Creating Reports

Basic and Advanced OBIEE Functions
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## Revision History

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Revised by</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
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<td>Updated template to NCDPI re-brand</td>
<td>Terra Dominguez</td>
</tr>
</tbody>
</table>
Logging In

The warehouse is accessible only to state and local public education employees. Users must obtain an NCID, register for access to the warehouse, and be granted access by the Security Officer of the system.

State level and PSU Security Officer access requests are granted by the state level Security Officer. All PSUs must have a Security Officer to grant access to users at the local level.

For more information on registering for the CEDARS data warehouse, follow the instructions in the Registering for the CEDARS Data Warehouse guide.

Important: Use the latest Mozilla Firefox browser when logging into the CDW.

Navigation: https://cedars.ncpublicschools.gov/analytics/

1. Type your NCID username and password into the User ID and Password fields.

   CAUTION:
   Passwords are case-sensitive. If unable to log in using NCID, verify the password does not contain either the '&' (ampersand) or the '!' (exclamation) special characters.

2. Click Sign In.
   The OBIEE home page opens.

OBIEE Menu Bar

Use this section to become familiar with the navigation options in the CEDARS Reporting System.

- Search – Enables searching the catalog.
- Advanced – Displays the Catalog page in search mode.
- Administration – State level access only.
- Help – Displays the following:
- **xxx Help** (where xxx is the name of the page) – Displays help topics for the current page.
- **Help Contents** – Displays cascading menus with options that link to the tables of contents for Oracle.
- **Documentation** - Displays the Oracle BI EE documentation library.
- **OTN** - Displays the Business Intelligence and Data Warehousing Technology Center page on the OTN.
- **About Oracle BI EE** – Shows the Oracle BI EE version and copyright information.

- **Sign Out** – signs user out of current session in OBIEE
- **Home** — Displays the Home page.
- **Catalog** - Displays the Catalog page. Provides a list of all saved content to which the user has access.
- **Favorites** - Displays favorite reports and any categories the user created to organize favorites.
- **Dashboards** – Contains links to available dashboard content, consisting of one or more pages of pre-defined content, such as analyses, links to Web sites, and so on.
- **New** – Allows the user to create a new Analysis. Analyses are queries against data that provide answers to business questions. Analyses allow the user to explore and interact with information by visually presenting data in easy-to-understand formats (such as tables and graphs). Interactive Reporting, Published Reporting, and Actionable Intelligence and Marketing are not currently supported by DPI. The users view is specific to their security level.
- **Open** – allows quick access to recently saved analyses.
- **Signed In As username** — Displays My Account dialog box. Users can update preferences such as which page opens at login and time zone.
Basic Report Functions

Creating a New Analysis

1. From the top right of the page, click **New**.
2. Click **Analysis**.
   The **Select Subject Area** menu appears.
3. Click **Student Data**.

Selecting Data Elements

1. From the left side of the screen in the **Subject Areas** panel, click **Common Dimensions**.
2. Click the **Time** folder. Double click or drag the **Reporting Year** element to the **Selected Columns** workspace.
3. Click the **LEA Information** folder. Double click or drag the **LEA Number** and **LEA Name** elements to the **Selected Columns** workspace.
4. Click the **Facts** folder.
5. Click **Most Recent Student Information**. Double click or drag the **# of Unique Students** and **Grade Level** elements to the **Selected Columns** workspace.
Selecting Data Elements

Note: Arrange columns by selecting a column and moving it to the desired position.

Applying Report Filters

1. From the Selected Columns workspace, locate the Reporting Year element and hover over the Options (down arrow icon). Click Filter.
   a. Keep the default operator is equal to/is in.
   b. From Value, click or type 2014-2015.
   c. Click OK.
Applying Report Filters

2. Locate the **LEA Number** element and hover over the Options (down arrow icon). Click **Filter**.
   a. Keep the default **Operator** is *equal to/is in*.
   b. From **Value**, click or type *010*.

   **Note:** LEA and School level users have limited selection. Selection is based on the LEA/School in which they are associated through the OBIEE registration system.
   c. Click **OK**.

3. Locate the **Grade Level Options** element and hover over the Options (down arrow icon). Click **Filter**.
   a. Keep the default **Operator** is *equal to/is in*.
   b. From **Value**, click or type *11* and *12*.

   **Important:** If typing *11* and *12*, be sure to separate the two numbers with a semi-colon. The results should look like this: **11;12**

4. Click **OK**.

**Viewing Results**
The Results tab allows users to see the data derived from the elements, filters and formulas created using the Criteria tab.

1. From the top left of the screen, under the new report name, click the **Results** tab.
Results may take a while depending on the size of the query

Completed Results

<table>
<thead>
<tr>
<th>Reporting Year</th>
<th>LEA Name</th>
<th>LEA Number</th>
<th>Grade Level</th>
<th># Of Unique Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-2015</td>
<td>Alamance-Burlington Schools</td>
<td>010</td>
<td>11</td>
<td>1717</td>
</tr>
<tr>
<td>2014-2015</td>
<td></td>
<td></td>
<td>12</td>
<td>1540</td>
</tr>
</tbody>
</table>
Saving and Downloading Reports

All users have access to their own My Folders directory. Users may create subfolders as needed. Some state level uses have access to Shared Folders. Shared Folders should only be used as directed by the CEDARS team.

Saving a Report

1. From the top right of the screen, click the Save icon. ( )
   The Save As dialog box appears.
2. Under Folders, click My Folders.
3. Name the report something meaningful.
   For the purposes of following this document, type 2014–15 Graduates Report.
   a. Type a meaningful Description if applicable.
4. Click OK.
   The results are now saved as a report in the My Folders directory.

Copying a Report from the Catalog

The Catalog link located at the top of the screen in the menu bar opens a view that allows users to navigate the My Folders and Shared Folders directories. These instructions assume that reports are saved in the My Folders folder.

Note: Some state level uses have access to Shared Folders. Shared Folders should only be used as directed by the CEDARS team.
1. From the menu bar, click **Catalog**.
2. Navigate to the folder that contains the report.

![Catalog screenshot](image)

3. Locate the report, click **Edit**.
   The report will open in the **Criteria** tab or the **Results** tab, depending on **Analysis Editor** in the **User Account Settings**.

4. From the top right of the screen, click **Save As**.

   **Note**: Reports can also be saved using the **Results**, **Prompts** and **Advanced** tabs.

![Save As screenshot](image)

5. **Name** the report something meaningful.
   a. Type a meaningful **Description** if applicable.
6. Click **OK**.

7. From the menu bar, click **Catalog**. If the report is not visible at the **My Folders** level, navigate to the appropriate folder.

---

**Downloading from a Saved Report in the Catalog**

1. From the menu bar, click **Catalog**.
2. Navigate to the folder that contains the report.
3. Locate the report, click once to highlight.
4. From the bottom left in the **Tasks** panel, click **Export**. Reports maybe downloaded in multiple formats.

---

**Downloading from an Open Report**

1. From the menu bar, click **Catalog**.
2. Navigate to the folder that contains the report.
3. Locate the report, click **Open**.
The report will open a new tab labeled with the report name.

4. At the bottom of the report, click **Export**.
Reports maybe downloaded in multiple formats.

**Downloading from the Results tab**

The Report must be in Edit form to download data directly from the Results tab.

1. Click the download icon above Compound Layout.
Adding More Information to a Basic Report

This section assumes the user has created and saved the 2014-2015 Graduates Report from the Creating a Basic Report section of this document.

Adding more Columns

1. From left of the screen, in the Results tab, click Facts.
2. Click Most Recent Student Information.
3. Double click or drag the Graduation Status to the Compound Layout workspace.
4. Click Save.

Adding more Filters

Filters can be added to elements that are not required to be visible on a report.

1. From the left of the screen, click the Criteria tab.
2. Locate the Graduation Status element and hover over the Options (down arrow icon). Click Filter:
   a. Keep the default Operator is equal to/is in.
   b. From Value, click or type Yes.
3. Click Save.
4. From the left of the screen, click the Results tab.
   The Graduation Status element has been added to the Compound Layout.
5. Remove the Graduation Status element from Selected Columns.
   a. From the left of the screen, click the Criteria tab.
   b. Locate the element and hover over the Options (down arrow icon). Click Delete.
6. Click Save.
   The element remains in the Filters panel but will no longer be visible on the report.
7. Click Results to review the report.
The # Of Unique Students now displays only students with a Graduation Status of Yes.

### Applying a Filter to a Measure

Count number of males, females and provide an overall of graduated students.

1. Click the Criteria tab.
2. Double click or drag the # Of Unique Students element the Compound Layout workspace.
3. Repeat step 2.
4. Location one of the new # Of Unique Students elements. Hover over the Options (down arrow icon). Click Edit Formula.
   The Edit Column Formula dialog box opens.
5. From the Column Formula section, click Filter.
   The Insert Filter dialog box opens.
6. From the Insert Filter dialog box, click Facts.
7. Click **Most Recent Student Information**.
8. From **Subject Areas**, double click **Gender Description**.
   A **New Filter** dialog box appears.
   a. Keep the default **operator** is *equal to/is in*.
   b. From **Value**, click or type *Male*.
   c. Click **OK**.
9. From the **Edit Columns Formula** dialog box, check **Custom Heading**. Type *Number of Males*.
10. Click **OK**.
11. Click **Save ( )**.
12. Click the **Results** tab.
13. Repeat **steps 4 – 12** to add a count for Female students.
Advanced Report Functions

This section assumes the user understands the steps to create a basic report. Steps and images will focus on the advanced functions.

Bin Function

Data binning is the process of grouping individual data values into specific bins or groups according to defined criteria. The examples used in this section are grouping grade levels in categories such as Elementary, Middle and High.

Creating a New Analysis

1. From the top right of the page, click New. Click Analysis. Click Student Data.
2. From Common Dimensions:
   a. Click the Time folder. Double click or drag the Reporting Year element to the Selected Columns workspace.
   b. Click the LEA Information folder. Double click or drag the LEA Number and LEA Name elements to the Selected Columns workspace.
3. From Facts:
   a. Click Most Recent Student Information folder. Double click or drag the # of Unique Students and Grade Level elements to the Selected Columns workspace.
4. Create a Filter on Reporting Year that is equal to/is in 2019-2020.
5. Create a Filter on LEA Number that is equal to/is in 010.

   Note: LEA and School level users have limited selection. Selection is based on the LEA/School in which they are associated through the OBIEE registration system.

6. Save the report as Demonstrate Bins Using Grade Levels.

Simple Bin

1. From the Selected Columns workspace, locate the Grade Level element and hover over the Options (down arrow icon). Click Edit Formula.
2. From the Edit Column Formula dialog box, click the Bins tab. Click Add Bin.
   A New Filter dialog box appears.
3. Filter by P0, P1, P2, P3, and PK.
4. Click OK.
5. In Edit Bin Name, type PK and Below. Click OK.
A filter has been created in the **Bins** dialog box that now groups all PK grade levels together.

6. Repeat **steps 1-5** to create four more bins:
   - *Elem-KG thru Grade 5* (include grades KG, 01, 02, 03, 04, 05)
   - *Middle – Grades 6-8* (include grades 06, 07, 08)
   - *High – Grades 9 and Above* (include grades 09, 10, 11, 12, 13, GR)
   - *Out of School* (include grades OS)

   **Note:** Clicking the **Column Formula** tab displays the **Case** statement generated by the **Bin** functionality

7. Click **Save**.
8. Click the **Results** tab to view the report.

**Complex Bin**

In this example, expand the **Grade Level** bin grouping to include the grade grouped by gender. To accomplish this the **Case** Statement created by the **Bin** function must be modified. This section demonstrates how to use an existing Bin to create more complex case statements.

1. From the top right of the screen, click **Save As**.
   Name the report **Demonstrate Bins Using Grade Level-By Gender**.
2. Click the **Criteria** tab.
3. Double click or drag a second **Grade Level** element to the **Selected Columns** workspace.
   Hover over Options (down arrow icon). Click **Edit Formula**.
   a. From the **Edit Column Formula** dialog box under **Subject Areas**, navigate to **Gender Description** (Facts > Most Recent Student Information > Gender Description)
b. Click **Gender Description**, click the blue chevron (↑).
   The element in the **Column Formula** workspace has been updated from Grade Level to **Gender Description**. These steps help mitigate spelling errors when the data element name is copied into the Case statement.

c. Check **Custom Headings**.

d. In the **Column Heading** field, type *Grade Level-By Gender*.

e. Click **OK**.

**Updating the Case Statement**
Syntax is extremely important. It is recommended that a text editor tool is available when performing the next set of steps.

1. From the **Selected Columns** workspace, locate the **Grade Level** element. Hover over Options (down arrow icon). Click **Edit Formula**.
   a. Copy the Case statement form the **Column Formula** workspace.
   b. Paste the Case statement to a editor, like Notepad.
   c. Line up the When clauses so that they are left justified and easier to read and edit.

   ![Line up the When clauses so they are easier to read](image)

   WHEN is the condition. THEN is the element grouping name.

2. In OBIEE, click **Cancel**.
3. Edit the **Grade Level-By Gender** element. Highlight and copy the entire contents of the **Column Formula** workspace.
4. Navigate back to the editor tool.
To group the grade levels by gender, the Gender Description element must be added to each When clause in the Case statement.

Because there are two gender descriptions, Male and Female, there must be two When clauses for each grade grouping.

a. Duplicate each When clause.

b. Add to each When clause, the new condition of the Gender Description and update the gender condition with:

   • =‘Male’
   • =‘Female’

   Important: “-Most Recent Student Information Per LEA”. “Gender Description” must be preceded by the word and

c. Update the element grouping name of each of the When clause.

5. Copy the new Case statement from the text editor into the Column Formula workspace of the new Grade Level - by Gender element.

   The new Case statement should completely replace what was there previously.

6. Click OK.

   If there are syntax errors in the Case statement, OBIEE will not allow the update to be saved.
   Review the Case statement. If errors persist, try running small parts of the new Case statement to troubleshoot.
Duplicate each Condition, Add the ‘AND’ Condition, Update the Element Grouping Name

7. Click the **Results** tab to run the report.

<table>
<thead>
<tr>
<th>Reporting Year</th>
<th>LEA Name</th>
<th>LEA Number</th>
<th>Grade Level</th>
<th>Gender Level (by Gender)</th>
<th># Of Unique Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019-2020</td>
<td>Alamance-Burlington Schools</td>
<td>010</td>
<td>Elem - KG thru Grade 5</td>
<td>Elem - KG thru Grade 5 - Female</td>
<td>5322</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Elem - KG thru Grade 5</td>
<td>Elem - KG thru Grade 5 - Male</td>
<td>5778</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>High - Grades 9 and Above</td>
<td>High - Grades 9 and Above - Female</td>
<td>3478</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>High - Grades 9 and Above</td>
<td>High - Grades 9 and Above - Male</td>
<td>3820</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Middle - Grades 6-8</td>
<td>Middle - Grades 6-8 - Female</td>
<td>2854</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Middle - Grades 6-8</td>
<td>Middle - Grades 6-8 - Male</td>
<td>2907</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Out of School</td>
<td>Out of School - Male</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PK and Below</td>
<td>PK and Below - Female</td>
<td>364</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PK and Below</td>
<td>PK and Below - Male</td>
<td>527</td>
</tr>
</tbody>
</table>

8. Adjust columns as appropriate.

9. Click **Save** (✓).

**Contact Function and Concatenate Operator**

This section uses the **SEA, LEA and School Information** Subject Area to demonstrate two ways of merging data elements together.
In previous examples, the 'Most Recent' folders were used. 'Most Recent' data elements are cumulative, and the data may be filtered by Reporting Year. In this example, we will be using 'Point In Time' data which is may be filtered on a Snapshot Date.

Creating a New Analysis
1. From the Menu bar, click New. Click Analysis. Select the SEA, LEA and School Information Subject Area.
2. From Point in Time LEA Information, double click or drag the Snapshot Date, LEA Number and LEA Name elements to the Selected Columns workspace.
3. From Point in Time School Information, double click or drag the School Number, School Name elements to Selected Columns workspace.
4. Filter the Snapshot Date: is equal to/is in 6/30/2020
5. Filter the School Number: is not equal to/is not in 292;293;294;295;297
   These school numbers reflect program schools and should not be included in this report.
6. Click Save ( ). Name the report: Demonstrate Concatenate

Example 1. Concat Function
1. Double click or drag a second LEA Number element to the Selected Columns workspace. Hover over Options (down arrow icon). Click Edit Formula.
2. Check Custom Headings, in the Column Heading field, type LEA-SCH Code.
3. From the Column Formula workspace, verify the entire content is highlighted.
4. Below the Column Formula workspace, click the Insert Function button f(…)
5. Click String, click Concat.
   OBIEE displays information about the function when it is selected. For Concat, the following information is displayed:
   - Syntax: CONCAT(expr1, expr2)
   - Where (describes function expressions): exprs are expressions that evaluate to character strings, separated by commas.
   - Example: SELECT DISTINCT CONCAT('abc', 'def') FROM employee
   - Description: Concatenates two character strings
6. Click **OK**. The **LEA Number** is **expr1** in the **CONCAT** function. The full name of the **School Number** will be **expr2**.

7. Highlight **expr2**.

8. From the **Edit Column Formula** dialog box under **Subject Areas**, navigate to **School Number**. (Point In Time LEA and School Information > Point In Time School Information > School Number)

9. Click **School Number**, click the blue chevron (▶).
The resulting CONCAT function should look like this.

![Image of CONCAT function]

10. Click **OK**. Click the **Results** tab to view the report. Click **Save**.

**Example 2. Concatenate Operator (||)**

1. From the **Criteria** tab, double click or drag a third **LEA Name** element to the **Selected Columns** workspace. Hover over Options (down arrow icon). Click **Edit Formula**.
2. Check **Custom Headings**.
3. In the **Column Heading** field, type **LEA-SCH Name**.
4. From the **Column Formula** workspace, place the cursor to the right of the **LEA Name**.
5. Click on the dual vertical bars symbol at the bottom of the **Column Formula** work area. The symbol is placed at the position of the cursor.

**Note:** Hovering over the symbol displays the word **Concatenate**.

6. Place the cursor to the right of the **Concatenate** symbol and add a hyphen (‘-’). The single quotation marks must be included.
7. Add a second **Concatenate** symbol after the hyphen. Verify the cursor is positioned after the last Concatenate symbol.
8. Click the **Column** dropdown. Click **School Name**.
9. Click **OK**. Click the **Results** tab to view the report. Click **Save ( )**.

### Date Functions

**Creating a New Analysis**

1. From the **Menu** bar, click **New**. Click **Analysis**. Select the **Student Data** Subject Area.
2. From **Common Dimensions**, select the following elements:
   - **Time > Reporting Year**
   - **LEA Information > LEA Number**
3. From **Facts > Most Recent Student Information Per LEA**, select the following elements:
   - **Grade Level**
   - **# of Unique Number of Students**
   - **Date of Birth**
   - **Date of Birth**
The **Date of Birth** element must be added to the **Selected Columns** workspace twice. The first element will be used to calculate age as of the current date. The second element will be used to calculate age as of a specific date.

4. Filter the **Reporting Year** is equal to/is in 2019-2020.
5. Filter the **LEA Number** is equal to/is in 920
6. **Save** the report as *Demonstrate Date Functions*.

### Calculating Age as of the Current Date

1. Locate the first **Date of Birth** element and **Edit Formula**.
2. Update the **Column Heading** to *Age – As of Current Date*.
3. From the **Column Formula** workspace, verify the entire content is highlighted.
   a. Click the **Insert Function** button `f(...)`.  
   b. Click **Calendar/Date**  
   c. Click **TimestampDiff**.  
      The **Insert Function** dialog box appears.

      The **TimestampDiff** function compares two dates and has three inputs: *interval, expr, and timestamp2*.

      **Interval** describes the result of the date comparison. For example, the difference can be counted in seconds, minutes, hours, days, weeks, months, quarters, or years.

      **Expr** and **timestamp2** are the two dates that are to be compared.

      OBIEE displays the following information for the **TimestampDiff** function:
      
      - **Syntax**: `TIMESTAMPDIFF(interval, expr, timestamp2)`
      - **where**: interval is the specified interval. Valid values are `SQL_TSI_SECOND, SQL_TSI_MINUTE, SQL_TSI_HOUR, SQL_TSI_DAY, SQL_TSI_WEEK, SQL_TSI_MONTH, SQL_TSI_QUARTER, SQL_TSI_YEAR`.
      - **Example**: `SELECT TIMESTAMPDIFF(SQL_TSI_DAY, TIMESTAMP'1998-07-31 23:35:00',TIMESTAMP'2000-04-01 14:24:00') FROM Employee WHERE employeeid = 2;`
      - **Description**: Returns the total number of specified intervals between two timestamps.
   d. Click **OK**.
4. From the **Column Formula** workspace, highlight **interval**. Type `SQL_TSI_YEAR`.

5. Highlight **timestamp2**. Type `current_date`.
   
The result of the `TIMESTAMPDIFF` function will be the difference between **Date of Birth** and current date in years, as years is the interval.

6. Click **OK**. Click **Save**. ( ). Click the **Results** tab to view the report.

**Calculating Age as of a Specific Date**

1. Return to the **Criteria** tab.
2. Locate the second **Date of Birth** element and **Edit Formula**.
3. Update the **Column Heading** to **Age – As of 7/1/2019**.
4. Navigate to the **TimestampDiff** function, click **OK**.
   
   Insert Function button f(...) > Calendar/Date > **TimestampDiff**

5. Highlight **interval**, type `SQL_TSI_YEAR`.
6. Highlight **timestamp2**, type the ‘as of’ date:
   
   `Timestamp’2019-07-01 00:00:00'

**Note:** Pay attention to the single quote around the date (‘2019-07-01 00:00:00’).

7. Click **Save** ( ). Click the **Results** tab to view the report.
   
   Compare the **Grade Level** column to either or both age columns. **Grade Level P0** is for children below 1 year of age. This report shows there are 4 children ages 4-5 in **Grade Level P0**. Possibly, the **Grade Level** or **Date of Birth** was not recorded correctly in PowerSchool. This is a way to review the student data; making sure grade levels and birth dates entered in PS are correct.

**Note:** Data displayed are from the OBIEE test instance and are not representative of actual student counts.
Math Operators
The following steps build upon the 2014-15 Graduates Report created in the Basic Report Functions section of this document. This section demonstrates how to create the percentages of graduates by gender.

**Updating the 2014-15 Graduates Report**

1. From the menu bar, click **Catalog**.
   
   The report opens in the **Criteria** tab. The **Student Data** subject area appears to the left.

3. From the **Selected Columns** workspace, use **Edit Formula** to update the column headers of the following elements:
   - \# of Unique Students = Total Grads
   - Number of Males = Number of Male Grads
   - Number of Females = Number of Female Grads

4. From **Most Recent Student Information Per LEA** folder, add the \# Of Unique Students element twice.
   
   (Facts > Most Recent Student Information > \# Of Unique Students)

   a. Use **Edit Formula** to update the column headers:
      - Percentage – Males
      - Percentage - Females

5. Click **Save**.
Calculating Percentages

The newly added elements must be filtered by gender and then divided by the Total Grads element. This section demonstrates how to use pre-existing filters created in the Applying a Filter to a Measure section of this document to create the percentage.

1. Locate the Percentage – Males element. Using the Edit Formula, highlight and delete the contents of the Column Formula workspace.

2. Click the Column dropdown, click Number of Male Grads.

   The Column Formula workspace now contains the filter created for the Number of Male Grads element.

3. From the Column Formula workspace, place the cursor to the right of the right-most parenthesis. Click the division operator (/) from the operators at the bottom of the Column Formula work area.

4. Place the cursor to the right of the division operator (/). Click the Column dropdown, click Number of Male Grads.
5. Click **OK**.
6. Repeat **steps 1-3** to update the **Percentage – Females** element with the **Number of Female Grads** filter.
7. Click **Save ( )**. Click the **Results** tab to view the report.
   The **Percentage – Male** and **Percentage – Female** display 0.

By default, the report displays the results as integers. The actual result is less than zero, therefore zero is displayed. The results must be Edited and the Column Properties updated to display a decimal or a percentage.
Adding a Multiplier and Applying Decimals and Percentages

The multiplier of 1.0 must be added to each percentage column. There is flexibility where the multiplier is placed. This section provides two examples.

In the *Percentage – Male* formula, the multiplier is placed inside the clause that sums the total number of students, making that result a decimal.

In the *Percentage – Female* formula, the multiplier is placed inside the clause that sums the total number of female students, making that result a decimal.

Both examples yield the same result in that the result is a decimal, not an integer. The actual percentages will be different.

*Note:* Like all complex mathematical formulas, placement of the parenthesis is very important in producing correct results.

**Example 1**

1. For the *Percentage – Male* column, Edit Formula, update the contents of the Column Formula workspace:

   \[ \text{FILTER("- Most Recent Student Information Per LEA"."# Of Unique Students" USING ("- Most Recent Student Information Per LEA"."Gender Code" = 'M')) / (1.0 * "- Most Recent Student Information Per LEA"."# Of Unique Students")} \]

2. Click OK.

3. Hover over Options (down arrow icon). Click Column Properties.

4. Click the Data Format tab.
   a. Check Override Default Data Format.
   b. From Treat Numbers as, select Number.
   c. From Decimal Places, select 2

   The result will be displayed with 2 decimal places.

   d. Click OK.
Example 2

1. For the **Percentage – Female** column, **Edit Formula**, update the contents of the **Column Formula** workspace:

   \[(1.0 \times \text{FILTER} ("- Most Recent Student Information Per LEA"."# Of Unique Students" USING ("- Most Recent Student Information Per LEA"."Gender Code" = 'F'))) / "- Most Recent Student Information Per LEA"."# Of Unique Students"\]

2. Click **OK**.

3. Hover over Options (down arrow icon). Click **Column Properties**.

4. Click the **Data Format** tab.
   a. Check **Override Default Data Format**.
   b. From **Treat Numbers**, select **Percentage**.
   c. From **Decimal Places**, select **2**.
   d. Check **Scale for % (x 100)**.
   e. Click **OK**.

5. Click **Save**. Click the **Results** tab to view the report.
More About Column Properties

The Column Properties dialog box provides for additional formatting that can be applied to the columns in a report to achieve specific results. Additional formats can be used to highlight blocks of related information and call attention to specific data elements. The Column Properties dialog provides the following formatting.

- **Style Tab**: Provides ability to edit properties of the font, cell and borders for a column in the report. Specify how each cell and its contents should be displayed in the report. For example, change the cell border to red and the cell content to be displayed in a 14-point Arial font.

- **Column Format Tab**: Provides ability to edit headings and change the Value Suppression setting. The default suppression setting is to suppress repeating values for a column. Change the setting to Repeat to see the how the report display is changed.

- **Data Format Tab**: Provides ability to edit the format of numeric fields, including the ability to specify the number of decimal places. Specify how to override the data's default display characteristics. The options that display on this tab depend upon the data type (text, date and time zone, or numeric) of the column.

- **Conditional Format Tab**: Provides the ability to set a condition on a cell and to specify how the cell should be displayed when the condition is met. The condition feature works like a filter. Setting the style of the cell when the condition is met works like the that described on the Style tab.

This sample report includes a variety of Column Property settings

<table>
<thead>
<tr>
<th>LEA Name</th>
<th>Number of Male Grads</th>
<th>Percentage - Males</th>
<th>Number of Female Grads</th>
<th>Percentage - Females</th>
<th>Total Grads</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Carolina Cyber Academy</td>
<td>67</td>
<td>0.35</td>
<td>126</td>
<td>65.26%</td>
<td>193</td>
</tr>
<tr>
<td>Alamance-Firstata Schools</td>
<td>829</td>
<td>0.52</td>
<td>770</td>
<td>48.66%</td>
<td>1599</td>
</tr>
<tr>
<td>Alexander County Schools</td>
<td>141</td>
<td>0.45</td>
<td>109</td>
<td>54.52%</td>
<td>310</td>
</tr>
<tr>
<td>Allegheny County Schools</td>
<td>53</td>
<td>0.46</td>
<td>63</td>
<td>53.81%</td>
<td>116</td>
</tr>
<tr>
<td>Anson County Schools</td>
<td>132</td>
<td>0.57</td>
<td>100</td>
<td>43.10%</td>
<td>232</td>
</tr>
<tr>
<td>Ashe County Schools</td>
<td>95</td>
<td>0.44</td>
<td>122</td>
<td>55.22%</td>
<td>217</td>
</tr>
<tr>
<td>Avery County Schools</td>
<td>59</td>
<td>0.46</td>
<td>50</td>
<td>53.59%</td>
<td>149</td>
</tr>
<tr>
<td>Beaufort County Schools</td>
<td>239</td>
<td>0.50</td>
<td>255</td>
<td>49.58%</td>
<td>474</td>
</tr>
<tr>
<td>Bertie County Schools</td>
<td>86</td>
<td>0.51</td>
<td>83</td>
<td>48.11%</td>
<td>169</td>
</tr>
<tr>
<td>Bladen County Schools</td>
<td>176</td>
<td>0.49</td>
<td>181</td>
<td>53.70%</td>
<td>357</td>
</tr>
<tr>
<td>Brunswick County Schools</td>
<td>456</td>
<td>0.51</td>
<td>455</td>
<td>48.83%</td>
<td>911</td>
</tr>
<tr>
<td>Buncombe County Schools</td>
<td>920</td>
<td>0.52</td>
<td>862</td>
<td>48.08%</td>
<td>1782</td>
</tr>
<tr>
<td>Asheville City Schools</td>
<td>130</td>
<td>0.47</td>
<td>169</td>
<td>52.58%</td>
<td>319</td>
</tr>
<tr>
<td>Yadkin County Schools</td>
<td>400</td>
<td>0.51</td>
<td>400</td>
<td>48.02%</td>
<td>801</td>
</tr>
</tbody>
</table>

- **LEA Name** is set to italics, using the **Style** tab
- **Number of Male Grads** is set to green, using the **Style** tab
- **Number of Female Grads** is set to blue, using the **Style** tab
- The **Percentage – Males** value set to red when below 40%, using the **Conditional Format** tab
- The **Percentage – Females** value set to pink when above 60%, using the **Conditional Format** tab
Applying Formatting

- Setting the Font to *Italics*:
  From the **Style** tab, select **Italic** from the **Style** dropdown.

- Setting the Font **Color**:
  From the **Style** tab, select a **Color**.

- Setting a condition for a value in a cell:
  a. From the **Conditional Format** tab, click **Add Condition**, double click the appropriate column. This example uses **Percentage – Males**.

  b. The **Edit Condition** dialog appears. Using the **Operator** dropdown, set a filter (or condition). In this example, set the condition to trigger a change to the cell when the cell value is less than 0.40. Click **OK**.
c. The **Edit Format** dialog appears. In this example, the **font Color** is set to red and the cell **Border Color** is set to red. Click **Ok**.

Similar **Column Properties** were applied to the **Percentage – Females** column, using different conditional formatting.
d. To modify a filter condition or cell style on a column after it has been saved:
   - Click the Filter button ( bullish) on the condition to be modified. The Edit Condition dialog box will be displayed.
   - Click the Edit Format button ( hiking ) to open the Edit Format dialog. The Style tab on the Edit Format dialog box is displayed.

More About Filtering

There are several ways to apply filters to a report. There is the method presented in the Basic Report example where a filter is applied to an element included in a report. Filters can be applied to an element that is not included in the Selected Columns workspace of the Criteria tab. Filters can also be based on the results an element in another report.

Adding a Filter to an Element Not Included in Selected Columns Workspace

Filters can be added to elements that will not display in the final report. This example demonstrates excluding Charter Schools from a LEA address list.

1. Create a simple LEA address report from the SEA, LEA and School Information Subject Area.
   a. Add the following elements from the Most Recent LEA and School Information subfolder:
      - LEA Number
      - LEA Name
      - LEA Address1
      - LEA Address2
      - LEA City
   b. Save the report as Demonstrating More Filters – LEA Address List

2. From the Filters workspace below the Selected Columns workspace, click the Filter icon ( cup).
   The elements already selected for the report appear.
3. Click **More Columns**.
   The Select Column dialog box appears. The SEA, LEA and School Information Subject Area is displayed.

4. Navigate to and click **Charter Status**.
   (Most Recent LEA and School Information > Most Recent LEA Information)
   The **Edit Filter** dialog box appears.

5. Update the Filter **Operator** to **is not equal / is not in**.
6. Update the **Value** to **Yes**.

**Note:** If a value appears more than once within the drop-down, check each iteration.
7. Click OK. Click Save. ( ). Click the Results tab to view the report.

**Adding a Filter from a Saved Report**

This example demonstrates how to use a filter based on the results of a saved report from the Staff Data Subject Area. The final report will count the number of staff from the school year 2017-18 who will be returning for school year 2018-19.

There are three main steps to completing this example:

- a. Create a report that counts the number of staff in Central Office at a particular LEA,
- b. Copy the report in Step A. and add the Staff ID to the report, and
- c. Create a 3rd report that is filtered by the Staff IDs from Step B.

1. Create a report from the **Staff Data Subject Area**: using the subfolders:
   - a. Add the following elements:
     - From **Dimensions for Staff Assignment**:
       - Time for Assignment > Reporting Year.
       - LEA Information for Assignment > LEA Number.
       - School Information for Assignments > School Number.
       - School Information for Assignments > School Name.
     - From **Facts**
       - Staff Assignments > # Of Assignments.
   - b. Add the following **Filters**:
     - Reporting Year is equal to/is in 2017-2018.
     - LEA Number is equal to/is in 920.
     - School Number is equal to/is in 000. (000 is the Central Office school number)
   - c. Click Save. ( ). Name the report: Demonstrate Filter From Another Analysis - Staff Count 17-18.
   - d. Click the Results tab to view the report.

2. From the Results tab, click **Save As** ( ). Name the new report **Demonstrate Filter From Another Analysis - Staff UID**.

3. From Common Dimensions > Most Recent Staff Information, click **Staff ID**.
4. Click **Save As** ( ). Name the third report *Demonstrate Filter From Another Analysis - Returning Staff Count 18-19*

5. Click the **Criteria** tab.

6. Update the **Reporting Year Filter** to **2018-2019**.

7. Add a **Filter** to **Staff ID**.
   a. From **Operator**, scroll to the bottom of the drop-down list, click **is based on results of another analysis**.

   ![Filter dialog](image1)

   b. From **Saved Analysis**, click **Browse**. Locate *Demonstrate Filter From Another Analysis - Staff UID*, click **OK**.

   ![Filter dialog](image2)
c. From **Use Values in Column**, click **Staff ID**. Click **OK**.

Staff ID is the element in the saved report that will be used to compare to the Staff ID filter.

![Image of Staff ID filter in New Filter dialog]

8. From the **Selected Columns** workspace, **Delete** the **Staff ID** element.

The filter for Staff ID remains. When results are run, the report will display the count of staff returning for school year 2018-2019.
9. Click **Save**. Click the **Results** tab to view the report.

The # Of Assignments value has been updated to reflect school year 2018-2019.

---

**Combining Two or More Reports**

This demonstration builds upon the Staff Assignment report: *Demonstrate Filter From Another Analysis - Staff Count 17-18* created in the Adding a Filter from a Saved Report section.

**Creating the First Report**

1. Copy the *Demonstrate Filter From Another Analysis - Staff Count 17-18* and save the copy as *Demonstrate Combining Two or More Reports into One Report – Staff*.

   For instructions review the Saving and Downloading Reports section.

2. From the **Staff Data Subject Area**, add the **LEA Name** element.

   *(Dimension for Staff Assignment > LEA Information for Assignments)*

   **Note:** In this step, any element can be added to the report. Subsequent steps will modify the element to create the desired column.

   a. Hover over the Options (down arrow icon). Click **Edit Formula**.

   b. Update the **Column Heading** field to **Total Description**.

   c. In the **Column Formula** workspace, replace the contents with 'Total Assignment for Year'

   d. Click **OK**.
3. Position the **Total Description** element between **School Name** and **# Of Assignments** elements.

**Important:** When combining two or more reports into one report, placement of each element/column is critical.

4. Click **Save.** Click the **Results** tab to view the report.

5. For consistency, position the **Total Description** element between **School Name** and **# Of Assignments**.
Joining Reports

1. Click the Criteria tab.

2. From the right side of the Selected Columns workspace, click the green plus sign (➕). 

3. The Select Subject Area list is displayed. Click Staff Data.

The Selected Columns workspace has changed to display the union of two Criteria (“Staff Data”) reports that together make up the Result Columns.
The column headings are identical to the original staff report; however, columns associated with the Result Columns have fewer options. The column options are limited to Sort, Column Properties and Delete. These are options that handle report formatting and display, not the report contents. Filtering and editing, which handle the report contents, are not applicable to the Result Columns.

Click the first Criteria (“Staff Data”), above the Selected Columns workspace click the Show/Hide Filters Pane icon.

The filters that were defined for the original staff report are associated with the first report in the multi-report report. The Show/Hide Filters Pane icon is a toggle. Click it and the filters are either displayed or hidden in/from the Filter workspace. The options for columns associated with the reports below the Result Columns are Edit formula, Filter and Delete.
Creating the Second Report
In this demonstration, the second report will use the filter created in the Adding a Filter from a Saved Report section.

1. Below the Result Columns, click Criteria ("Staff Data").
   The column placeholders are outlined with dotted lines. As columns are selected from the staff subject areas they will be dropped into the placeholders.

2. Add and Filter the columns to the second report in the order listed in the workspace.
   a. Dimension for Staff Assignment > Time for Assignment > Reporting Year
   b. Dimension for Staff Assignment > LEA Information for Assignment > LEA Number
   c. Dimension for Staff Assignment > School Information for Assignment > School Number
   d. Dimension for Staff Assignment > School Information for Assignment > School Name
   e. Dimension for Staff Assignment > LEA Information for Assignment > LEA Number
      This is element will be Edited in the next step.
   f. Facts > Staff Assignments > #OfAssignments

Important: Use the elements from the Dimension for Staff Assignment -- Be sure to select the Staff Id from the Most Recent Staff Information in the Common Dimensions folder. If Staff ID is selected from Point In Time Staff Information the results will be off.

4. Edit the 2nd LEA Name column.
   a. Hover over the Options (down arrow icon). Click Edit Formula.
   b. In the Column Formula workspace, replace the contents with 'Total Assignments Returning from 2017-18'.
   c. Click OK.
5. Above the Selected Columns workspace, click the **Show/Hide Filters Pane** icon. Add the following Filters:

   a. **Reporting Year** is equal to/is in 2017-2018.
   
   b. **LEA Number** is equal to/is in 920.
   
   c. **School Number** is equal to/is in 000. (000 is the Central Office school number)

6. Below the Selected Columns workspace, click the **Filter** icon ( ).

   The elements already selected for the report appear.

   a. Click **More Columns**.
   
   b. Navigate to **Staff ID**.

   (Common Dimensions > Most Recent Staff Information)

7. From the **New Filter** dialog box:

   a. From **Operator**, scroll to the bottom of the drop-down list, click **is based on results of another analysis**.
   
   b. From **Saved Analysis**, click **Browse**. Locate **Demonstrate Filter From Another Analysis - Staff UID**, click **OK**.
   
   c. From **Use Values in Column**, click **Staff ID**. Click **OK**.

   Staff ID is the element in the saved report that will be used to compare to the Staff ID filter.
The set of filters for the second report should look like:

8. Click **Save**. Click the **Results** tab to view the report.

**Important:** When combining multiple reports into one report, it is critical that the **Criteria** base reports contain the same number of columns as the **Result** Columns. Columns can be added by adding a column to the Result Columns or adding a column to one of the base reports.

It is also critical that the data types match starting with the Result Columns and ending with the last base report. OBIEE says it best.
Inline Prompts

An inline prompt is an initial prompt, meaning that it only displays when the report is rendered. After the user selects the prompt value, the prompt fields disappear from the analysis and the only way for the user to select different prompt values is to re-run the report.

Creating a New Analysis

1. From the Menu bar, click New. Click Analysis. Select the Student Data Subject Area.
2. From Common Dimensions, select the following elements:
   - Time > Reporting Year
   - LEA Information > LEA Number
   - LEA Information > LEA Name
3. From Facts > Most Recent Student Information Per LEA, select the following elements:
   - # of Unique Number of Students
   - Gender Description
4. From the Filters workspace below the Selected Columns workspace, create a filter for Charter Status is equal to/is in No.
   (Common Dimensions > LEA Information)
5. Save the report as Demonstrate Inline Prompts - Using Student Gender by Year.
6. Click the Results tab to view the report.

Adding an Inline Prompt

1. Click the Prompts tab.
2. Form the right of the Definition workspace, click the Add icon ( ).
3. Hover over Column Prompt, click Reporting Year.

   a. The New Prompt appears. Click Options.
   b. Click the Choice List Values drop-down. Click Specific Columns Values.
   c. To the right of the Choice List Values drop-down, click the Add icon ( ).
   d. The Select Values dialog box appears. Verify Column Values is expanded. Move reporting years 2009–2010 and forward create a list in Selected Values. Click OK.
e. Below Choice List Values, check Include “All Column Values” in the choice in the list and Enable user to select multiple values.

f. Uncheck Enable user to type values. Click OK.

**Note:** A best practice is to test the Prompt from the Display workspace.

4. Click Save ( ).
Using the Prompt in a Report

Click **Catalog** from the Main Menu Bar and navigate to the report. Click **Open**.

5. Click the **Reporting Year** drop-down. Check the appropriate reporting year(s). In this example, three schools years are checked: 2017-2018, 2018-2019, and 2019-2020.

6. Click away from the list. Click **OK**.

7. Adjust columns, as necessary.

8. Repeat **steps 1– 7** to view the report with new reporting year selections.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate</td>
<td>A sum or assemblage of many separate units; sum total. In relation to CEDARS data, all Aggregate information is masked.</td>
</tr>
<tr>
<td>Analysis</td>
<td>Analysis lets you explore and interact with information by visually presenting data in tables, graphs, pivot tables, and so on. You can save, organize, and share the results of analyses.</td>
</tr>
<tr>
<td>Catalog</td>
<td>Where users create, access, and manage objects, and perform specific object-based tasks (for example, export, print, and edit). The catalog is organized into folders that are either shared or personal.</td>
</tr>
<tr>
<td>CEDARS Registration System</td>
<td>Application to request access to the CEDARS Reporting System. Everyone must register for the system prior to being granted access.</td>
</tr>
<tr>
<td>Collection</td>
<td>A capture of data that is submitted in response to an agency requirement for data.</td>
</tr>
<tr>
<td>Compound Layout</td>
<td>Where Views are displayed.</td>
</tr>
<tr>
<td>Dashboard</td>
<td>Dashboards provide personalized views of information. A dashboard consists of one or more pages. For the purposes of the CDW, all dashboards that are visible in the system to all users are published at the NC DPI level. Program area, business areas and LEAs may request specific dashboards.</td>
</tr>
<tr>
<td>Detail</td>
<td>The ability to drill down to the level of information that can be used to distinguish or trace an individual's identity such as name, social security number, date and place of birth, mother's maiden name, biometric records, and any other personal information that is linked or linkable to an individual.</td>
</tr>
<tr>
<td>Dimension</td>
<td>Dimensions define the ways in which the facts can be analyzed.</td>
</tr>
<tr>
<td>Fact</td>
<td>A Fact table is a table with measures. Examples of measures include Average student GPA or Number of students in the Student Fact table.</td>
</tr>
<tr>
<td>Filter</td>
<td>Filters within an Analysis allows the user to limit the data returned from a column. Multiple Filters may be applied to an Analysis. When a Filter is created it is hard coded into a report.</td>
</tr>
<tr>
<td>Layout Pane</td>
<td>Used to specify the layout of data in data views (graphs, gauges, funnel graphs, pivot tables, and tables).</td>
</tr>
<tr>
<td>More Options</td>
<td>This icon is specific to a column. Functions in the More Options change from screen to screen.</td>
</tr>
<tr>
<td>NCID</td>
<td>Credentials (Username and Password) that allow access to CEDARS applications.</td>
</tr>
<tr>
<td>Term</td>
<td>Description</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>OBIEE</td>
<td>Oracle Business Intelligence Enterprise Edition. This system is the user interface to access the CDW.</td>
</tr>
<tr>
<td>Point-in-Time</td>
<td>A static view of data representing a period of time.</td>
</tr>
<tr>
<td>Program/User Group</td>
<td>DPI, LEA or School level</td>
</tr>
<tr>
<td>Prompt</td>
<td>Prompts provide the ability to apply dynamic filters for a particular report. Multiple Prompts may be applied to an Analysis.</td>
</tr>
<tr>
<td>Selection Pane</td>
<td>Allows the user to select items from the Subject Area or the Catalog to work with.</td>
</tr>
<tr>
<td>Subject Area</td>
<td>A Subject Area is a logical collection of Facts and Dimensions presented to the user to create and modify reports. The CEDARS Reporting System Subject Areas may not be joined.</td>
</tr>
<tr>
<td>User Role</td>
<td>Type of security granted to a user. Users may have one or more User Roles in CEDARS</td>
</tr>
<tr>
<td>Views</td>
<td>A variety of views can be added to Analyses, such as graphs and pivot tables that may allow the user to drill down to more detailed information.</td>
</tr>
<tr>
<td>Workspace</td>
<td>Allows the user to manipulate the columns selected from the Selection Pane.</td>
</tr>
</tbody>
</table>