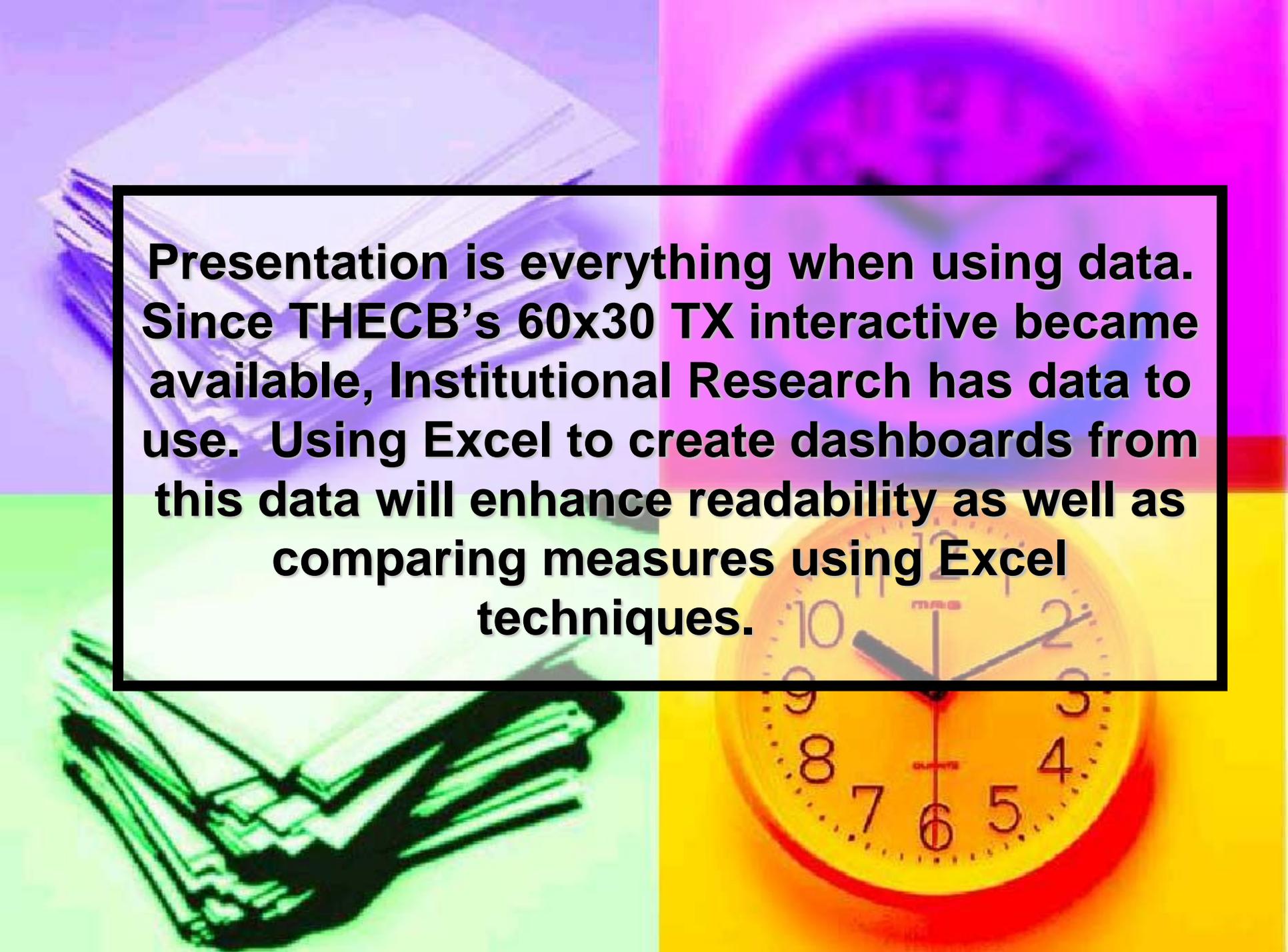
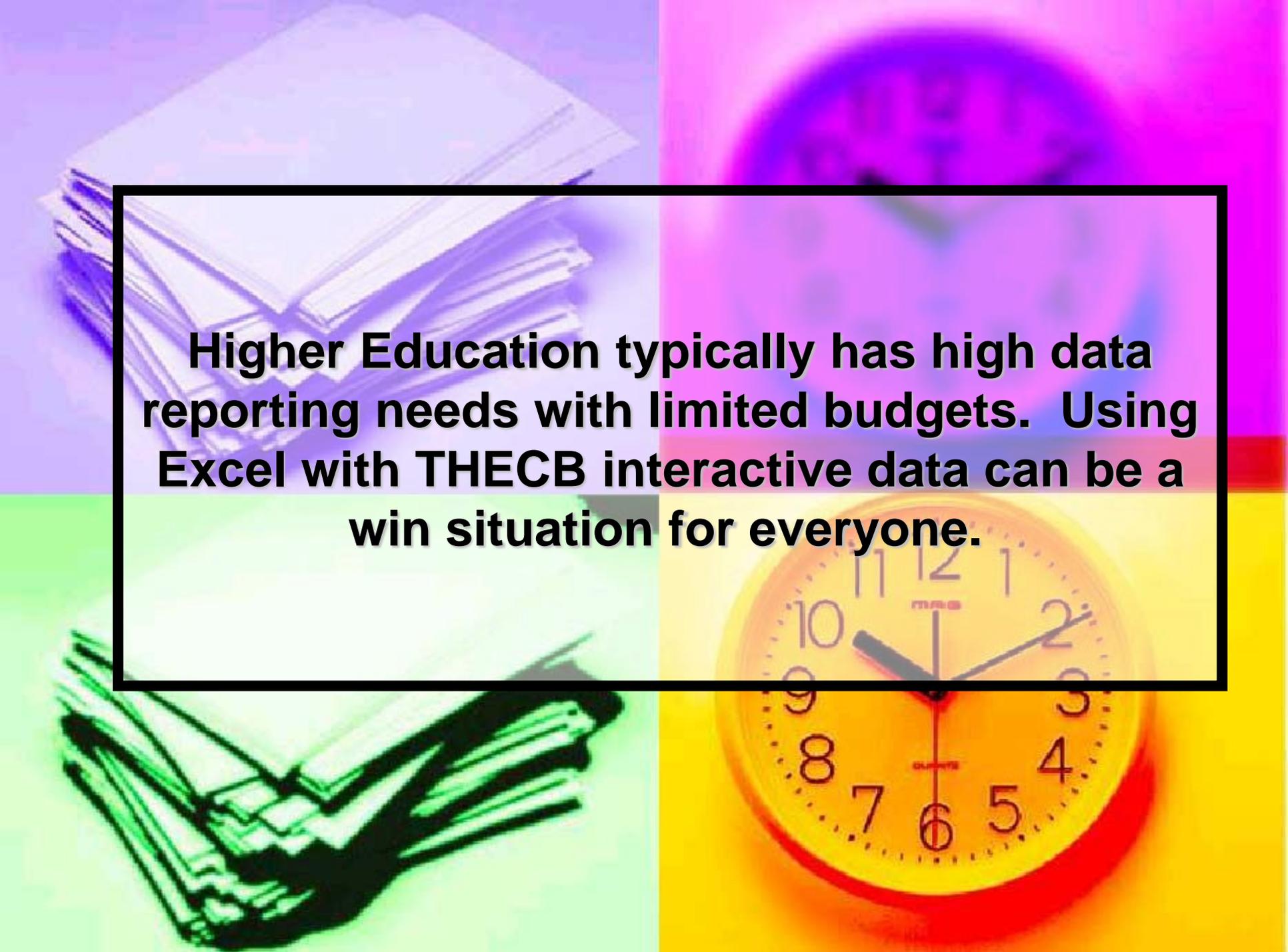




How to Create an Interactive Dashboard using EXCEL

The background is a collage of four quadrants. Top-left: a stack of papers on a purple background. Top-right: a clock face on a pink background. Bottom-left: a pair of hands on a green background. Bottom-right: a clock face on a yellow background. A black-bordered white box is centered over the collage, containing text.

Presentation is everything when using data. Since THECB's 60x30 TX interactive became available, Institutional Research has data to use. Using Excel to create dashboards from this data will enhance readability as well as comparing measures using Excel techniques.



Higher Education typically has high data reporting needs with limited budgets. Using Excel with THECB interactive data can be a win situation for everyone.

Dashboard using Excel

■ THECB Web site.

- <http://www.txhigheredaccountability.org/acctpublic/>
- Select Interactive (hi-lighted in red)



Texas Higher Education
Accountability System

Home Resources - THECB - 60x30TX.com **Interactive**

- STATEWIDE
- PUBLIC UNIVERSITIES
- ▶ PUBLIC TWO-YEAR COLLEGES
- PUBLIC HEALTH-RELATED INSTITUTIONS
- ▶ NON-TEXAS & CAREER INSTITUTIONS



Need Help?
Under Resources above, see our [Quick Start Guide](#) if you're new, [Interactive Guide](#) to download data, and [News and Updates](#) for the latest important information.

Dashboard using Excel

■ Interactive Reports

- <http://www.txhigheredaccountability.org/AcctPublic/InteractiveReport/ManageReports>
- Able to build custom reports from the THECB database and download data to Excel



Interactive Reports

You may build your own custom reports from THECB databases. Follow these steps to create a custom report.

1. After reading these instructions, select "Create a Report"

On the page that follows:

2. Select the desired Institution Type and Institution. You may select multiple institutions.
3. Select data you would like to include in the report.
4. Confirm or modify the pre-selected filters to customize the report.
5. Select "View Report" to view the report.
6. Select "Create CSV" to download the report as a Comma Separated Values (.CSV) file that is editable with Excel.

 Create a Report

Dashboard using Excel

■ Interactive Reports

- Click on Create a Report

Interactive Reports

You may build your own custom reports from THECB databases. Follow these steps to create a custom report.

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6. Select "Create CSV" to download the report as a Comma Separated Values (.CSV) file that is editable with Excel.

 Create a Report

Dashboard using Excel

■ Interactive Reports

- Select other report criteria, I selected “Annual Unduplicated Enrollment by Gender, Ethnicity and Type Major (2-Year)”
- Click “View Report”



Select Institution Type:

Community Colleges

Select Institution:

Kilgore College

What data would you like to see?

Annual Unduplicated Enrollment by C

Select Year(s) to Filter

All selected (4)

Select Gender(s) to Filter

All selected (2)

Select Ethnicity(s) to Filter

All selected (6)

Select MajorType(s) to Filter

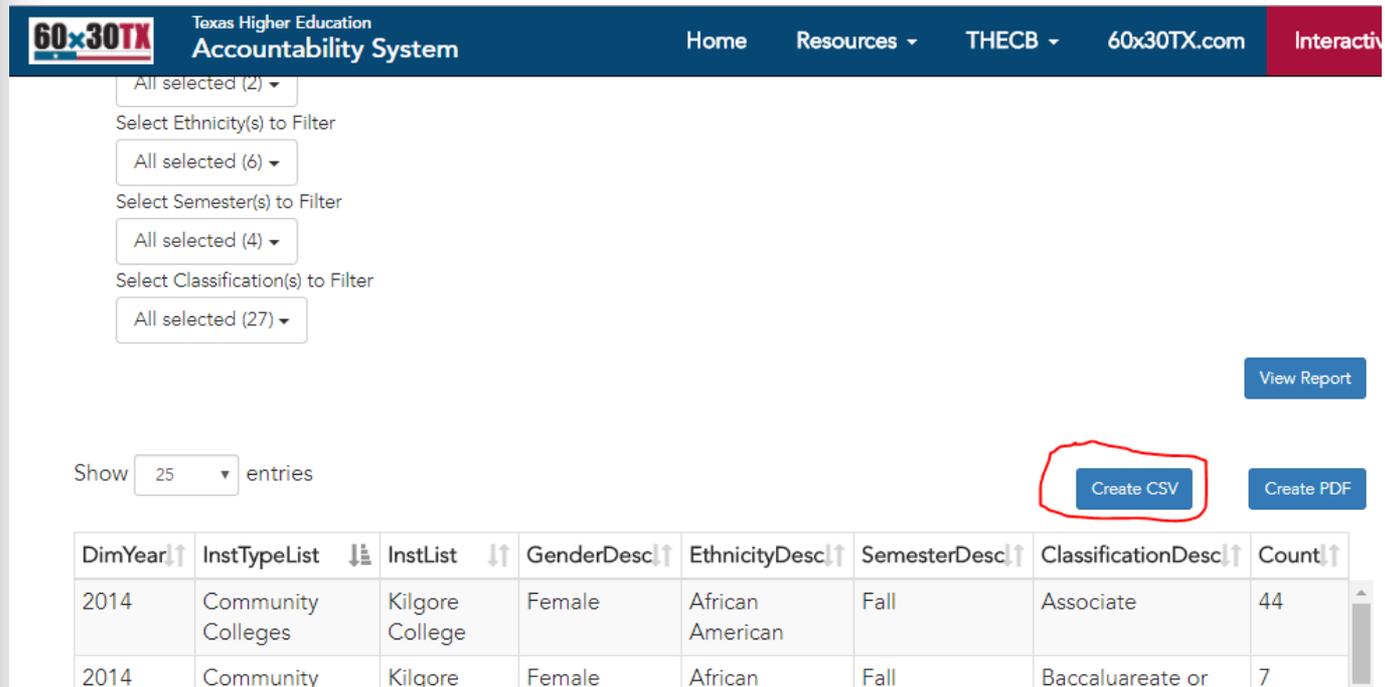
All selected (5)

View Report

Dashboard using Excel

■ Interactive Reports

- Click “Create CSV” which will download the file

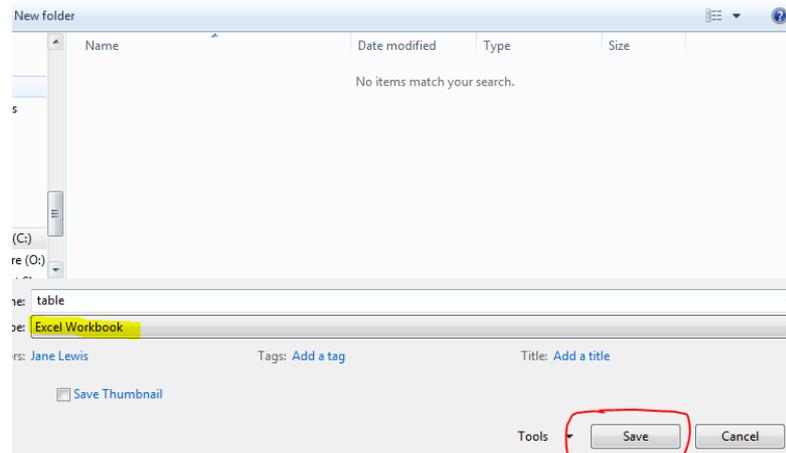


The screenshot shows the 60x30TX Texas Higher Education Accountability System dashboard. The header includes the logo and navigation links: Home, Resources, THECB, 60x30TX.com, and Interactiv. The main content area features four filter sections: 'Select Ethnicity(s) to Filter' (All selected (2)), 'Select Semester(s) to Filter' (All selected (4)), and 'Select Classification(s) to Filter' (All selected (27)). A 'View Report' button is located on the right. Below the filters, a 'Show 25 entries' dropdown is visible. A 'Create CSV' button is highlighted with a red circle, and a 'Create PDF' button is also present. A table displays data for 2014, showing details for Kilgore College, including gender, ethnicity, semester, and classification, along with a count.

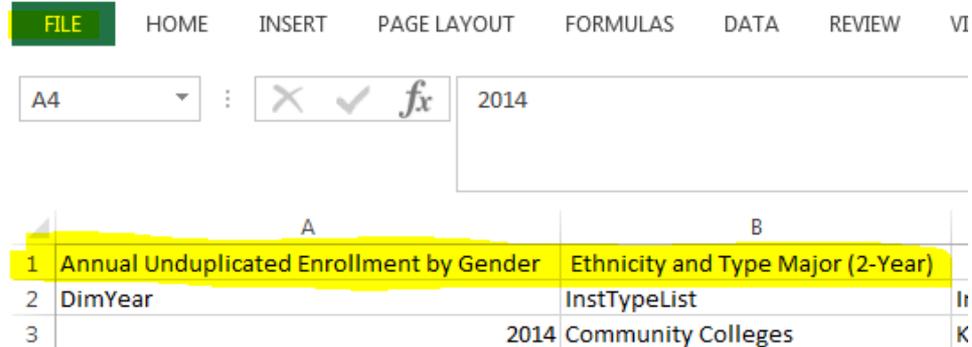
DimYear↑	InstTypeList ↓	InstList ↓	GenderDesc↑	EthnicityDesc↑	SemesterDesc↑	ClassificationDesc↑	Count↑
2014	Community Colleges	Kilgore College	Female	African American	Fall	Associate	44
2014	Community	Kilgore	Female	African	Fall	Baccaluateate or	7

Dashboard using Excel

- Click to open downloaded file
 - Save file as Excel Workbook



- Delete the first row, click on the '1', right click and click delete



FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VI

A4 : X ✓ fx 2014

	A	B
1	Annual Unduplicated Enrollment by Gender	Ethnicity and Type Major (2-Year)
2	DimYear	InstTypeList
3		2014 Community Colleges

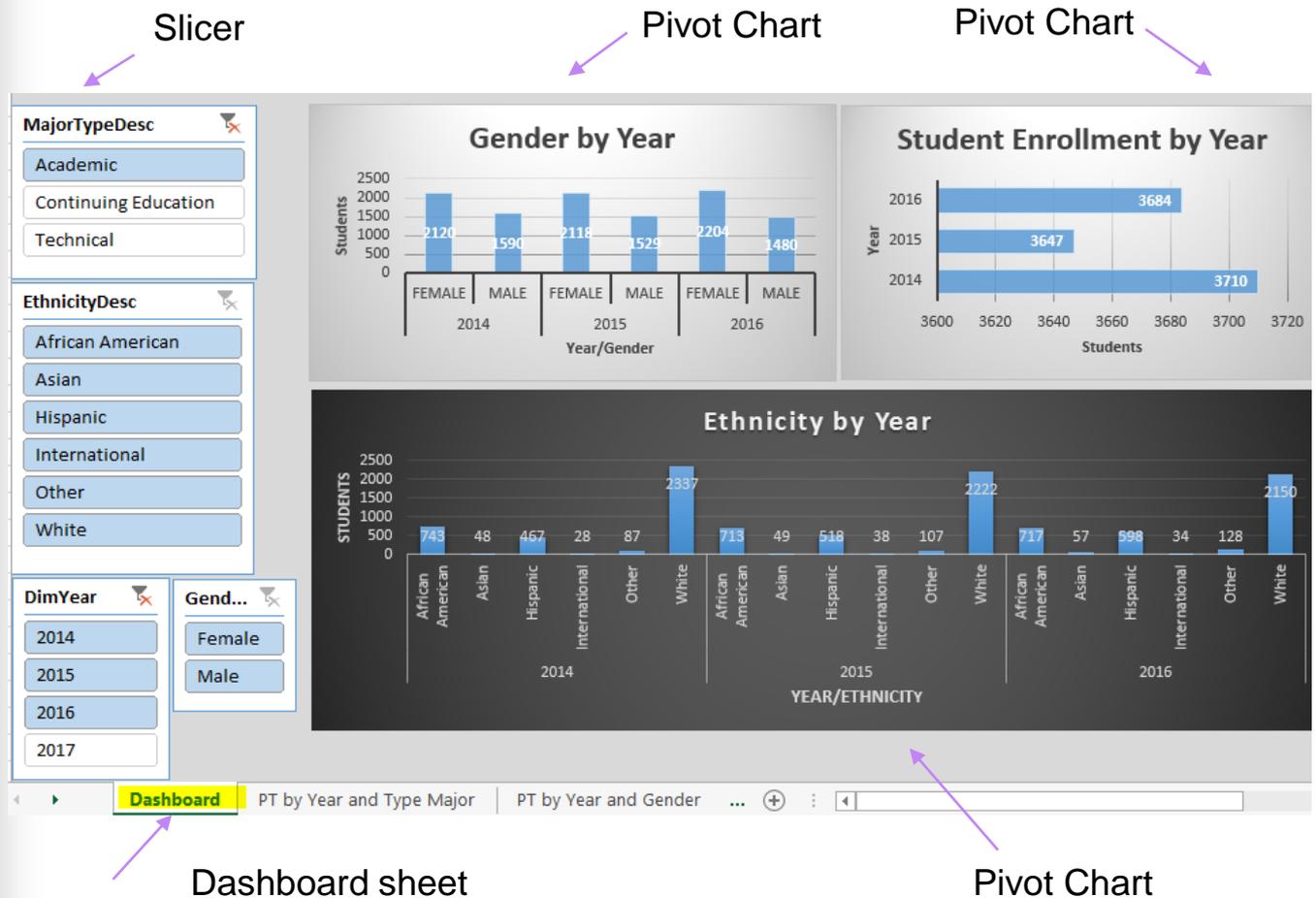


Dashboard using Excel

- After you have downloaded the THECB data and saved as an Excel workbook, we will:
 - Create a table, pivot tables and pivot charts.
 - Copy Pivot charts to a sheet we will name “Dashboard”
 - Add slicers to the Pivot charts on the “Dashboard” sheet. Slicers are *visual filters*. Using a slicer, you can filter your data by clicking on the data you want
- Let's Begin

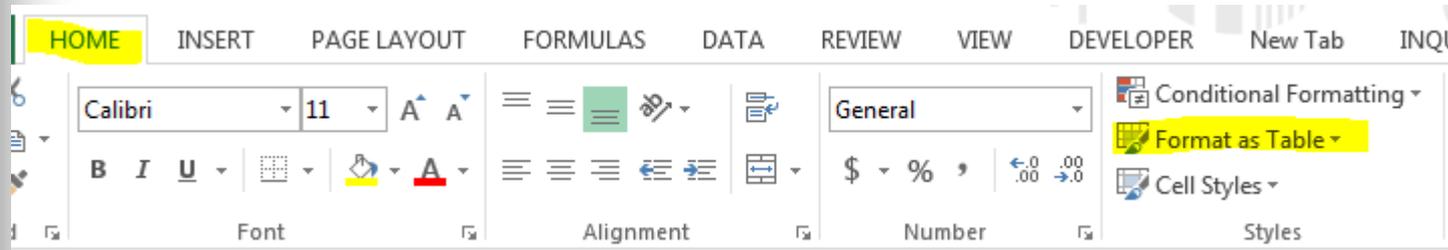
Dashboard using Excel

- This is my Dashboard

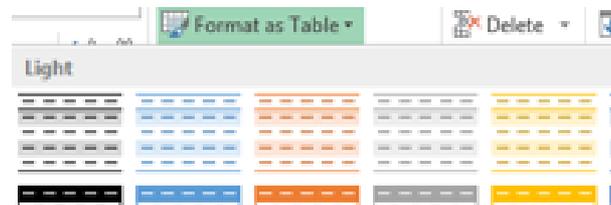


Format Data as Table

- Click on a cell within your EXCEL spreadsheet
- Click the HOME tab, arrow beside “Format Data as Table”

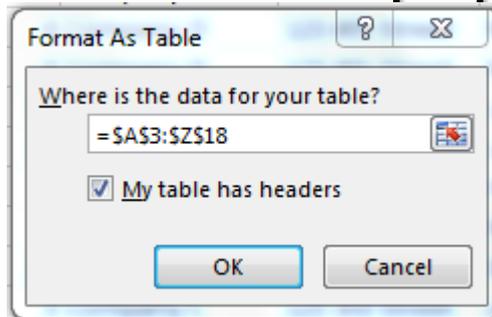


- Select your color scheme

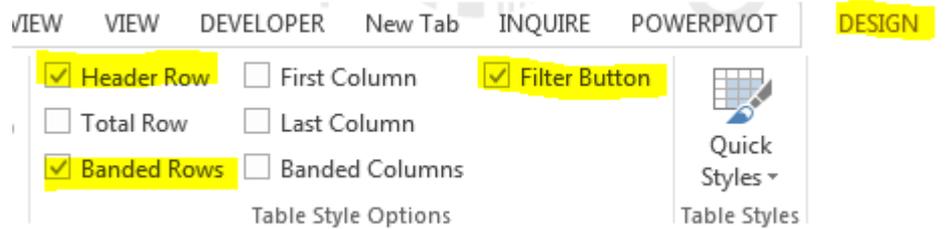


Format Data as Table

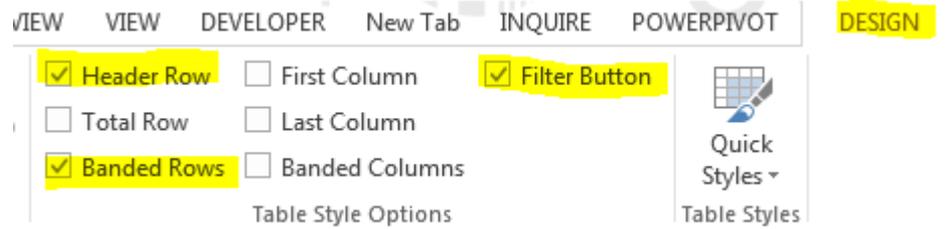
- Click OK on the pop up box



- An EXCEL table has been created
- A Design tab will be displayed that shows attributes checked for the table

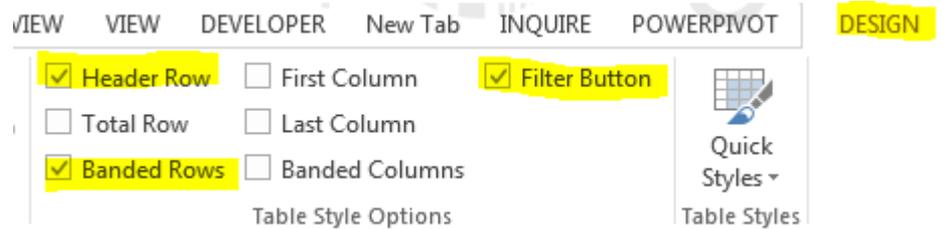


Format Data as Table

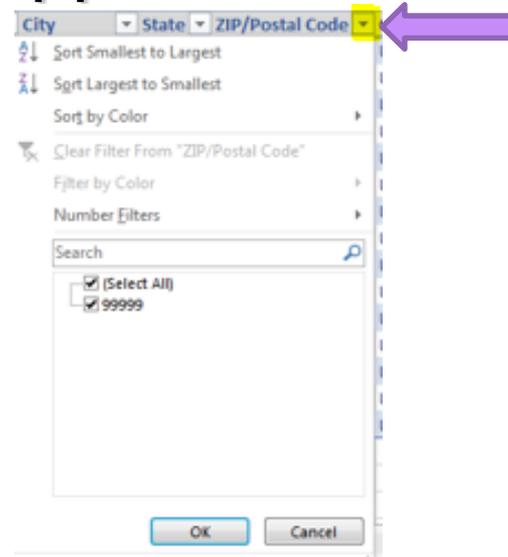


- **Header Row** – Column headers remain visible as you scroll down in your spreadsheet
- **Banded Rows** – Shading alternate rows in a large spreadsheet to better distinguish the data

Format Data as Table



- **Filter Button** – Allows you to view specific rows in an Excel spreadsheet, while hiding the other rows. A drop down menu appears in each cell of a header row



Create a Calculated Column

- By entering a formula in one cell in a table column, you can create a calculated column in which that formula is instantly applied to all other cells in that table column
- By typing in the column **immediately to the right of the table**, Excel will automatically extend the table for you. Place your cursor in the active cell after the last column in the table

H	I
Count	
44	



Create a Calculated Column

H	I
Count	
44	



- For this example, we are going to use the MID formula to obtain the course subject. In the active cell after the last column in the table, type =mid(Column name, starting position, length)

F	G	H	I	J
MajorTypeDesc	Count			
Academic	370	=mid([@MajorTypeDesc],1,4)		

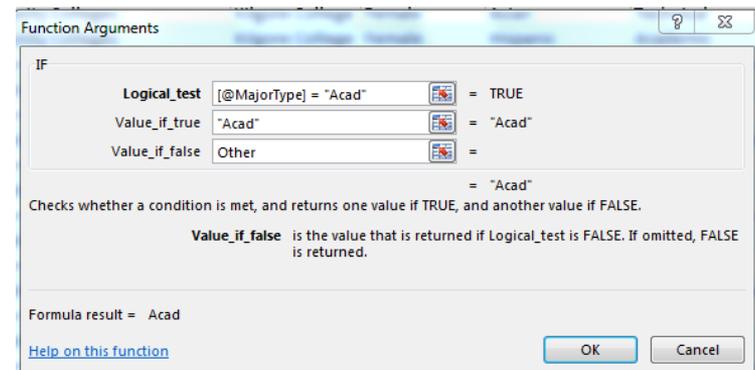
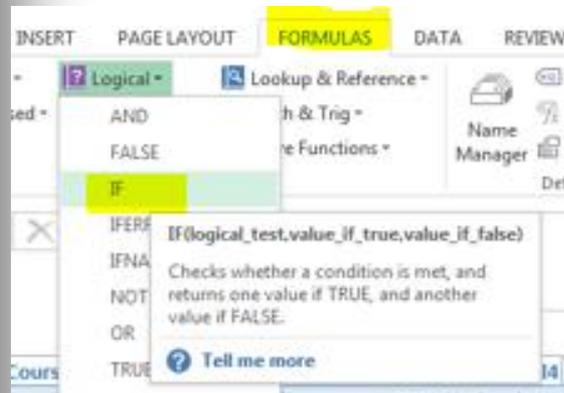
- Press enter and a new column is created. Change the column heading to “Major Type” instead of Column1

F	G	H
MajorTypeDesc	Count	Column1
Academic	370	Acad



Create a Calculated Column

- Creating columns expands the available data for Pivot Tables and Pivot Charts
- Using the Formula Tab, If option, add a column for Web Courses



MajorTypeDesc	Count	MajorType	MajorType2
Academic	370	Acad	Acad
Continuing Education	616	Cont	Other
Technical	658	Tech	Other





Pivot Table

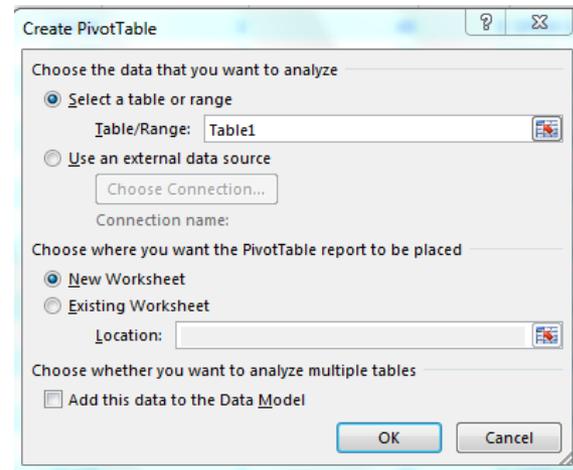
- A **pivot table** is a program tool that allows you to reorganize and summarize selected columns and rows of data in a spreadsheet **table** to obtain a desired report. A **pivot table** doesn't actually change the spreadsheet or database itself

Pivot Table

- To begin, Click in Column A, Row 2 (A2) in the Excel Spreadsheet to make the cell active
- From the Insert tab, select Pivot Table

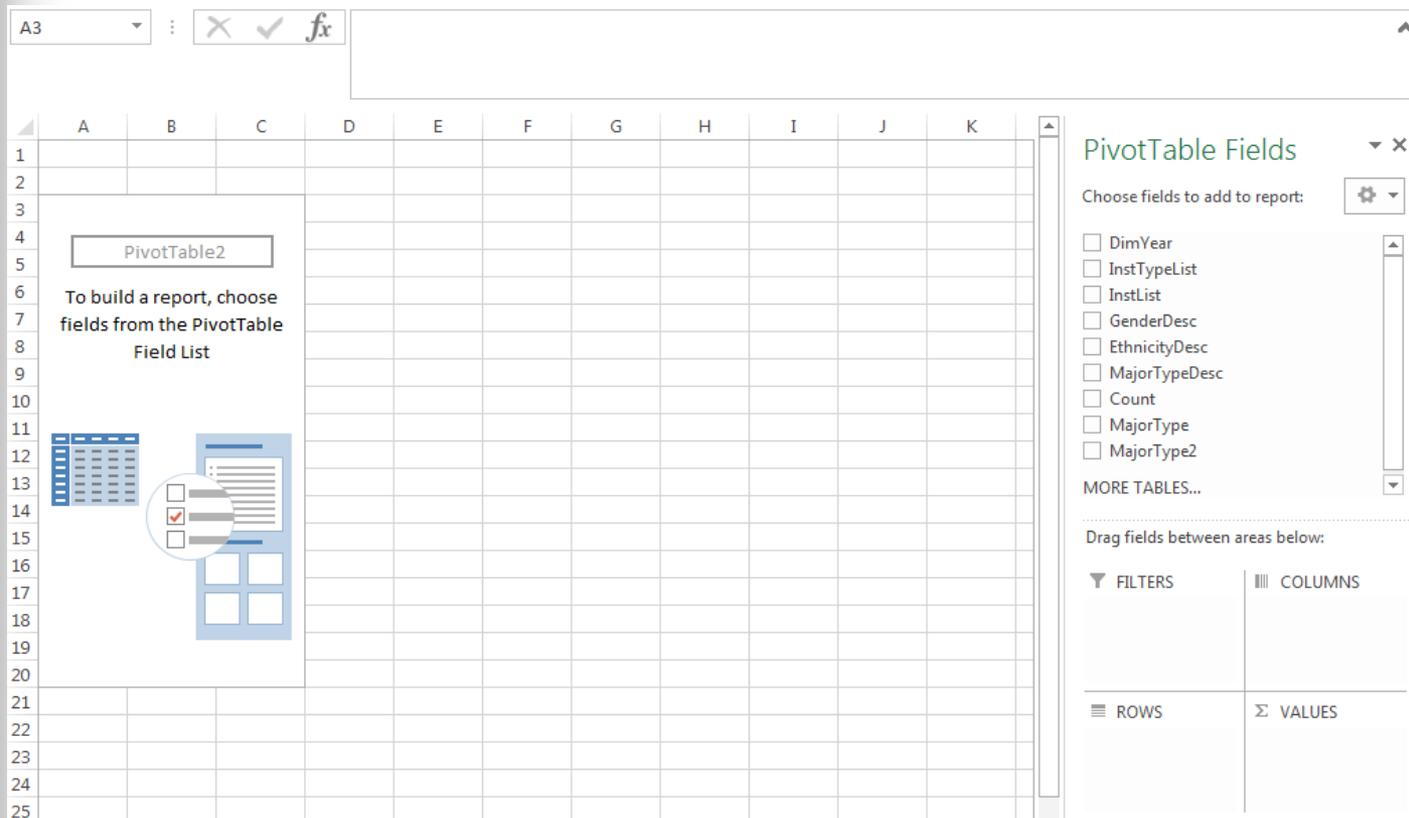


- The Create PivotTable dialog box will appear, click OK



Pivot Table

- A blank PivotTable and Field List will appear on a new worksheet



The screenshot displays a Microsoft Excel worksheet with a blank PivotTable and the PivotTable Fields task pane. The PivotTable is located in cell A3 and is titled "PivotTable2". The task pane on the right, titled "PivotTable Fields", shows a list of fields to be added to the report. The fields are:

- DimYear
- InstTypeList
- InstList
- GenderDesc
- EthnicityDesc
- MajorTypeDesc
- Count
- MajorType
- MajorType2

Below the list, there are four areas for dragging fields: FILTERS, COLUMNS, ROWS, and VALUES. The worksheet grid shows columns A through K and rows 1 through 25. The formula bar at the top shows "A3" and the function key "fx".

Pivot Table

- Drag or check data boxes to create a pivot table by DimYear, Gender Desc, (**Rows**) and count (**Values**), Major Type Desc (Filters)

PivotTable Fields

Choose fields to add to report:

- DimYear
- InstTypeList
- InstList
- GenderDesc
- EthnicityDesc
- MajorTypeDesc
- Count
- MajorType
- MajorType2

MORE TABLES...

Drag fields between areas below:

FILTERS	COLUMNS
MajorTypeD...	

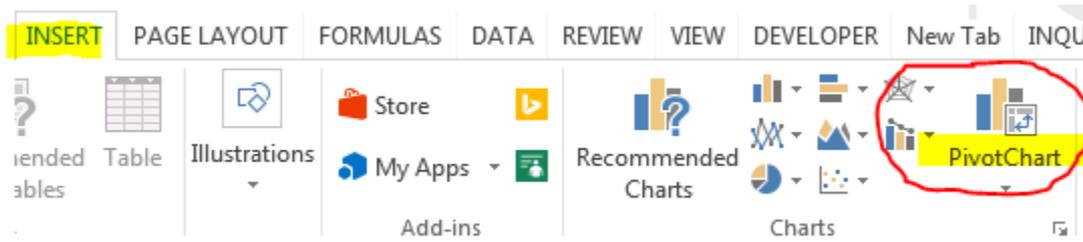
ROWS	VALUES
DimYear	Sum of Count
GenderDesc	

Pivot Table

MajorTypeDesc	Academic
Row Labels	Sum of Count
2014	3710
Female	2120
Male	1590
2015	3647
Female	2118
Male	1529
2016	3684
Female	2204
Male	1480
2017	4758
Female	2864
Male	1894
Grand Total	15799

Pivot Chart

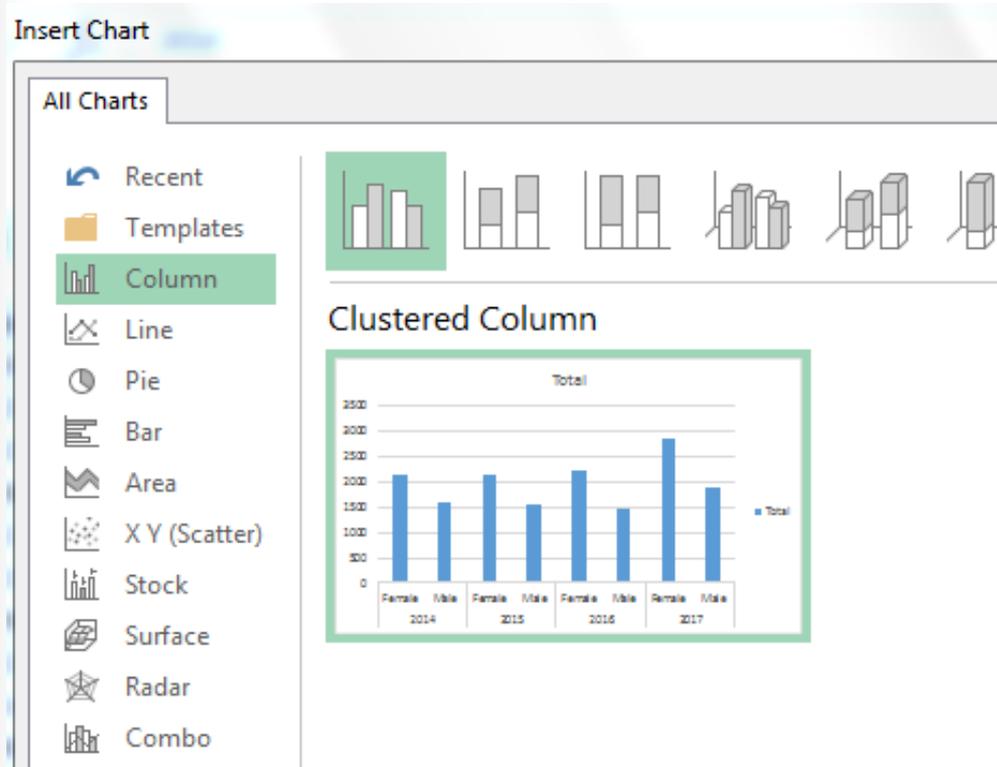
- To begin, click inside the pivot table on a data field. From the Insert tab, click Pivot Chart



- Along with your Pivot Table, you have a Pivot Chart

Pivot Chart

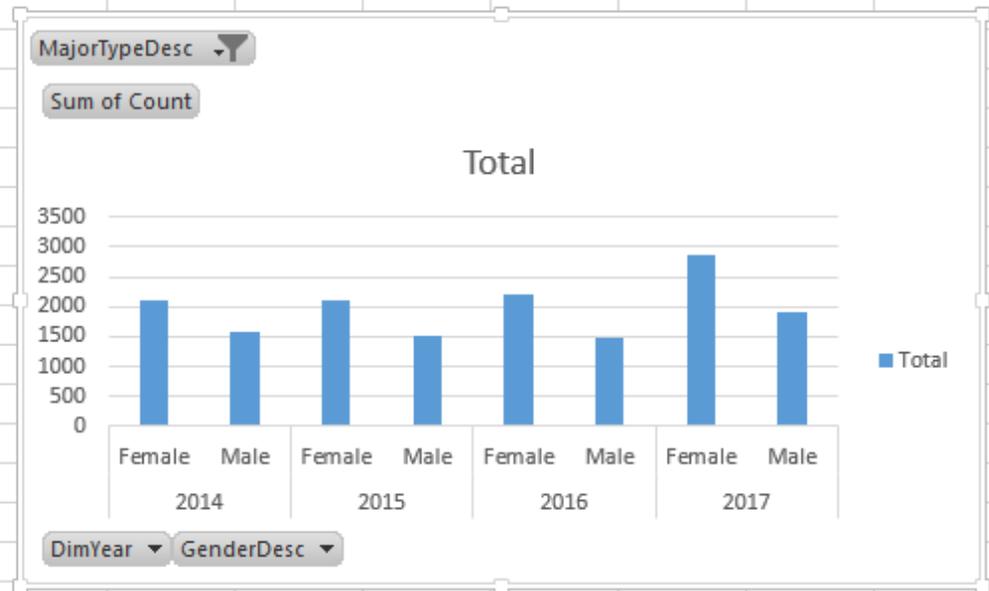
- A chart is displayed, but you can click on different charts to see which chart best illustrates your data. Click OK once you like a chart



Pivot Chart

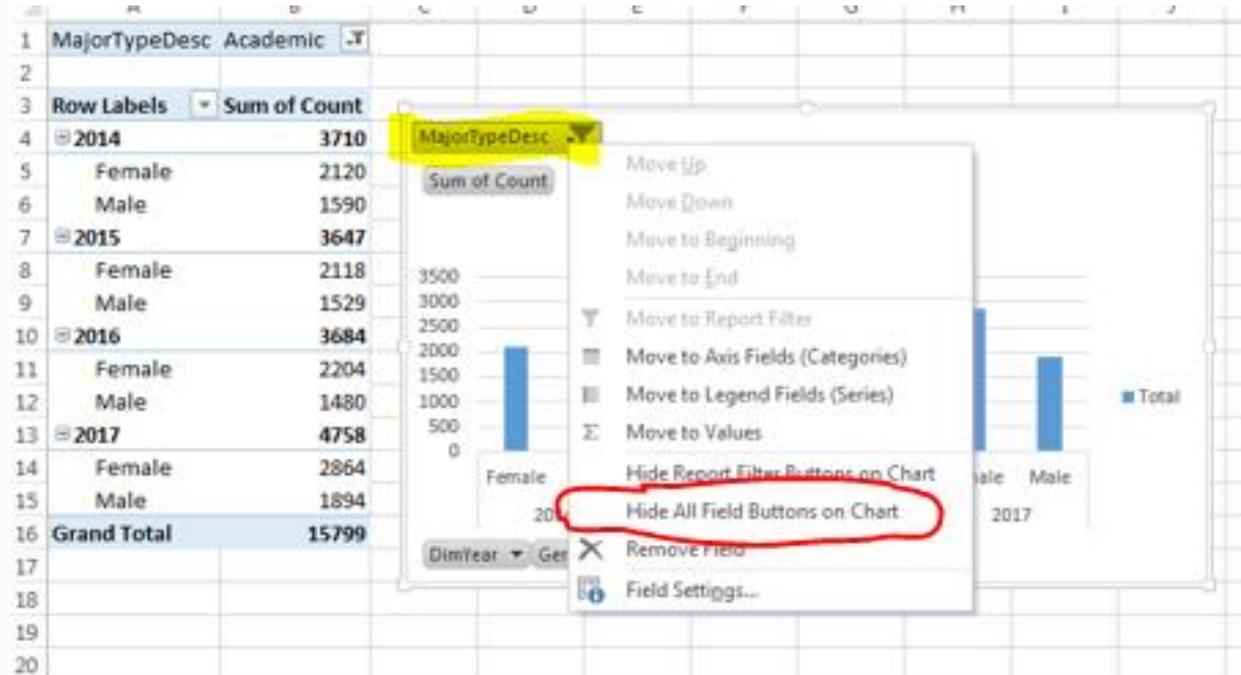
- The pivot table and pivot chart are shown together.

1	MajorTypeDesc	Academic	
2			
3	Row Labels		Sum of Count
4	2014		3710
5		Female	2120
6		Male	1590
7	2015		3647
8		Female	2118
9		Male	1529
10	2016		3684
11		Female	2204
12		Male	1480
13	2017		4758
14		Female	2864
15		Male	1894
16	Grand Total		15799
17			
18			



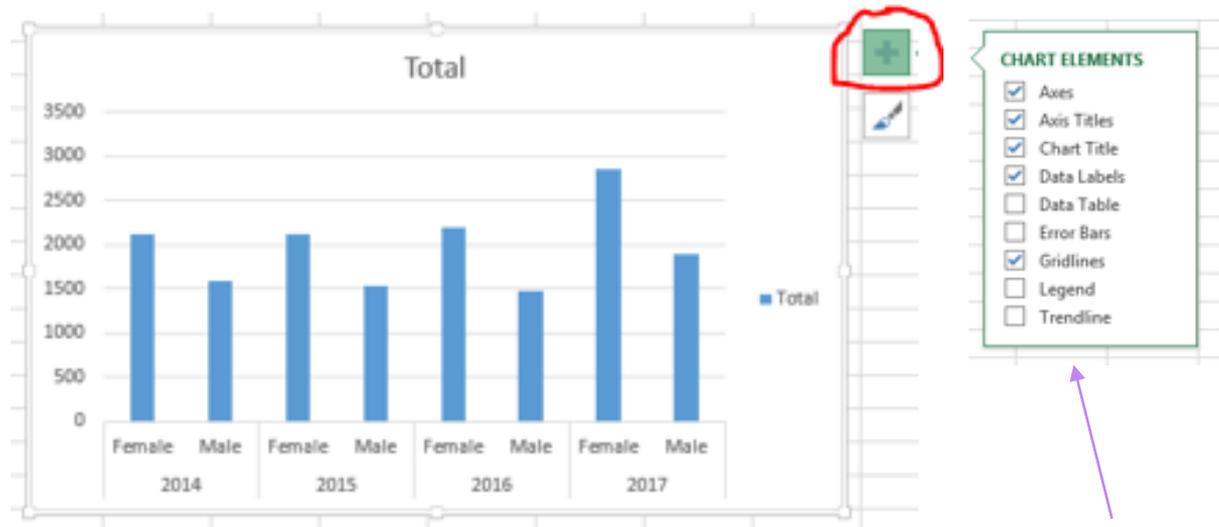
Customize Pivot Chart

- Hide filled buttons, right click on highlighted button and select “Hide all field buttons on chart”



Customize Pivot Chart

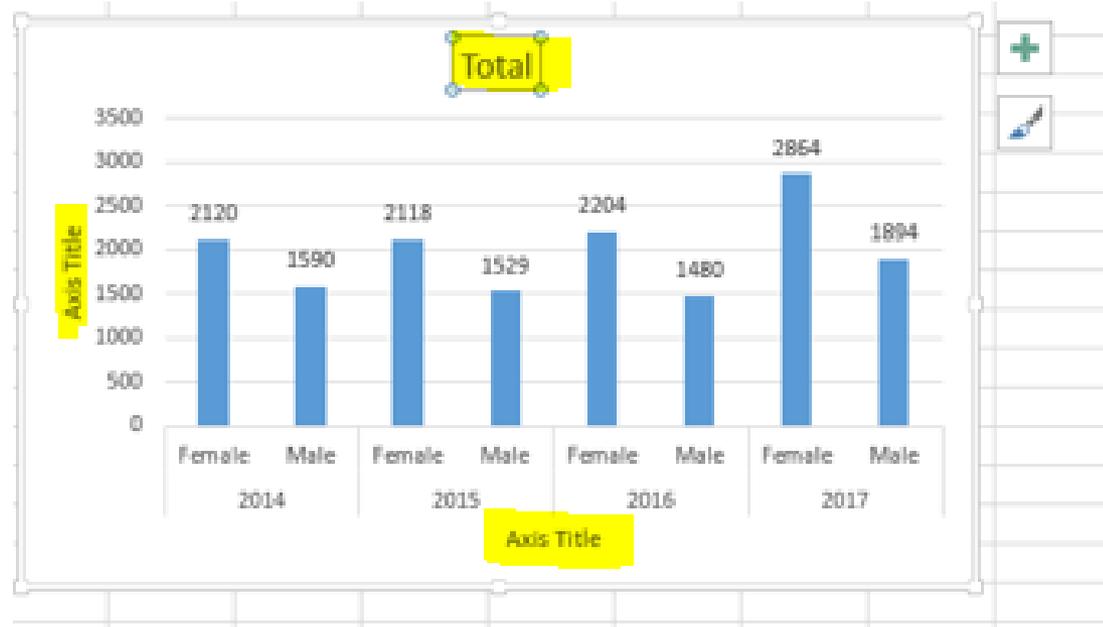
- Click inside of chart and the “+” will appear, click the “+” and see chart elements



See Chart elements clicked

Customize Pivot Chart

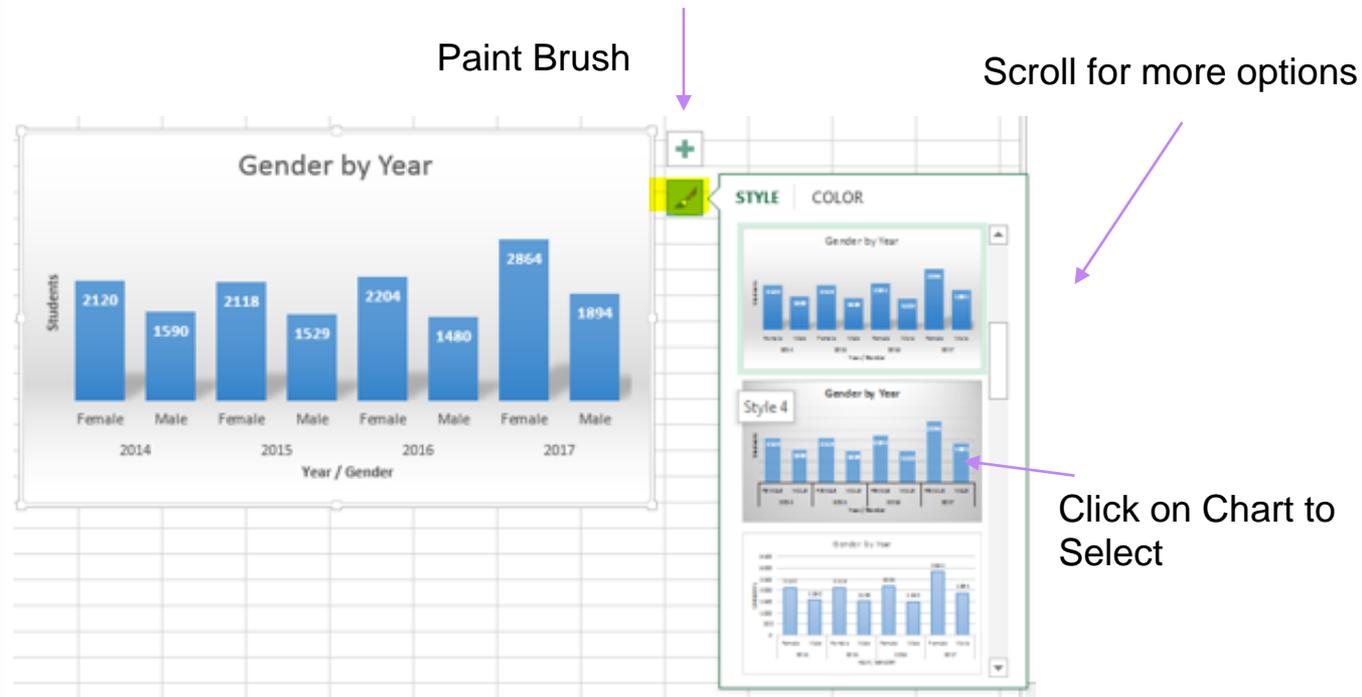
- Change Chart and Axis Titles
 - Click on the title and change
 - Do the same with each Axis



Customize Pivot Chart

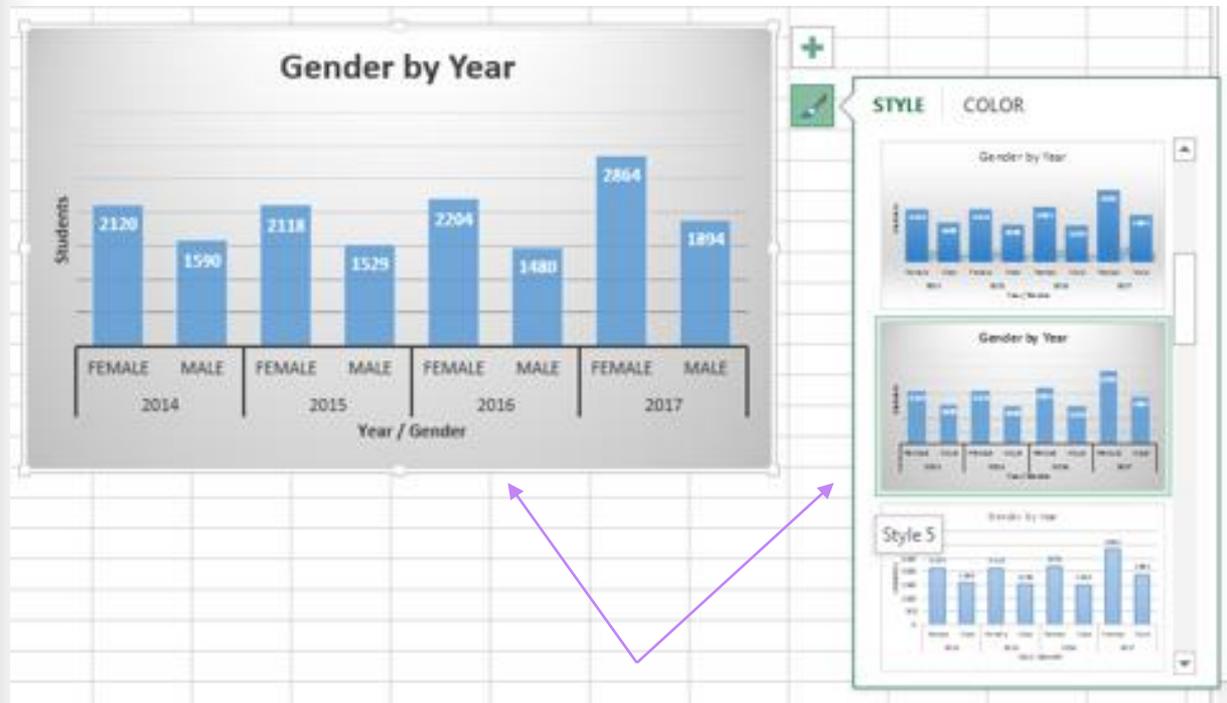
■ Alternative Chart styles

- Click paint brush and alternative styles will be displayed. Use the right scroll bar to see different choices. Click on a chart style



Customize Pivot Chart

- Alternative Chart styles
 - See the Chart Selected

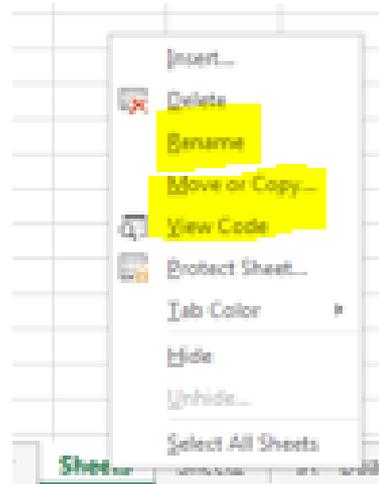


Create Dashboard

- Add a new blank sheet clicking the “+” along the bottom of the workbook

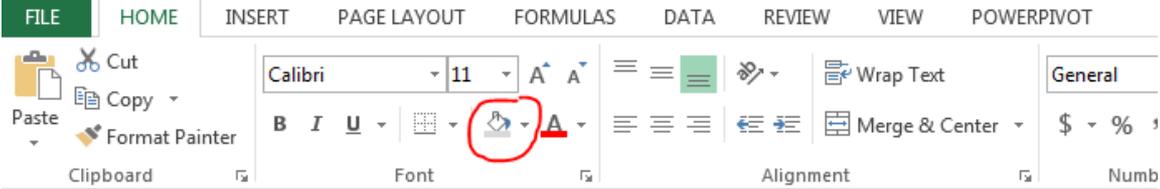


- Right click on tab and rename to “Dashboard”
- Move the sheet to be the first



Create Dashboard

- On the Dashboard sheet, select a background fill color for the entire sheet you can view

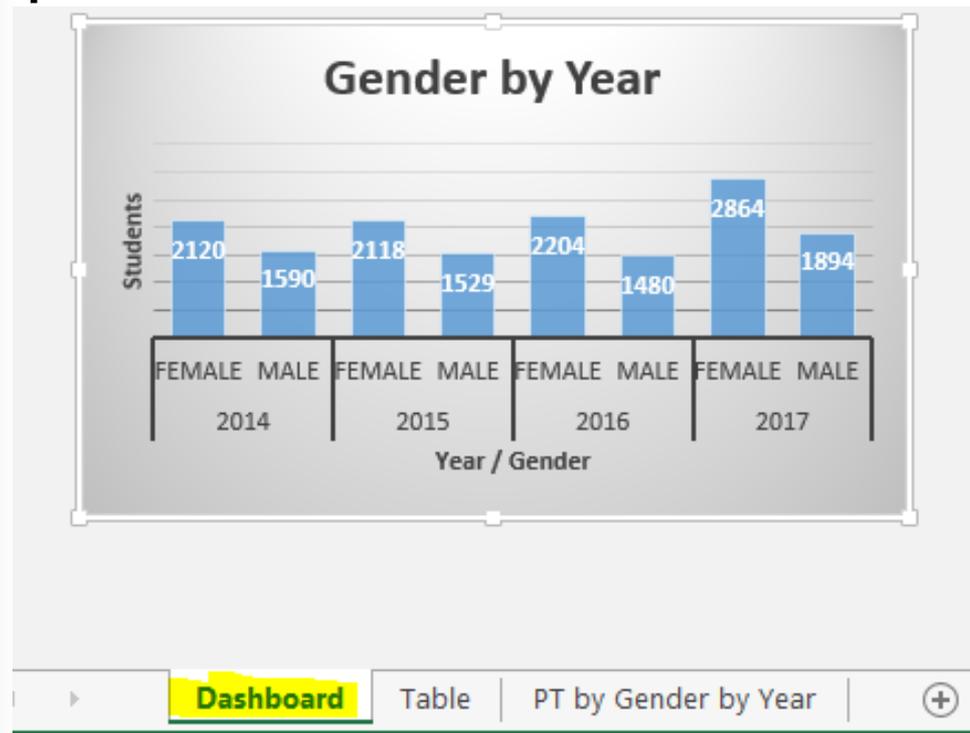


The screenshot shows the Microsoft Excel ribbon with the following sections visible: FILE, HOME, INSERT, PAGE LAYOUT, FORMULAS, DATA, REVIEW, VIEW, and POWERPIVOT. The HOME ribbon is active, showing the Clipboard, Font, and Alignment groups. The Font group includes options for font face (Calibri), size (11), bold (B), italic (I), underline (U), and background color. The background color icon is circled in red. The Alignment group includes options for text alignment (left, center, right, justified), wrap text, and merge & center. The ribbon also shows the General and Number tabs.

The spreadsheet grid below the ribbon shows columns A through K and rows 1 through 10. The background of the grid is a solid light gray color.

Create Dashboard

- Copy pivot chart to the Dashboard sheet. I use Ctrl + V to paste. Slicers do not always recognize other ways to paste



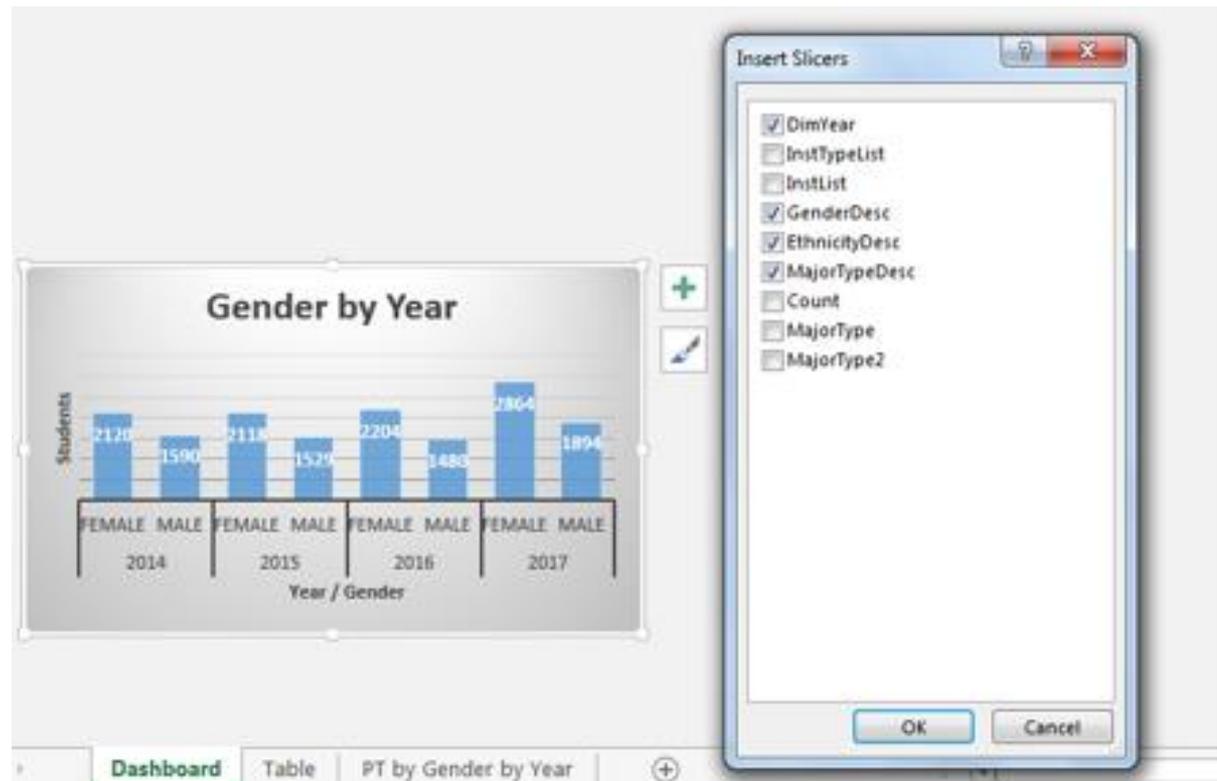
Create Dashboard

- Add slicers to the dashboard. Slicers which are visual filters
 - Click on one of the pivot charts on the dashboard
 - Select the slicer option from the insert tab



Create Dashboard

- Data columns from the THECB table sheet are available to use as slicers

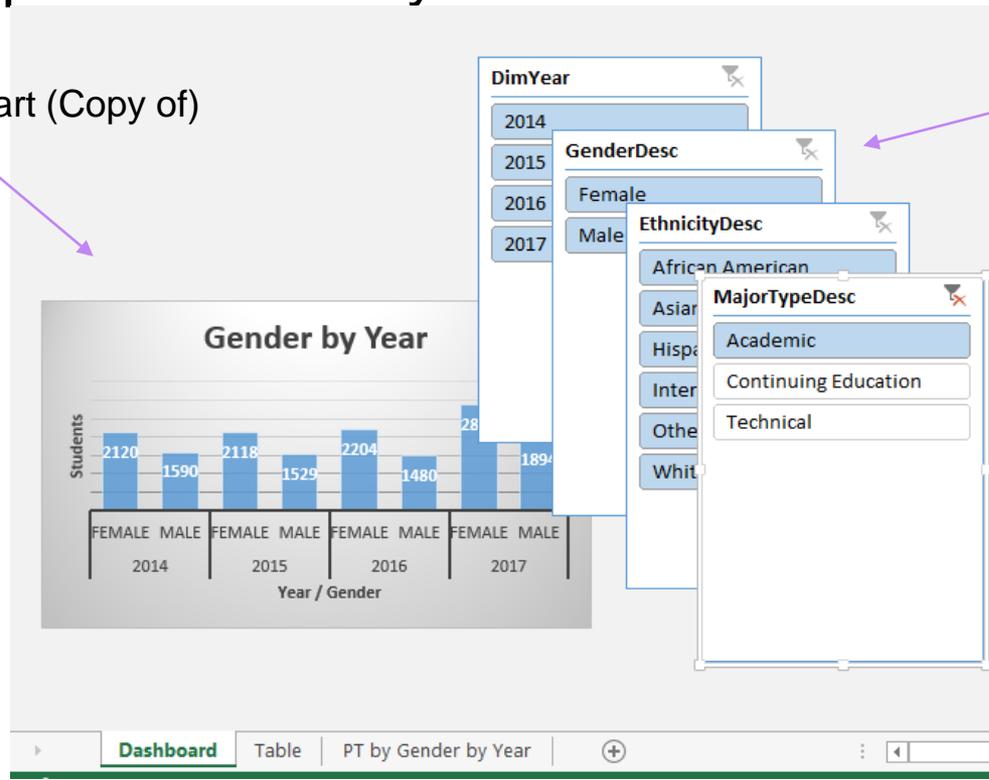


Create Dashboard

- Move and re-size slicers and/or pivot charts
 - Initially Slicers are connected to only 1 pivot chart on your dashboard

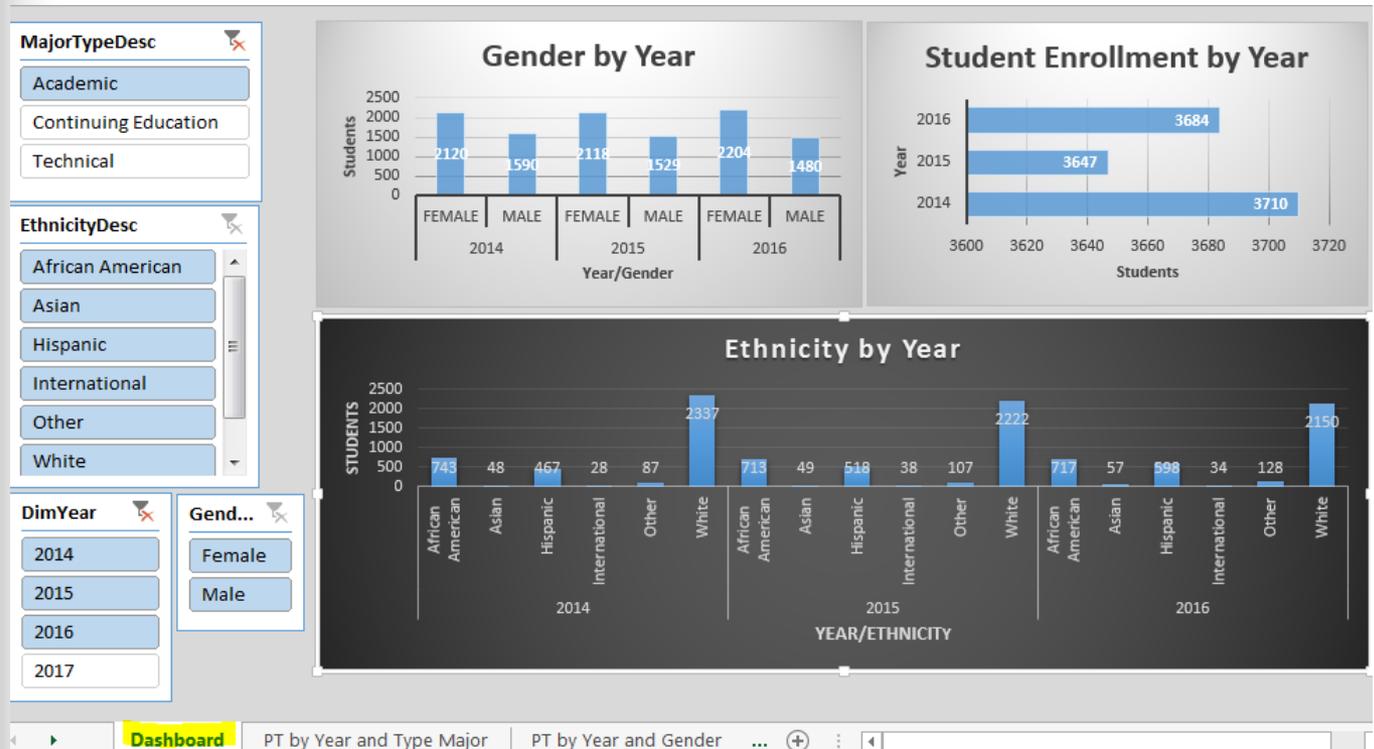
Pivot Chart (Copy of)

Slicers



Create Dashboard

- I created additional pivot tables/charts and copied these to the “Dashboard” sheet



Create Dashboard

- Click to check all Pivot Tables listed which correspond to each Pivot Chart on the Dashboard sheet
 - Repeat for each slicer. In this example, I would do this 4 times once for each slicer

MajorTypeDesc

- Academic
- Continuing Education
- Technical

EthnicityDesc

- African American
- Asian
- Hispanic

Report Connections (MajorTypeDesc)

Select PivotTable and PivotChart reports to connect to this filter

Name	Sheet
<input checked="" type="checkbox"/> PivotTable1	PT by Ethnicity and Y...
<input checked="" type="checkbox"/> PivotTable2	PT by Year and Gender
<input checked="" type="checkbox"/> PivotTable1	PT by Year and Type ...
<input checked="" type="checkbox"/> PivotTable3	PT Ethnicity

Gender

Students

2500
2000
1500
1000
500
0

FEMALE MALE

2014

48 467

Asian Hispanic

20

24 2017

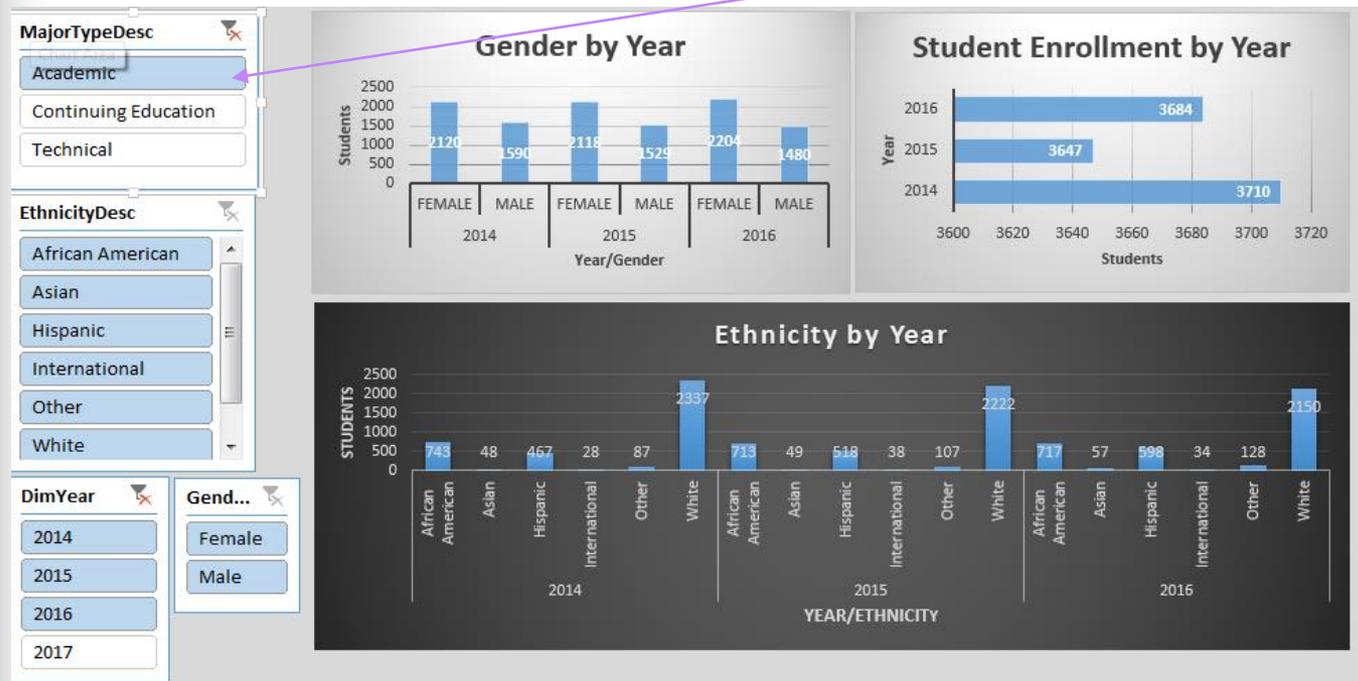
25

26

Dashboard PT by Year and Type Major PT by

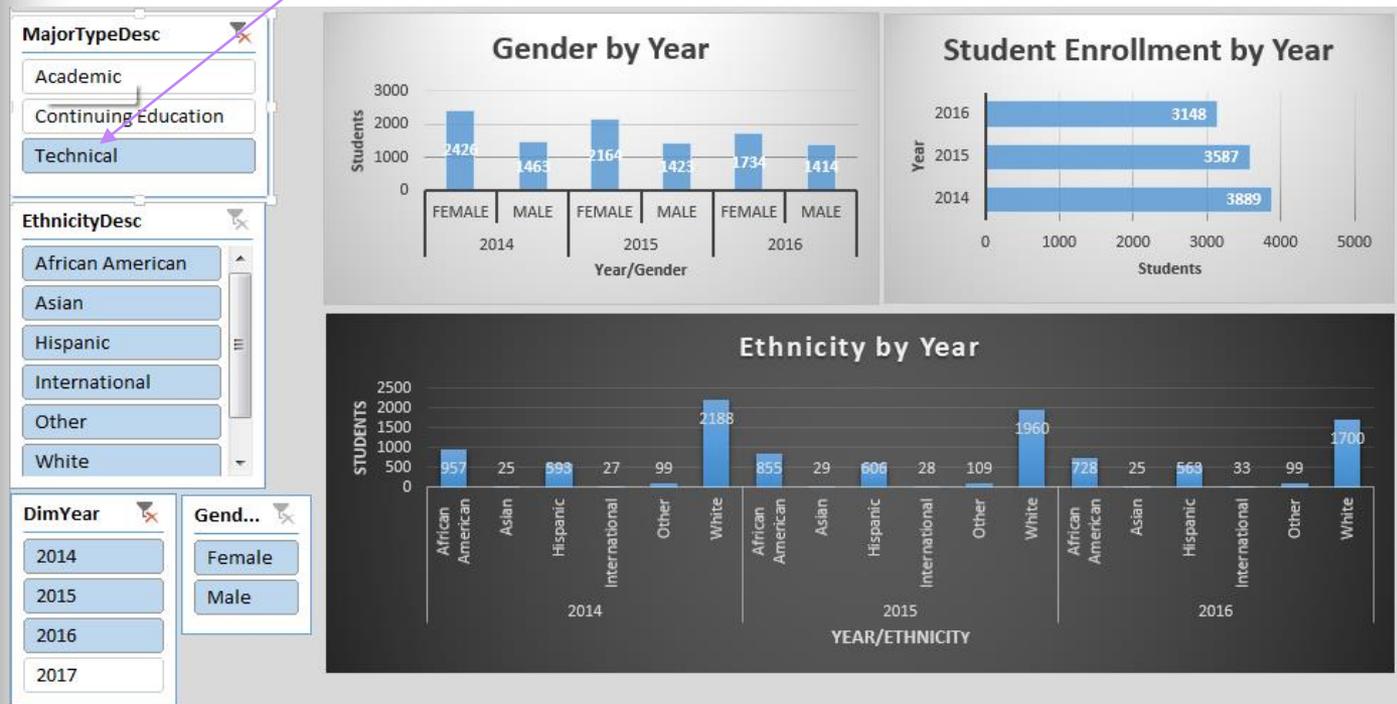
Create Dashboard

- Clicking on slicer combinations will change the 3 pivot charts
 - Slicer data which are blue are active.
 - Below I selected just the “Academic” type



Create Dashboard

- Changing to “Technical” type, the 3 pivot charts reflect just that major type
 - To select all data inside an individual slicer, hold the shift key as you select



Create Dashboard

- Selecting data from the THECB interactive option and creating a Dashboard, you can:
 - Visually analyze the data in multiple ways
 - Group data fields separately in pivot tables/charts and use slicers to connect the information
 - **Slicers** are extremely useful when you create a dashboard page and you want one click to affect multiple items on the page.

Select Institution Type:

Community Colleges ▾

Select Institution:

Kilgore College ▾

What data would you like to see?

Annual Unduplicated Enrollment by C ▾



Conclusion



10 Minutes a Day to Become an EXCEL Expert

- View the 3 videos listed below, especially part-3 which demonstrates the pivot table / pivot chart / dashboard / slicer process

<http://www.excelcampus.com/charts/pivot-tables-dashboards-part-1>

<http://www.excelcampus.com/charts/pivot-tables-dashboards-part-2>

<http://www.excelcampus.com/charts/pivot-tables-dashboards-part-3>