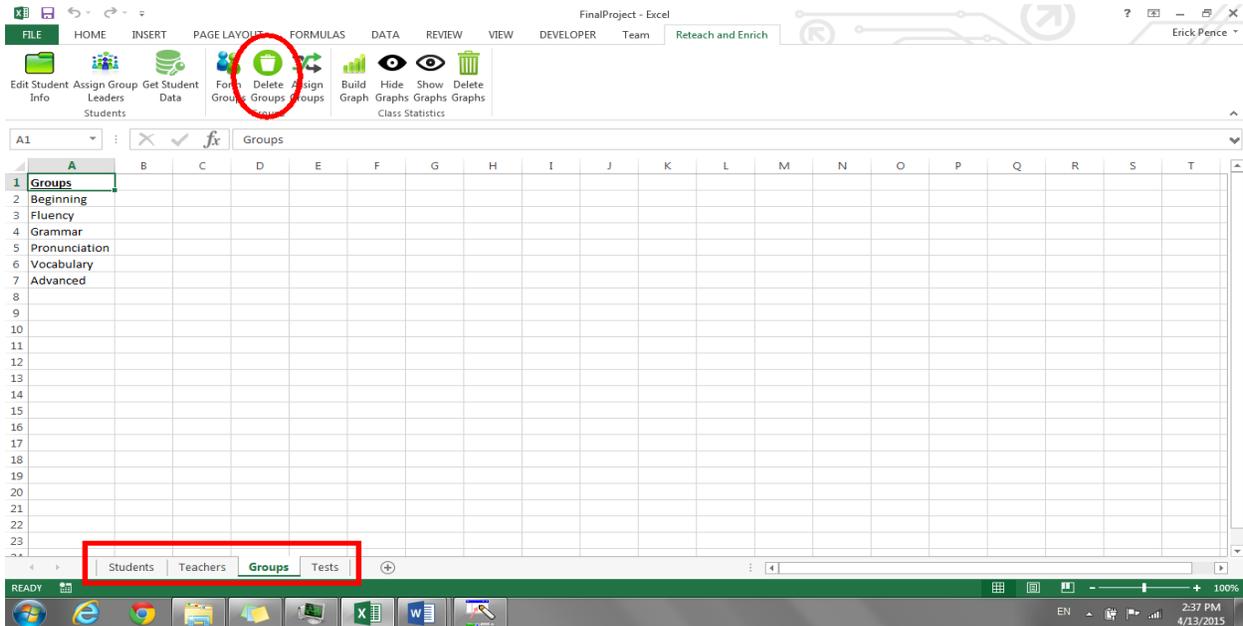
This method was one of the most tricky methods I implemented into the project. When I first built the project I hard-coded each group into the method so that a new tab for each of those groups would be created with all the students that are in that group. I realized that what the school really needed was for the groups to be dynamic, so that they could add or take groups away and the program would still work. So the “Form Groups” button automatically creates a tab for each group, listing all of the students assigned to that specific group. This screenshot shows the Advanced group worksheet.

StudentID	First Name	Last Name	Overall Score	Fluency	Pronunciation	Grammar	Vocabulary	Tests Taken	Teacher	Group Leader	Group
179999	Brian	Balm	99	100	100	100	90	1,3,5	Miss Evans	Mrs. Clawson	Advanced
182222	Fred	Orton	96	96	96	96	96	1,3,5	Miss Evans	Mrs. Clawson	Advanced
198473	Sherry	Adamson	97	96	96	96	98	1,2,3,4,5,7	Mr. Pope	Mrs. Clawson	Advanced
182732	Hamilton	Green	95	90	98	98	90	1,2,3,5	Mr. Pope	Mrs. Clawson	Advanced
192522	Jack	Port	96	90	98	98	98	1,2,3,5	Mrs. Walters	Mrs. Clawson	Advanced

This screenshot is for the Fluency group. The same pattern is used for every group.

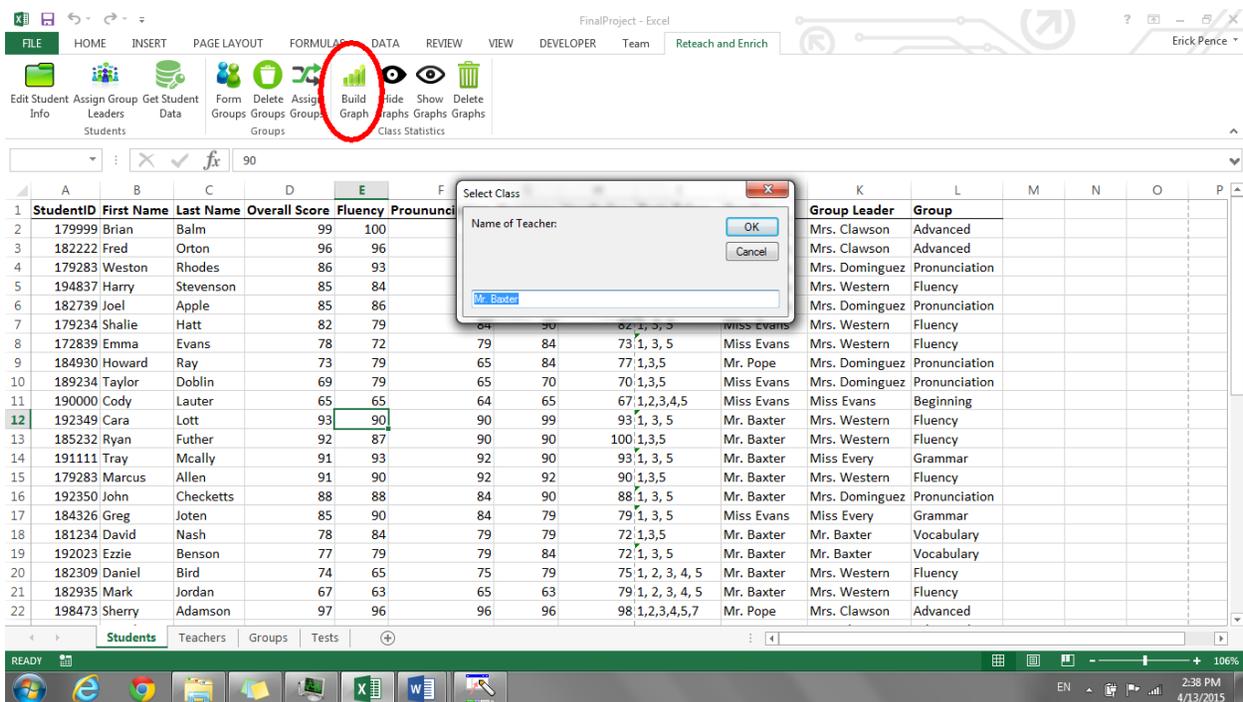
StudentID	First Name	Last Name	Overall Score	Fluency	Pronunciation	Grammar	Vocabulary	Tests Taken	Teacher	Group Leader	Group
194837	Harry	Stevenson	85	84	84	86	86	1,3,5	Miss Evans	Mrs. Western	Fluency
179234	Shalie	Hatt	82	79	84	90	82	1,3,5	Miss Evans	Mrs. Western	Fluency
172839	Emma	Evans	78	72	79	84	73	1,3,5	Miss Evans	Mrs. Western	Fluency
192349	Cara	Lott	93	90	90	99	93	1,3,5	Mr. Baxter	Mrs. Western	Fluency
185232	Ryan	Futher	92	87	90	90	100	1,3,5	Mr. Baxter	Mrs. Western	Fluency
179283	Marcus	Allen	91	90	92	92	90	1,3,5	Mr. Baxter	Mrs. Western	Fluency
182309	Daniel	Bird	74	65	75	79	75	1,2,3,4,5	Mr. Baxter	Mrs. Western	Fluency
182935	Mark	Jordan	67	63	65	63	79	1,2,3,4,5	Mr. Baxter	Mrs. Western	Fluency
172039	Jared	Bogdan	90	89	90	89	89	1,3,5	Mr. Baxter	Mrs. Western	Fluency
182343	Mckay	Stevens	88	79	90	84	91	1,3,5	Mr. Pope	Mrs. Western	Fluency
178833	Lindsay	Saffer	90	88	88	92	93	1,2,3,5	Mrs. Clawson	Mrs. Western	Fluency
190023	Cody	Adams	81	77	79	81	82	1,3,5	Mrs. Clawson	Mrs. Western	Fluency
183722	Joey	Brown	76	70	80	76	79	1,3,5	Mrs. Clawson	Mrs. Western	Fluency
171010	Potter	Bean	94	90	90	96	96	1,2,3,4,5	Mrs. Walters	Mrs. Western	Fluency

You can press the “Delete Groups” button to delete all of those worksheets and restore the original tabs. You can add or delete groups on the “Groups” tab and any changes made there will affect the functionality of the Form/Delete groups methods.

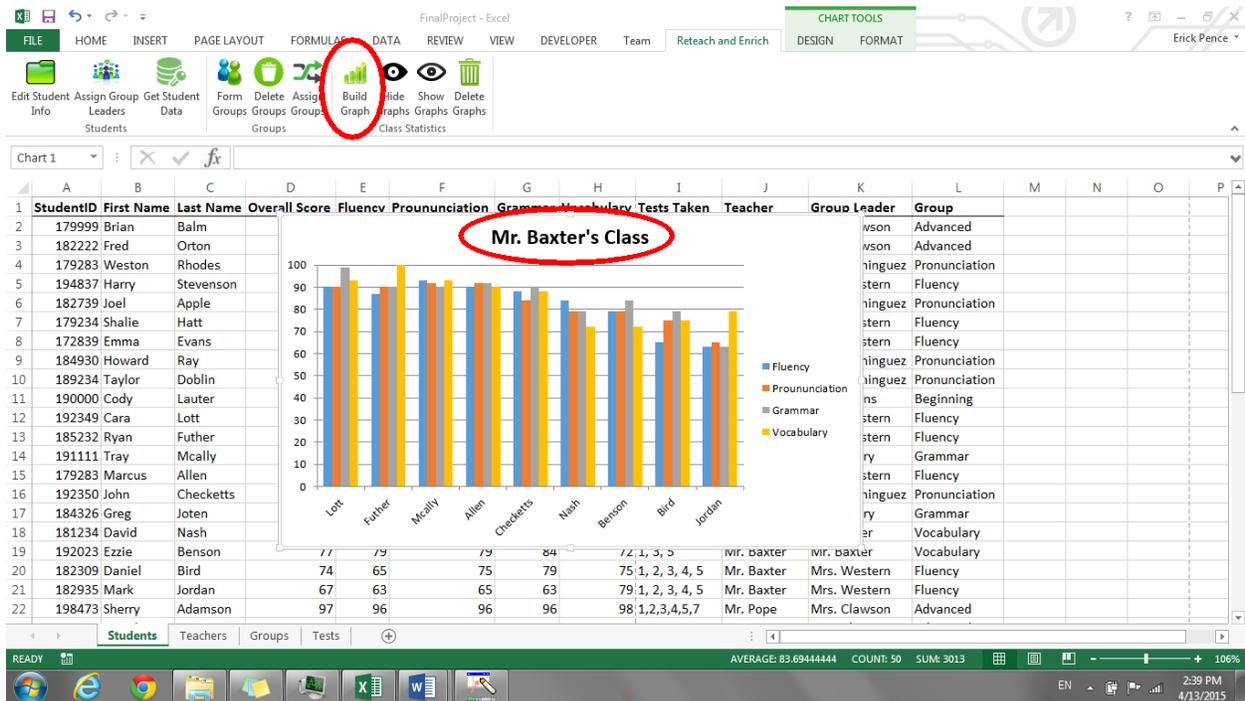


## Create/Delete Class Graphs

The “Build Graph” button first prompts for what class you want to see the statistics for. It defaults to the teacher who is in the row selected.



Then it builds a graph based on the categorical scores for each student in that class. It also has a dynamic title.



Graphs can be hidden, shown, or deleted with the “Hide Graphs”, “Show Graphs”, and “Delete Graphs” buttons.

## Conclusion

All of these features allow teachers to save time that is spent literally copying data into excel and manually sorting all of the students into their groups. My project proposal was presented to a faculty member at Midway Elementary and I’m confident that this system can satisfy their business needs.

## Discussion of Learning

### Making the Groups Dynamic

One of the largest challenges I faced was trying to make the groups dynamic so that teachers could add or remove groups at any time and my system would still work. Originally I created a macro to build a new worksheet for the Advanced, Beginning, Fluency, Vocabulary, Grammar, and Pronunciation groups. The sub procedure I coded looked like this (you don’t need to read the code, but notice the length):

```

Sub SortGroups()
Dim r As Long
Dim a As Worksheet
Dim b As Worksheet
Dim f As Worksheet
Dim p As Worksheet
Dim g As Worksheet
Dim v As Worksheet
Dim s As Worksheet
Dim gr As Worksheet

Set a = Sheets("Advanced")
Set b = Sheets("Beginning")
Set f = Sheets("Fluency")
Set p = Sheets("Pronunciation")
Set g = Sheets("Grammar")
Set v = Sheets("Vocabulary")
Set s = Sheets("Students")

s.Activate
Range("A1").CurrentRegion.Select
Selection.Copy
b.Activate
Range("A1").Select
ActiveSheet.Paste
r = 2
Do Until Cells(r, 1).value = ""
Cells(r, 12).Select
If ActiveCell.value <> "Beginning" Then
ActiveCell.EntireRow.Delete
Else
r = r + 1
End If
Loop

s.Activate
Range("A1").CurrentRegion.Select
Selection.Copy
a.Activate
Range("A1").Select
ActiveSheet.Paste
r = 2
Do Until Cells(r, 1).value = ""
Cells(r, 12).Select
If ActiveCell.value <> "Advanced" Then
ActiveCell.EntireRow.Delete
Else
r = r + 1
End If
Loop

s.Activate
Range("A1").CurrentRegion.Select
Selection.Copy
f.Activate
Range("A1").Select
ActiveSheet.Paste
r = 2
Do Until Cells(r, 1).value = ""
Cells(r, 12).Select
If ActiveCell.value <> "Fluency" Then
ActiveCell.EntireRow.Delete
Else
r = r + 1
End If
Loop

s.Activate
Range("A1").CurrentRegion.Select
Selection.Copy
g.Activate
Range("A1").Select
ActiveSheet.Paste
r = 2
Do Until Cells(r, 1).value = ""
Cells(r, 12).Select
If ActiveCell.value <> "Grammar" Then
ActiveCell.EntireRow.Delete
Else
r = r + 1
End If
Loop

s.Activate
Range("A1").CurrentRegion.Select
Selection.Copy
v.Activate
Range("A1").Select
ActiveSheet.Paste
r = 2
Do Until Cells(r, 1).value = ""
Cells(r, 12).Select
If ActiveCell.value <> "Vocabulary" Then
ActiveCell.EntireRow.Delete
Else
r = r + 1
End If
Loop

s.Activate
Range("A1").CurrentRegion.Select
Selection.Copy
p.Activate
Range("A1").Select
ActiveSheet.Paste
r = 2
Do Until Cells(r, 1).value = ""
Cells(r, 12).Select
If ActiveCell.value <> "Pronunciation" Then
ActiveCell.EntireRow.Delete
Else
r = r + 1
End If
Loop
End Sub

```

After spending hours working through the code I used an IF statement, inside of a DO loop, inside of another IF statement, inside of a FOR loop, with another IF statement to get the right logic. After refactoring my code to make the method dynamic my code became much more efficient. It does much more with much less code (notice the length in comparison):

```

Sub FormGroups()
Dim Groups As Range
Dim MyNewSheet As Range
Dim i As String
Dim r As Long
If ActiveWorkbook.Sheets.Count > 10 Then DeleteGroups
  Sheets("Groups").Select
  Set Groups = Range("A2").CurrentRegion
  For Each MyNewSheet In Groups.Cells
    If MyNewSheet.value <> "Groups" Then
      Application.DisplayAlerts = False
      Sheets.Add.Name = MyNewSheet.value
      Sheets("Students").Activate
      Range("A1").CurrentRegion.Select
      Selection.Copy
      Sheets(MyNewSheet.value).Activate
      Range("A1").Select
      ActiveSheet.Paste
      r = 2
      Do Until Cells(r, 1).value = ""
        Cells(r, 12).Select
        If ActiveCell.value <> MyNewSheet.value Then
          ActiveCell.EntireRow.Delete
        Else
          r = r + 1
        End If
      Loop
    End If
    Application.DisplayAlerts = True
  Next MyNewSheet
Groups.Worksheet.Select
End Sub

```

## Creating Class Charts

Another difficult challenge I encountered was figuring out how to get the correct range of students when creating class charts. The students are not always bunched together with their class and I needed weird sections of the data to build the range. It also needed to be dynamic so it would work with any student data. I searched the internet to learn how ranges were manipulated and was able to solve the problem by using UNION to join different sections of the range. I made the teacher a variable so that I could check each student in the data, and if they were in that teacher's class, add their scores and names to the class range. I've shown my code for this method below:

```

Sub ClassCharts()
Dim Class As Range
Dim teacher As String
Dim teacher2 As String
Dim r As Long

Sheets("Students").Select
teacher = InputBox("Name of Teacher:", "Select Class", Cells(ActiveCell.row, 10).value)
r = 2
Set Class = Range("E1:H1")
Set Class = Union(Class, Range("C1"))
Do Until Cells(r, 1).value = ""
  teacher2 = Cells(r, 10).value
  If teacher = teacher2 Then
    Set Class = Union(Class, Range(Cells(r, 3), Cells(r, 3)), Range(Cells(r, 5), Cells(r, 8)))
    Class.Select
  End If
  r = r + 1
Loop

ActiveSheet.Shapes.AddChart.Select
ActiveChart.ChartType = xlColumnClustered
ActiveChart.SetSourceData Source:=Class
ActiveChart.HasTitle = True
ActiveChart.ChartTitle.Text = teacher & "'s Class"
With ActiveChart.Axes(xlValue, xlPrimary)

```

```
.MaximumScale = 100  
.MinimumScale = 0  
.MajorUnit = 10  
End With  
  
End Sub
```

## Assistance

I did not receive any assistance from an outside source, relying solely on my knowledge gained from class and occasionally asking google for VBA syntax.