

UAccess ANALYTICS

Working with Pivot Tables:
Putting a Spin on Your Data

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UAccess Analytics

About this Brown Bag Demonstration

This UAccess Analytics brown bag demonstration is designed to help you become familiar with Pivot Tables, one of the many tools available to Analytics users. The demo includes creating Pivot Tables, and dips into some of the configuration that can be done in Pivot Tables.

This demonstration is generic by necessity, but will provide you with the information you need to build Pivot Tables.

For information on workshops in which you can learn how to build Requests and Dashboards, as well as other brown bag demonstrations, please go to the Workshops and Training Team website at <http://uits.arizona.edu/workshops>.

Additional Information

- Request for Individual access to UAccess Analytics: have your Supervisor submit a request to <http://uaccess.arizona.edu/>

Mosaic Community

The **Mosaic Community** is an online networking resource available to everyone on campus who is affected by the Mosaic project.

If you have an official UA email address, you can request membership in the Mosaic Community. Just go to <http://mosaic.community.arizona.edu> and click the **Sign Up** link in the upper right corner of the screen.

Once your membership is confirmed – usually within a few hours – you’ll have access to valuable information about all of the various aspects of the Mosaic Project. You’ll want to join one or more of the groups within the Community, because that’s where the value comes in.

In each of the group areas, there are short videos showing you how to perform different tasks, discussion boards with questions from campus and answers from the experts, and information on upcoming workshops from the Workshops and Training Team.

Please take advantage of the opportunity and become an active member of the Mosaic Community.

Training Guide

Working with Pivot Tables



Working with Pivot Tables¹

What is a Pivot Table?

A **Pivot Table** is an interactive view that allows you to rotate the rows, columns, and section headings to obtain different perspectives of the data you're using. Pivot Tables are navigable and drillable.

Pivot Tables provide you the opportunity to break down data into a more easily digestible format, to quickly and easily add numbers *horizontally*, and to add percentages to your requests without having to build a percentage column. The system will do it for you!

The Pivot Tables you build and use depend on what you require. You might build a Pivot Table to show you a breakdown of the students in your college or degree program by Gender. You could build another Pivot Table to display the percentage of employees of a specific type (job title or classification) in your department.

Once you become familiar with Pivot Tables, the uses to which they can be put are nearly endless!



Prior to building any Pivot Tables, you must have already created a request displaying the information you wish to see, including any filtering and general formatting. This workshop picks up from that point, assuming you already have such a request.

In addition to having a prebuilt request, that request should have some sort of numeric column of information that can be used to sort, measure, or total your request data.

Accessing Analytics

Procedure

1. Open a web browser and navigate to <http://uaccess.arizona.edu>.
2. Click the **Analytics/Reporting** link under **UAccess Analytics**, then log in with your **NetID** and **Password**.

Once you've logged in, you will typically be looking at your own personal Dashboard page.

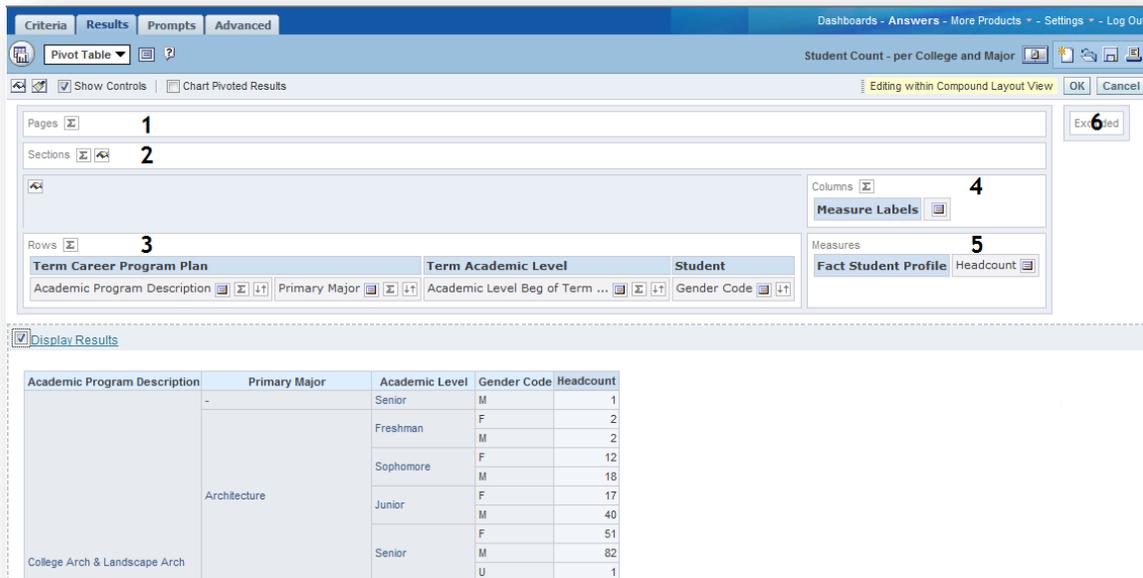
¹ (Oracle Corporation, 2006, pp. 125-136)

Adding a Pivot Table

From your Dashboard, simply navigate to the Analytics Answers section of the Analytics software by clicking the **Answers** link near the upper right-hand corner of the screen. Locate the request to which you wish to add a Pivot Table, and open that request in the Compound Layout view.



There are several methods which will allow you to add a Pivot Table to your request. The simplest and most direct way is to simply click the **Pivot Table** button, which is the third button to the right of the *Add View:* link.



Academic Program Description	Primary Major	Academic Level	Gender Code	Headcount
College Arch & Landscape Arch	Architecture	Senior	M	1
		Freshman	F	2
		M	2	
		Sophomore	F	12
		M	18	
		Junior	F	17
		M	40	
		F	51	
		Senior	M	82
		U	1	

If your report is extremely large, you may wish to immediately uncheck the Display Results checkbox until you are ready to view the finished results.

Configuring a Pivot Table

There are several areas or positions into which you may drop the various columns of information you've included in your request.

#	Position	Description
1	Pages	Creates a drop-down menu that allows users to select the data they wish to see, with each value in the column constituting a separate page.
2	Sections	For each value in a Section column, a unique pivot table is created, composed of the columns, rows, and measures defined in the pivot table.
3	Rows	Shows an element in row orientation. Like columns, pivot tables can contain multiple rows.
4	Columns	Shows an element in column orientation. Pivot tables can contain multiple columns.
5	Measures	Populates the section of a pivot table that contains summary data. <i>This will typically include the numeric column you've included in your request.</i>
6	Excluded	Excludes columns from the pivot table results. Columns may exist in the table or other views, but can be excluded from the pivot table to simplify results.

Using the Pages Position

Pages in pivot tables are especially useful if you have a very large amount of data that can be logically separated into pages, and which would best be viewed one page at a time rather than all at once.

You can add one or more columns of information to the Pages position in your pivot table. Each column you add will add another line of information, or page, to your pivot table.

Very often, the first one or two columns in your request are good choices to put into the Pages position. You are not required to put anything in the Pages position.

Procedure

1. Drag the first column of your report into the **Pages** position.
2. Use the **Order By** button to put the data into your preferred order, if desired.
3. Note that what you're really creating is a drop-down menu for the user, through which they can select the specific page of data they'd like to view.
 - a. Each value that is available in the column you've added to the Pages position creates a separate page of data for the user.

Using the Sections Position

Dropping a column into the **Sections** position will create a unique pivot table for each value in that column, comprised of the Columns, Rows, and Measures defined in the pivot table.

Procedure

1. Drag a column of information from the Rows position into the **Sections** position.
2. Use the **Order By** button to put the data into your preferred order, if desired.
3. Note that you now see multiple smaller pivot tables in the Display Results area.
 - a. One small pivot table is created for each value available in the column you dropped into the Sections position.

Using the Rows Position

A column in the **Rows** position acts as you would expect. You get one row of data per value in that column of information. The Rows position is the default position for most of the columns in your pivot table.

Procedure

1. Note the columns of information in the **Rows** position.
2. Use the **Order By** button to put the data into your preferred order, if desired.

Using the Columns Position

The **Columns** position is a bit more powerful and useful in configuring your data into some logical order. Rather than leaving a column of data in the Rows position, where the data creates a unique row for each value, you can move that column to the Columns position and you will break the row up into one column per value. This is more valuable if you know there are only a few unique values in the column you put into the Columns position. In fact, there *should be* only a few unique values in that column.

Procedure

1. Drag and drop a column of information from Rows into the **Columns** position.
2. Use the **Order By** button to put the data into your preferred order, if desired.
3. Note that row of information is now broken down into small value columns, with each value from that column of information creating a separate column.

Using the Measures Position

You must have a column of information in the **Measures** position, and that column will typically be the column with the numeric information you have in your table. The system typically places that column into the Measures position automatically as you create the pivot table.

Procedure

1. Note the column of information in the **Measures** position.
2. Use the **Order By** button to put the data into your preferred order, if desired.

Using the Excluded Position

All of the columns of data you have in your request automatically appear in the pivot table. Sometimes, you'd rather not see all of those columns. You need them in the table, but not in the pivot table. No worries. You can simply move those columns to the **Excluded** position. The data will remain in the table, but will not be in the pivot table.

Any columns of information you add to the request from within the pivot table screen will also automatically go into the Excluded position. You can drag them from there into a more appropriate section as needed.

Procedure

1. Drag and drop any unwanted columns of data into the **Excluded** position.
2. Drag and drop any new columns of data into appropriate sections, as needed.

Adding Totals and Subtotals

One reason you probably decided to add a pivot table view to your request is because you couldn't get the regular table to show you totals in the manner in which you wished to see them.

You can add totals to **Pages**, **Sections**, **Rows**, and **Columns**.

You can also subtotal by each **Row** of data, if necessary.

Procedure

1. Click the appropriate **Totals** button, and select the position of the totals from the menu.
 - a. Adding totals to **Pages** will create an entire new page, which will include all of the data from all of the pages gathered onto one large page.
 - b. Adding totals to **Sections** will create a new section which will include just the totals from the other sections on that page of data. This will not add Grand Totals to each section.
 - c. Adding totals to the entire **Rows** position will create Grand Totals for each Section on each page of data.
 - d. Adding totals to the **Columns** position is one of the great things about pivot tables.

Columns totals will add the values *horizontally* and you'll see a total per row of data. In other words, the values in each *column* will be added together, and a new *column* will be created to show those totals.
2. Click the **Subtotals** button for a specific **row of data**, and select the position of the the subtotal from the menu.
 - a. The **Before** and **After** options mean just what you think they mean.
 - b. The **At the Beginning** or **At the End** options will clump your totals together either at the top or the bottom of the section of the pivot table.

Editing Measures Values

That numeric column of data that's living in the **Measures** position has some powerful and flexible options that you may wish to apply.

Viewing your Numbers as Percentages

Sometimes you don't really need to see your raw numeric data. You'd rather just see the **percentages** associated with those numbers.

When you are using pivot tables, this is very easy to do.

Procedure

1. Click the **More Options...** button on the column of information in the Measures position.
2. Select **Show Data As > Percent of >**.
3. Choose the appropriate level from which to calculate your percentages. Typical choices would be **Column** or **Section**.

Pay careful attention to what's being displayed for you as you change your selection. The differences can be subtle, and the change happens very quickly.

Adding a Percentages Column

Sometimes you need to see **both** your raw numeric data and percentages. This is very easy to do, too.

Procedure

1. Click the **More Options...** button on the column of information in the Measures position.
2. Select **Duplicate Layer**.
3. Click the **More Options...** button on that new column of data you've added to the Measures position
4. Select **Show Data As > Percent of >**.
5. Choose the appropriate level from which to calculate your percentages. Typical choices would be **Column** or **Section**.

Pay careful attention to what's being displayed for you as you change your selection. The differences can be subtle, and the change happens very quickly.

You may need to change the way your Columns are being totaled. Moving the totaling from the Columns position to the Measure Labels item is usually a good idea.

Charting Pivot Table Data

You can add a Chart to your pivot table, if you wish.

Procedure

1. Click the **Chart Pivoted Results** checkbox near the top left-hand side of the screen.
2. Select a **Chart Position** from the menu.
3. Format your new chart using the available functions.

You cannot select which columns of data are being charted. If you wish to have that flexibility, add a Chart View instead of including a Chart as part of the Pivot Table View.

Adding Column Selector Functionality to Pivot Tables

You've seen how Pivot Tables can enhance the presentation of the data you're working with.

Do you really want to make that Pivot Table useful, and blow your supervisor's mind at the same time? Try adding a **Column Selector** to your request, using the column of information you included in the Columns position in the Pivot Table screen as the basis for your selectable column.

The Pivot Table itself lets you see your sums, counts, and percentages of students, employees, or other data.

Adding a Column Selector lets you break up that data in other ways.

If you're using student data, for example, you may start with a breakdown by gender, then use a column selector to change that breakdown to ethnicity, citizenship status, student group, or any other option you can think of.

Woo hoo!

Procedure

1. From the Compound Layout screen, click Add View and choose Column Selector from the menu.
2. Build the Column Selector based on information you received in the Basic Reports and Dashboards Workshop.
3. Commence to blow your supervisor's mind with the usefulness of that wonderful report!

Reference

This valuable and informative user guide can be downloaded via a link in the Mosaic Community web site in the **UAccess Analytics** group.

Some of the more esoteric functions of UAccess Analytics, such as Pivot Tables, will be more readily understood and you will gain a better grasp on some other functionality if you download and use this guide.

- Oracle Corporation. (2006). *Oracle Business Intelligence Answers, Delivers, and Interactive Dashboards User Guide* (10.1.3.2 ed.). Redwood City, CA: Oracle.